CITY OF PARLIER FLOOD CONTROL AND GROUNDWATER BANKING PROJECT

DRAFT INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

MARCH 2022

SCH NO.

PREPARED FOR:

COUNCIL FOR WATERSHED HEALTH

PROP 1 GOVERNOR EDMUND G. BROWN, JR. WATER BOND 2014 RELIABILITY | RESTORATION | RESILIENCE

CALIFORNIA Water Boards STATE WATER RESOURCES CONTROL BOARD REGIONAL WATER QUALITY CONTROL BOARDS

700 Alameda Street, Unit 8
Los Angeles, CA 90012

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PREPARED BY:

Provost & Pritchard Consulting Group

EST. 1968 PROVOST& PRITCHARD CONSULTING GROUP

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ACRONYMS AND ABBREVIATIONS

AB ..... Assembly Bill
ALUCP ..... Airport Land Use Compatibility Plan
APE ..... Area of Potential Effect
BMP ..... Best Management Practices
CalEEMod ..... California Emissions Estimator Modeling (software)
CARB ..... California Air Resources Board
CCAA ..... California Clean Air Act
CDFW ..... California Fish and Wildlife
CEQA ..... California Environmental Quality Act
CGS ..... California Geological Survey
CH_4 ..... Methane
CHRIS ..... California Historical Resources Information System
CID ..... Consolidated Irrgiation District
City ..... City of Parlier
CNDDB ..... California Natural Diversity Database
CNPS ..... California Native Plant Society
CO_2 ..... Carbon dioxide
County ..... Fresno County
CRHR ..... California Register of Historical Resources
dBA ..... A-weighted decibels
DOC ..... Department of Conservation
DTSC ..... Department of Toxic Substances Control
EIR ..... Environmental Impact Report
EPA ..... Environmental Protection Agency
ESA ..... Environmental Site Assessment
FEMA ..... Federal Emergency Management Agency
FMMP ..... Farmland Mapping and Monitoring Program
GHG ..... Greenhouse Gas
GIS ..... Geographic Information System
GSA ..... Groundwater Sustainability Agency
GWP ..... Global Warming Potential

IPaC ..... U.S. Fish and Wildlife Service's Information for Planning and Consultation system
IS ..... Initial Study
IS/MND ..... Initial Study/Mitigated Negative Declaration
lf ..... linear feet
km ..... kilometers
MMRP ..... Mitigation Monitoring and Reporting Program
MND ..... Mitigated Negative Declaration
MRZ ..... Mineral Resource Zones
NAAQS ..... National Ambient Air Quality Standards
NAHC ..... Native American Heritage Commission
ND ..... Negative Declaration
NEPA ..... National Environmental Policy Act
NOx ..... Nitrogen oxides
NRCS ..... Natural Resources Conservation Service
NRHP ..... National Register of Historic Places
O_3 ..... Ozone
PM_{10} ..... particulate matter 10 microns in size
$PM_{2.5}$ ..... particulate matter 2.5 microns in size
ppb ..... parts per billion
ppm ..... parts per million
Project ..... City of Parlier Flood Control and Groundwater Banking Project
Reclamation ..... United States Bureau of Reclamation
RWQCB ..... Regional Water Quality Control Board
SJVAB ..... San Joaquin Valley Air Basin
SJVAPCD ..... San Joaquin Valley Air Pollution Control District
SO_2 ..... Sulfur Dioxide
SSJVIC ..... Southern San Joaquin Valley Information Center
SR ..... State Route
SWPPP ..... Storm Water Pollution Prevention Plan
SWRCB ..... State Water Resources Control Board
TAC ..... Toxic Air Contaminants
USACE ..... United States Army Corps of Engineers
USDA ..... United States Department of Agriculture

USFWS.....United States Fish and Wildlife Service

USGS..... United States Geological Survey

µg/m3.....micrograms per cubic meter

CHAPTER 1 INTRODUCTION

Provost & Pritchard Consulting Group (Provost & Pritchard) has prepared this Initial Study/Mitigated Negative Declaration (IS/MND) on behalf of the City of Parlier to address the environmental effects of the City of Parlier Flood Control and Groundwater Banking Project (Project). This document has been prepared in accordance with the California Environmental Quality Act (CEQA), Public Resources Code Section 21000, et seq. The City is the CEQA lead agency for this Project.

The site and the Project are described in detail in Chapter 2 Project Description.

1.1 REGULATORY INFORMATION

An Initial Study (IS) is a document prepared by a lead agency to determine whether a project may have a significant effect on the environment. In accordance with California Code of Regulations Title 14 (Chapter 3, Section 15000, *et seq.*)-- also known as the CEQA Guidelines--Section 15064 (a)(1) states that an environmental impact report (EIR) must be prepared if there is substantial evidence in light of the whole record that the Project under review may have a significant effect on the environment and should be further analyzed to determine mitigation measures or project alternatives that might avoid or reduce project impacts to less than significant levels. A negative declaration (ND) may be prepared instead if the lead agency finds that there is no substantial evidence in light of the whole record that the project may have a significant effect on the environment. An ND is a written statement describing the reasons why a proposed Project, not otherwise exempt from CEQA, would not have a significant effect on the environment and, therefore, why it would not require the preparation of an EIR (CEQA Guidelines Section 15371). According to CEQA Guidelines Section 15070, a ND or *mitigated* ND shall be prepared for a project subject to CEQA when either:

a. The IS shows there is no substantial evidence, in light of the whole record before the agency, that the proposed Project may have a significant effect on the environment, or
b. The IS identified potentially significant effects, but:
    1. Revisions in the project plans or proposals made by or agreed to by the applicant before the proposed MND and IS is released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur is prepared, and
    2. There is no substantial evidence, in light of the whole record before the agency, that the proposed Project as *revised* may have a significant effect on the environment.

1.2 DOCUMENT FORMAT

This IS/MND contains six chapters. Chapter 1 Introduction, provides an overview of the Project and the CEQA process. Chapter 2 Project Description, provides a detailed description of proposed Project components and objectives. Chapter 3 Determination, the Lead Agency's determination based upon this initial evaluation. Chapter 4 Environmental Impact Analysis presents the CEQA checklist and environmental analysis for all impact areas, mandatory findings of significance, and feasible mitigation measures. If the Project does not have the potential to significantly impact a given issue area, the relevant section provides a brief discussion of the reasons why no impacts are expected. If the Project could have a potentially significant impact on a resource, the issue area discussion provides a description of potential impacts, and appropriate mitigation measures and/or permit requirements that would reduce those impacts to a less than significant level. Chapter 5 Mitigation, Monitoring, and Reporting Program (MMRP), provides the

proposed mitigation measures, implementation timelines, and the entity/agency responsible for ensuring implementation. Chapter 6 References details the documents and reports this document relies upon to provide its analysis.

The Air Quality and Greenhouse Gas Emissions Model, Biological Evaluation, and Cultural Resources Class III Inventory/Class I Survey Report are provided as technical Appendix A, Appendix B, and Appendix C, respectively, at the end of this document.

1.2.1 "CEQA–Plus" Assessment

The City is applying to the California State Water Resources Control Board (SWRCB) for financial assistance to implement the Project through the Drinking Water State Revolving Fund (DWSRF) and/or Clean Water State Revolving Fund (CWSRF). These programs are low interest financing programs partially funded by the U.S. Environmental Protection Agency (USEPA) which delegates administration and oversight to the SWRCB, Division of Finance.

Because the financial assistance originates from the Federal government (USEPA, in this case), in addition to meeting the requirements of CEQA the Project is also subject to "federal cross-cutting authority" requirements of other federal laws and Executive Orders that apply in federal financial assistance programs, such as, in this case, the DWSRF and CWSRF (This process is frequently referred to as "CEQA-Plus".). Therefore, the City must also complete certain studies and analyses to satisfy various federal environmental requirements. These federal cross-cutting analyses must be documented in the SWRCB-required "Environmental Package"1. Once the CEQA document is adopted by the City, it is attached to the completed Environmental Package and submitted to the SWRCB. As the USEPA-designated, "non-federal" State agency representative responsible for consultation with appropriate federal agencies, the SWRCB will review materials for compliance with relevant federal cross-cutting topics.

[1] Website: https://www.waterboards.ca.gov/drinking_water/services/funding/documents/srf/dwsrf_policy/h4_dwsrf_application_const_environmental.pdf. Accessed November 2021.

CHAPTER 2 PROJECT DESCRIPTION

2.1 PROJECT BACKGROUND

2.1.1 Project Title

City of Parlier Flood Control and Groundwater Banking Project

2.1.2 Lead Agency Name and Address

City of Parlier
1100 E. Parlier Avenue
Parlier, CA 93648

2.1.3 Contact Person and Phone Number

Lead Agency Contact

Sonia Hall
City Manager
(559) 646-3545

CEQA Consultant

Provost & Pritchard Consulting Group
Briza Sholars, Environmental Project Manager
(559) 449-2700 x134

2.1.4 Project Location

The Project is located in Parlier, California, approximately 165 miles southeast of Sacramento and 83 miles northwest of Bakersfield (see Figure 2-1 and Figure 2-2). The Project is located on the Assessor's Parcels listed in Table 2-1 below. The centroid of the Project area is 36° 36' 34.16" [N], 119° 32' 34.24" [W].

Table 2-1: Assessor's Parcel Numbers

Assessor's Parcel Numbers located within the Project APE				
355-465-03	355-301-09	355-465-01	355-041-04T	355-021-05T
355-341-09	355-192-13T	353-061-01	355-192-12	355-341-03
355-061-23	355-021-29S	355-041-33	355-500-01	355-021-27
355-461-02	358-390-55T	355-231-05T	355-341-07	358-041-38
355-461-04	355-461-01	355-341-05	355-353-08	355-041-07T
355-231-09	355-500-03	355-465-02	355-061-01	355-062-06
355-062-29	355-301-14	355-461-03	355-062-05	355-374-08T
355-231-06	355-041-14T	355-125-23ST	355-375-01T	355-301-10
355-062-07	355-062-30	355-465-04	355-031-39T	355-125-11S
358-390-46T	353-061-46	355-231-07	355-301-12	355-375-02T
355-041-03T	358-041-45	355-231-15	355-301-15	358-390-25

Assessor's Parcel Numbers located within the Project APE				
355-062-25	355-061-02	358-390-50T	355-301-11	355-031-20ST
355-031-38	355-021-31S	358-390-60	358-390-56T	355-231-08
355-341-06	355-062-03	355-192-14ST	355-062-24	355-062-04
355-231-04	355-041-24T	355-341-04	355-500-02	355-301-08
353-061-45	355-061-24	355-062-02	355-341-08	355-301-13
358-390-41T				
Note: Any APN crossed by the APE is listed in this table				

2.1.5 General Plan Designation and Zoning

Project Area	General Plan Designation	Zoning District
ONSITE	Ponding Basin, MLDR. Parks and OS, Light Industrial, Public Facilities, MDR, Community Commercial (City) Agriculture (County)	R-1, P-F, O, R-2, M-1, R-3, C-4 (City) AE-20 (County)
ADJACENT LANDS	Various	Various

2.1.6 Description of Project

Project Background and Purpose

In addition to improved stormwater management for flood control, this proposed project intends to improve and recharge the groundwater under the City of Parlier (City) to help mitigate the City's pumping for municipal water uses.

Project Description

The proposed Project is a capital improvement project that proposes to convert the seven (7) existing stormwater retention basins listed below into groundwater recharge basins and connect those basins and an additional basin – eight basins total - to Consolidated Irrigation District (CID) facilities (open canals and buried pipelines) with approximately 7,800 linear feet (lf) of underground 48" diameter pipelines along with associated turnouts, pump stations, and metering facilities.

The following is a list of all the basins with their approximate acreages and connecting CID facility:

1. Foothill Basin - 3.8 acres – Kingsburg Branch
2. Veterans Park Basin - 2.24 acres – Santa Fe Canal
3. Milton Basin - 3.34 acres – Kingsburg Branch
4. Industrial Basin - 3.1 acres – Kingsburg Branch
5. Tuolumne Basin - 3.99 acres – Santa Fe Canal
6. Avila Basin - 1.42 acres – Harp Ditch
7. Manning Basin - 1.51 acres – Harp Ditch

The Richard Flores Basin (not listed above) is being improved as a separate project funded by the Proposition 68 Urban Flood Protection Grant Program; however, a new underground pipeline connection from the CID Harp Ditch to the Richard Flores Basin will be designed and constructed as part of this project.

Following is a list of likely required land acquisition, easements, permits, and agreements needed to successfully implement the project.

Acquisition:

All but one of the basins are located on City-owned property. The Foothill basin, located in the northwest corner of the city, is the only basin not on City property; however, this was due to a map recordation error that the City and the landowner are currently in the process of resolving.

Easements:

In order to successfully connect all eight recharge basins to CID canals, the City will need to acquire several pipeline easements from private landowners, including the following:

- 350 linear feet (lf) across APNs 353-061-01 or 353-061-46, depending on exact pipe alignment, for the Milton Basin connection from city limits to the Kingsburg Branch;
- 1,300 lf across APNs 358-390-56T, 358-390-25 and 358-390-60 for the Industrial Basin;
- 140 lf across APN 355-031-38 for the Tuolumne Basin;
- 200 lf across APN 355-041-33 for the Manning Basin; and
- 1,500 lf across APN 355-021-27 and 355-021-31S for the Richard Flores Basin.

Permits:

- An encroachment permit from CID will be required for the new turnout structures and pipeline connections to their facilities.
- Construction General Permit through the State Waterboard– Stormwater Pollution Prevention Plan (SWPPP) for construction if total acreage of ground disturbance is greater than five acres. If the project involves less than five acres a Low Erosivity Waiver can be filed in lieu of a SWPPP.
- San Joaquin Air Pollution Control District may require the following permits:
  - Air Impact Assessment (AIA) /Indirect Source Review (ISR) if the project exceeds the threshold of 9,000 square feet of "space not identified" in Section 2.1
  - Dust Control Plan

Agreements:

Per the existing agreement dated August 28, 2019, between CID and the South Kings Groundwater Sustainability Agency, of which the City is a member, water may be delivered at the sole discretion of CID to the City for use as groundwater recharge for a fee. The agreement disregards the City's available basin capacity to receive the water. If water cannot be stored and used for recharge purposes, the City is still obligated to pay for the water offered and CID will consider it as "reject water" and count towards its annual delivered surface water. The agreement outlines time, volume, and cost for water deliveries.

An agreement in not in place between CID and the City that would allow stormwater discharges into CID facilities. The agreement dated November 10, 2010, discusses the limitations of such discharges and permission onto via existing connections (not new connections.) No water rights issues or conflicts between water users are anticipated

Construction Schedule

Construction would occur over approximately seven months from May 2022 to November 2022. Generally, construction will occur between the hours of 7 am and 5 pm, Monday through Friday, excluding holidays.

Equipment

Construction equipment will likely include excavators, backhoes, graders, skid steers, loaders, and hauling trucks. Post-construction activities will include system testing, commissioning, and site clean-up. Construction will require temporary staging and storage of materials and equipment. Staging areas will be located onsite.

Operation and Maintenance

Operation and Maintenance will be performed by the City of Parlier.

2.1.7 Site and Surrounding Land Uses and Setting

Table 2-2: Existing Uses, General Plan Designation, & Zone Districts of Surrounding Properties

Direction from Project Site	Existing Use	General Plan Designation	Zone District
NORTH	Various uses typical within and surrounding an urban environment	Various	Various
EAST	Various uses typical within and surrounding an urban environment	Various	Various
SOUTH	Various uses typical within and surrounding an urban environment	Various	Various
WEST	Various uses typical within and surrounding an urban environment	Various	Various

2.1.8 Other Public Agencies Whose Approval May Be Required

Approvals and permits that could be required.

- State Water Resources Control Board – National Pollution Discharge Elimination System (NPDES) Construction General Permit, SWPPP if ground disturbance is greater than five acres. If the project involves less than five acres, then five acres a Low Erosivity Waiver can be filed in lieu of a SWPPP.
- San Joaquin Valley Air Pollution Control District – Rules and Regulations (Regulation VIII, Rule 9510), Dust Control Plan
- Consolidated Irrigation District – Encroachment Permit for the new turnout structures and pipeline connections to District facilities

2.1.9 Consultation with California Native American Tribes

Public Resources Code Section 21080.3.1, *et seq. (codification of AB 52, 2013-14)*) requires that a lead agency, within 14 days of determining that it will undertake a project, must notify in writing any California Native American Tribe traditionally and culturally affiliated with the geographic area of the project if that Tribe has previously requested notification about projects in that geographic area. The notice must briefly describe the project and inquire whether the Tribe wishes to initiate request formal consultation. Tribes have 30 days from receipt of notification to request formal consultation. The lead agency then has 30 days to initiate the consultation, which then continues until the parties come to an agreement regarding

necessary mitigation or agree that no mitigation is needed, or one or both parties determine that negotiation occurred in good faith, but no agreement will be made.

The City of Parlier has received written correspondence from the Santa Rosa Rancheria Tachi Yokut Tribe dated July 13, 2016, pursuant to Public Resources Code Section 21080.3.1 requesting notification of proposed projects. On January 25, 2022, the City notified the Tribe of the proposed Project via certified mail. The Tribe did not respond with a request for formal consultation on the Project within the required period.

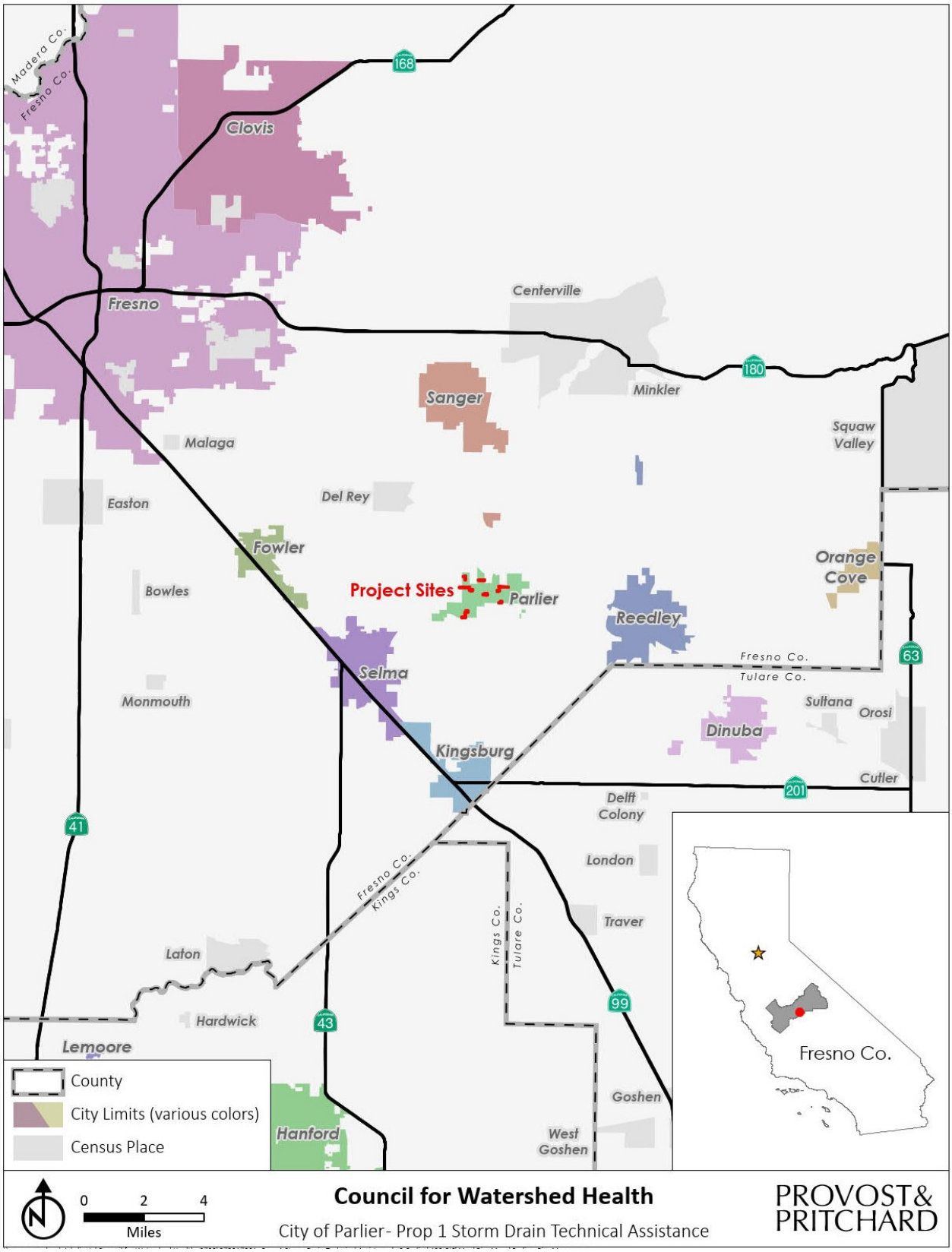

Figure 2-1: Regional Location Map

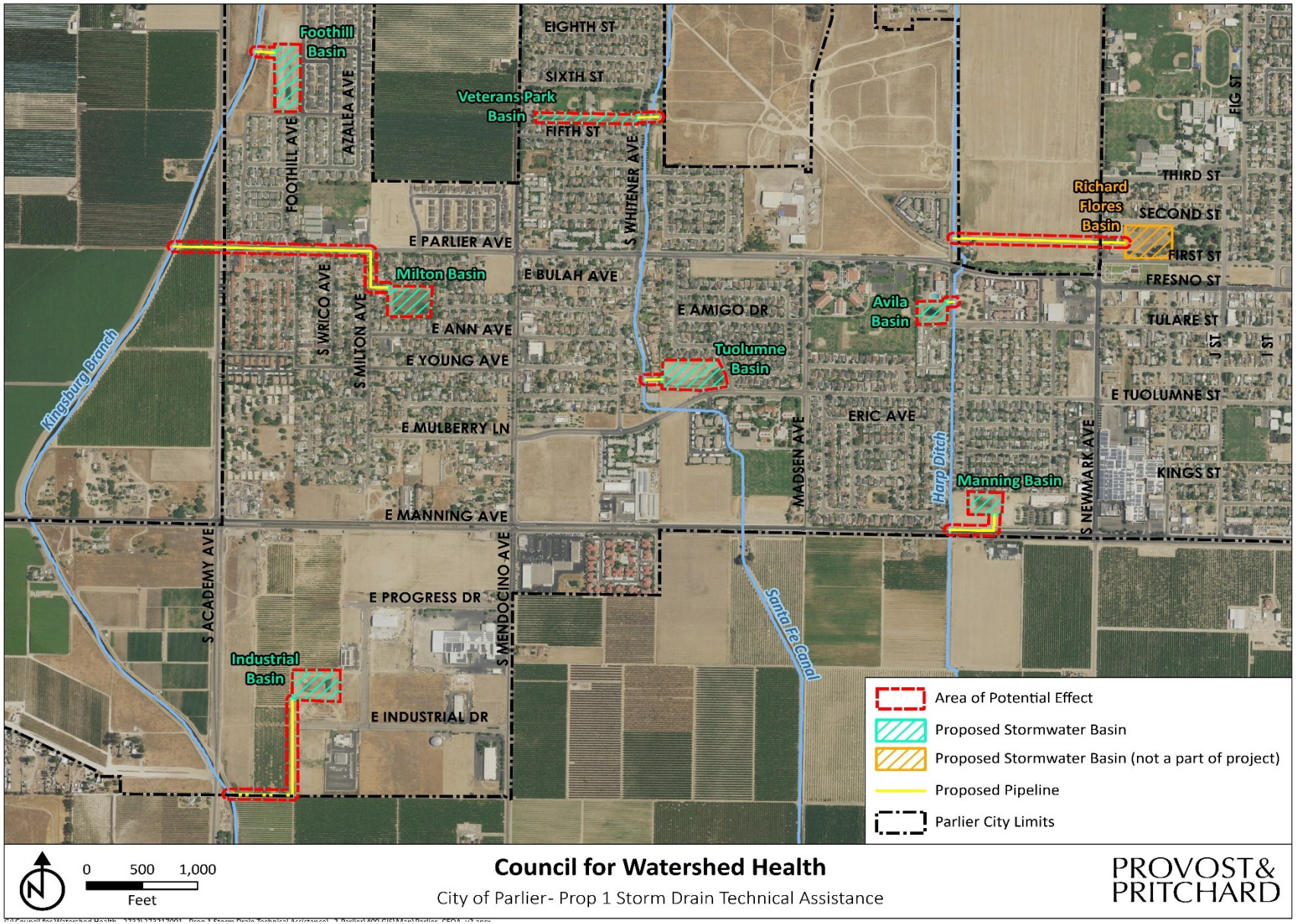

Figure 2-2: Area of Potential Effect Map

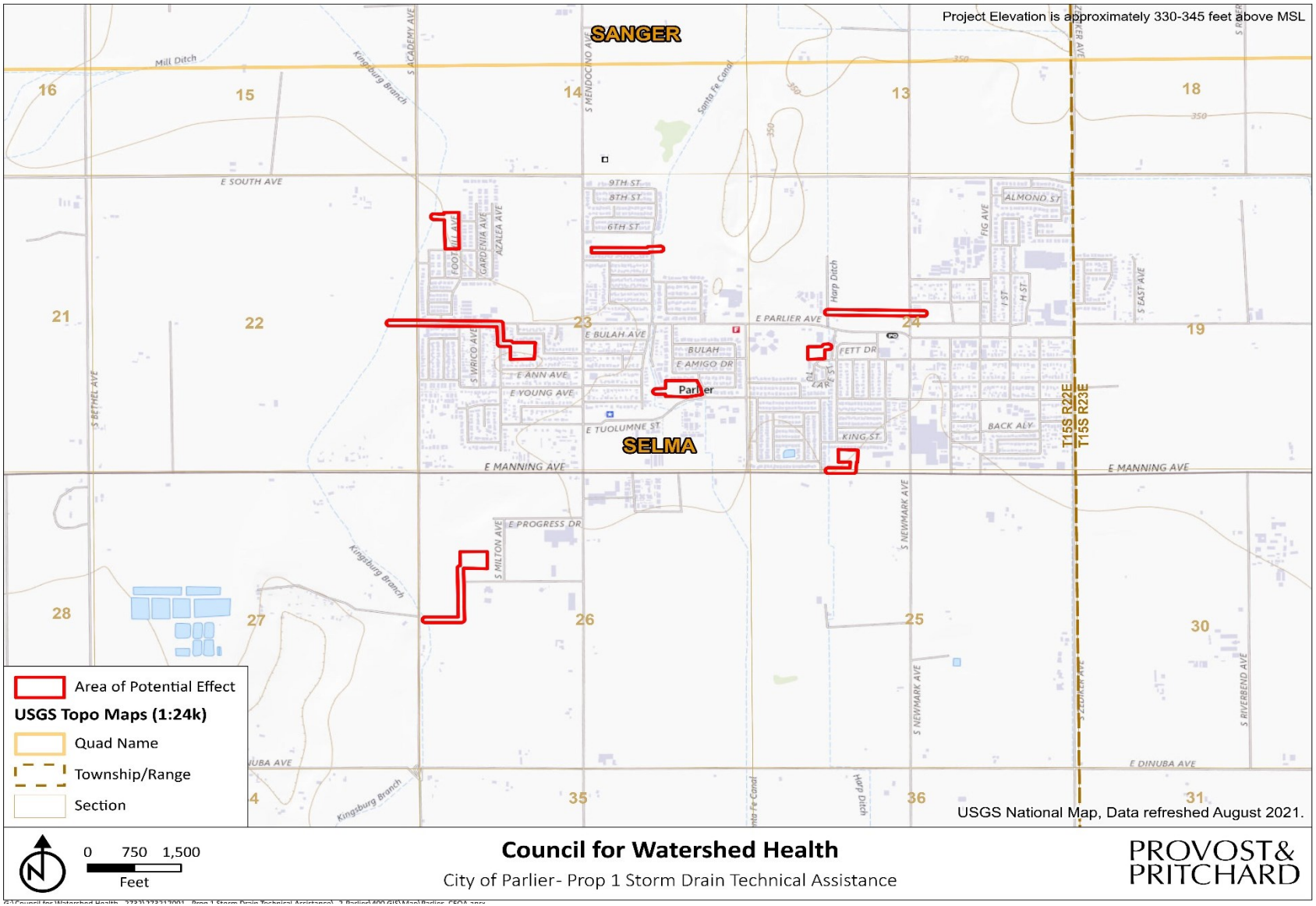

Figure 2-3: Topographic Quadrangle Map

CHAPTER 3 DETERMINATION

3.1 POTENTIAL ENVIRONMENTAL IMPACTS

As indicated by the discussions of existing and baseline conditions, and impact analyses that follow in this Chapter, environmental factors not checked below would have no impacts or less than significant impacts resulting from the project. Environmental factors that are. checked below would have potentially significant impacts resulting from the project. Mitigation measures are recommended for each of the potentially significant impacts that would reduce the impact to less than significant.

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

The analyses of environmental impacts in Chapter 4 Impact Analysis result in an impact statement, which shall have the following meanings.

Potentially Significant Impact. This category is applicable if there is substantial evidence that an effect may be significant, and no feasible mitigation measures can be identified to reduce impacts to a less than significant level. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

Less than Significant with Mitigation Incorporated. This category applies where the incorporation of mitigation measures would reduce an effect from a "Potentially Significant Impact" to a "Less than Significant Impact." The lead agency must describe the mitigation measure(s), and briefly explain how they would reduce the effect to a less than significant level (mitigation measures from earlier analyses may be cross-referenced).

Less than Significant Impact. This category is identified when the proposed Project would result in impacts below the threshold of significance, and no mitigation measures are required.

No Impact. This category applies when a project would not create an impact in the specific environmental issue area. "No Impact" answers do not require a detailed explanation if they are adequately supported by the information sources cited by the lead agency, which show that the impact does not apply to the specific project (e.g. the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g. the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

3.2 DETERMINATION

On the basis of this initial evaluation (to be completed by the Lead Agency):

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

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

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

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

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

Signature

March 14, 2022
Date

Jeffrey O'Neal, AICP, City Planner
Printed Name/Position

CHAPTER 4 ENVIRONMENTAL IMPACT ANALYSIS

4.1 AESTHETICS

Table 4-1: Aesthetics Impacts

Except as provided in Public Resources Code Section 21099, would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Have substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☐	☒
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☐	☒

4.1.1 Baseline Conditions

The Project basin areas are located in the City of Parlier (City), approximately 16 miles southeast of the City of Fresno, in Fresno County, Ca. The vicinity of the Project is the City as a whole, as the proposed groundwater recharge basins are scattered throughout the community. Visual character in the vicinity of the Project sites is typical of any urbanized area with residential, commercial, industrial, and public facilities including, but not limited to, medical facilities, schools, and parks.

The City of Parlier General Plan does not identify any scenic vistas. The nearest scenic vista to the Project site would be the Sierra Nevada Mountains approximately 40 miles to the northeast. There are no designated scenic highways or scenic rivers located in the vicinity of the Project site.[2] The Project sites are relatively flat, with the nearest topographic relief being the Sierra Nevada foothills, ranging from approximately 10 to 20 miles from the Project site

[2] (California Department of Transportation n.d.); (National Wild and Scenic Rivers System n.d.)

4.1.2 Impact Analysis

a) Have substantial adverse effect on a scenic vista?

No Impact. The Project would not have a substantial effect on a scenic vista. The Project areas are relatively flat, and the nearest topographic relief is approximately 10-20 miles northeast in the form of the Sierra Nevada foothills. The nearest scenic vista is the Sierra Nevada Mountain Range approximately 40 miles to the northeast. The mountains are not viewable from the Project area. In addition, the Project is located in and surrounded by an urbanized setting. Therefore, there would be no impact.

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

No Impact. The Project would convert the seven (7) existing stormwater retention basins into groundwater recharge basins. The Project also includes connecting these basins, and an additional basin (that is not included in the Project), to Consolidated Irrigation District (CID) facilities with underground pipelines and associated turnouts, pump stations, and metering facilities. The Project would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historical buildings within a state scenic highway. As mentioned above, the Project would not be located near a scenic highway or river. Therefore, there would be no impact.

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

No Impact. The Project site is located in an urbanized area and would not be in conflict with applicable zoning and other regulations. Therefore, there would be no impact.

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

No Impact. No artificial lighting is proposed to be on-site. Vehicular traffic to the site after the facility is constructed would be limited to as needed daytime maintenance trips. Therefore, the Project would not create a new source of substantial light or glare that would adversely affect day or nighttime views in the area or be inconsistent with existing conditions. There would be no impact.

4.2 AGRICULTURE AND FORESTRY RESOURCES

Table 4-2: Agriculture and Forest Impacts

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☒	☐
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☒	☐
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

4.2.1 Baseline Conditions

The Project area is located almost entirely in the City of Parlier, with two pipeline locations that traverse into the County of Fresno. The Project area is generally an urban environment. Some portions of the Project are located adjacent to agricultural land either active or fallowed. The California Department of Fish and Wildlife and the United States Forest Service do not recognize the area or any land adjacent to the Project site as being a forest or timberland.[3]

Farmland Mapping and Monitoring Program (FMMP): The FMMP produces maps and statistical data used for analyzing impacts to California's agricultural resources. Agricultural land is rated according to soil quality and irrigation status; the best quality land is called Prime Farmland. The maps are updated every two years with the use of a computer mapping system, aerial imagery, public review, and field reconnaissance.

The California DOC's 2012 FMMP is a non-regulatory program that produces "Important Farmland" maps and statistical data used for analyzing impacts on California's agricultural resources. The Important Farmland maps identify eight land use categories, five of which are agriculture related: prime farmland,

[3] (California Department of Fish and WIldlife n.d.); (U.S. Department of Agriculture Forest Service n.d.)

farmland of statewide importance, unique farmland, farmland of local importance, and grazing land – rated according to soil quality and irrigation status. Each is summarized below:

• PRIME FARMLAND (P): Farmland with the best combination of physical and chemical features able to sustain long term agricultural production. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.

• FARMLAND OF STATEWIDE IMPORTANCE (S): Farmland similar to Prime Farmland but with minor shortcomings, such as greater slopes or less ability to store soil moisture. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.

• UNIQUE FARMLAND (U): Farmland of lesser quality soils used for the production of the state's leading agricultural crops. This land is usually irrigated but may include non- irrigated orchards or vineyards as found in some climatic zones in California. Land must have been cropped at some time during the four years prior to the mapping date.

• FARMLAND OF LOCAL IMPORTANCE (L): Land of importance to the local agricultural economy as determined by each county's board of supervisors and a local advisory committee.

• GRAZING LAND (G): Land on which the existing vegetation is suited to the grazing of livestock. The minimum mapping unit for Grazing Land is 40 acres.

• URBAN AND BUILT-UP LAND (D): Land occupied by structures with a building density of at least 1 unit to 1.5 acres, or approximately 6 structures to a 10-acre parcel. This land is used for residential, industrial, commercial, institutional, public administrative purposes, railroad and other transportation yards, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, water control structures, and other developed purposes.

• OTHER LAND (X): Land not included in any other mapping category. Common examples include low density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing; confined livestock, poultry or aquaculture facilities; strip mines, borrow pits; and water bodies smaller than 40 acres. Vacant and nonagricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as Other Land.

•WATER (W): Perennial water bodies with an extent of at least 40 acres.

As demonstrated in Figure 4-1 the FMMP for Fresno County designates the Project site as Urban and Built-Up Land, Farmland of Local Importance, Farmland of Statewide Importance, and Prime Farmland.[4]

Williamson Act: There are several properties located within five miles of the Project site that are under Williamson Act contracts. According to the DOC, Williamson Act program lands are agreements between landowners and local governments to specify lands for agricultural or open space use over a length of time. The agreement locks land use for the length of the contract and landowners receive property tax assessments that are much lower because they agree to use the space for uses below market value. While the Project site is not a Williamson Act land, the surrounding area is zoned for agricultural and open space use resulting in many Williamson Act properties

[4] (California Department of Conservation. 2016. California Important Farmland Finder 2020)

4.2.2 Impact Analysis

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

Less than Significant Impact. There is one portion of the Project that is located within an area determined to be Farmland of Statewide Importance and there is another portion of the Project located in area determined to be Prime Farmland. These two portions would consist of underground piping to assist in conveyance of water from CID facilities to the recharge basins. Most of the pipeline would be located in the right-of-way and would not take any agricultural land out of production. A small portion of the total proposed pipeline would be located within agriculturally designated land, but the land is currently unimproved and vacant, and construction would be temporary. In addition, the pipeline is an aspect of the overall project which would help sustain agricultural operations by recharging the groundwater and combating groundwater depletion. Impacts would be less than significant.

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

Less than Significant Impact. The conversion of stormwater retention basins to groundwater recharge basins improves groundwater supplies by providing water to the underlying aquifer, ultimately complying with the intent of agricultural zones and Williamson Act contracts. The Project would not conflict with any agricultural use or Williamson Act contract. Impacts would be less than significant.

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

No Impact. The Project would not conflict with existing zoning for, or cause rezoning of, forest land, timberland, or timberland zoned Timberland Production. The Parlier General Plan has not designated the Project site or surrounding areas as Forest Land, Timberland, or timberland zoned for Timberland Production. Therefore, there would be no impact.

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

No Impact. The Project would not result in the loss of forest land or conversion of forest land to non-forest use. The Project site is in an urbanized area surrounded by typical uses seen within an urbanized city. This would not require the loss or conversion of a forest to a non-forest use. Therefore, there would be no impact.

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

No Impact. The Project would not 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. The Project would convert seven stormwater retention basins into groundwater recharge basins, and connect those basins, in addition to an eighth basin, to CID facilities to improve groundwater supplies to help mitigate the City's pumping for municipal water uses. There are no areas near the Project site that would be converted to non-forest use because of the Project. Therefore, there would be no impact.

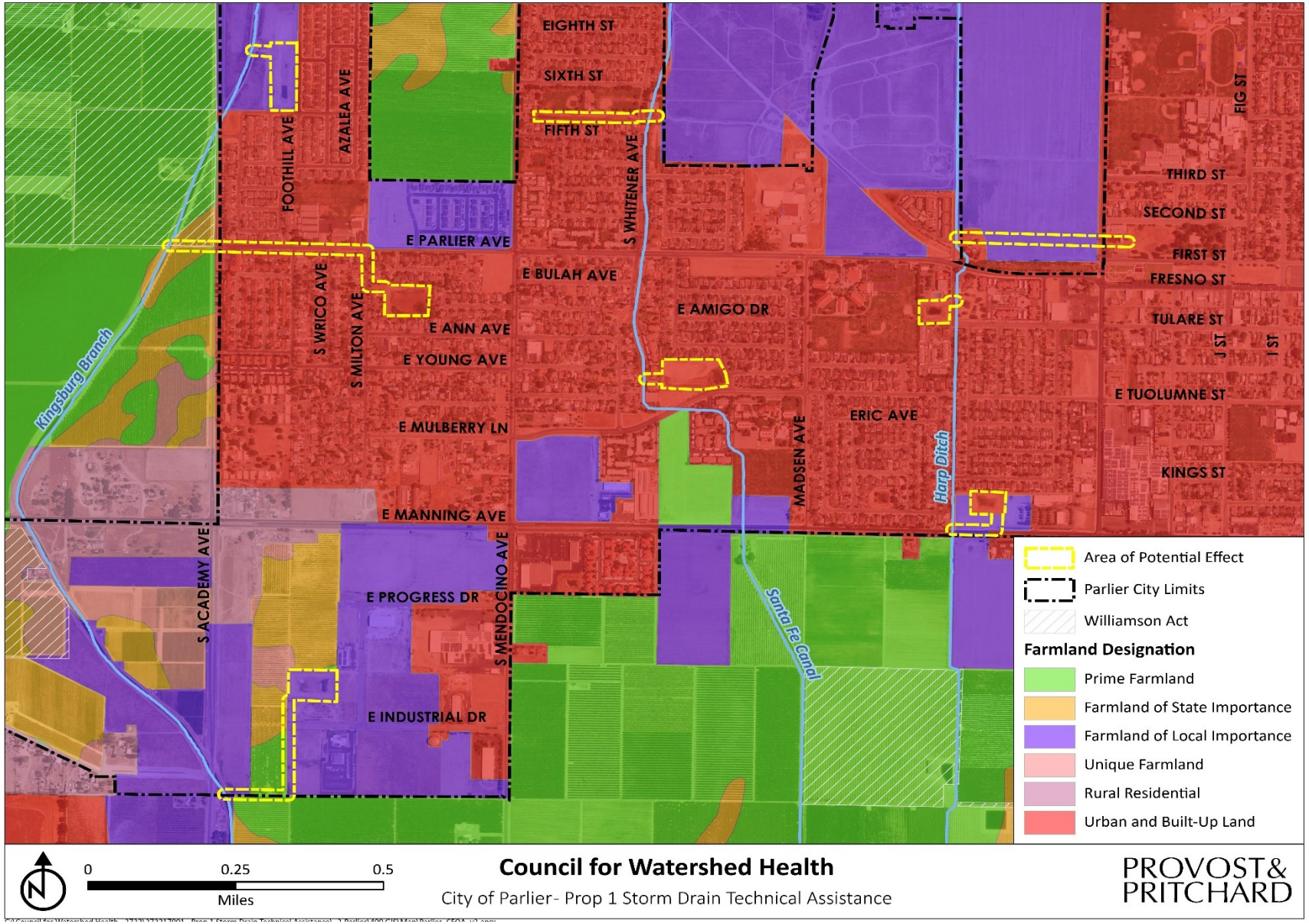

Figure 4-1: Farmland Designation Map

4.3 AIR QUALITY

Table 4-3: Air Quality Impacts

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	☐	☐	☒	☐
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

4.3.1 Baseline Conditions

Under the California Clean Air Act (CCAA), the California Air Resources Board (CARB) is required to designate areas of the State as attainment, nonattainment, or unclassified with respect to applicable standards. An "attainment" designation for an area signifies that pollutant concentrations did not violate the applicable standard in that area. A "nonattainment" designation indicates that a pollutant concentration violated the applicable standard at least once, excluding those occasions when a violation was caused by an exceptional event, as defined in the criteria. Depending on the frequency and severity of pollutants exceeding applicable standards, the nonattainment designation can be further classified as serious nonattainment, severe nonattainment, or extreme nonattainment, with extreme nonattainment being the most severe of the classifications. An "unclassified" designation signifies that the data does not support either an attainment or nonattainment designation. The CCAA divides districts into moderate, serious, and severe air pollution categories, with increasingly stringent control requirements mandated for each category.

The EPA designates areas for ozone, CO, and NO_2 as "does not meet the primary standards," "cannot be classified," or "better than national standards." For SO_2, areas are designated as "does not meet the primary standards," "does not meet the secondary standards," "cannot be classified," or "better than national standards." However, the CARB terminology of attainment, nonattainment, and unclassified is more frequently used. The EPA uses the same sub-categories for nonattainment status: serious, severe, and extreme. In 1991, EPA assigned new nonattainment designations to areas that had previously been classified as Group I, II, or III for PM_{10} based on the likelihood that they would violate national PM_{10} standards. All other areas are designated "unclassified."

The State and national attainment status designations pertaining to the SJVAB are summarized in Table 4-5. The SJVAB is currently designated as a nonattainment area with respect to the State PM_{10} standard, ozone, and $PM_{2.5}$ standards. The SJVAB is designated nonattainment for the NAAQS 8-hour ozone and $PM_{2.5}$ standards. On September 25, 2008, the EPA re-designated the San Joaquin Valley to attainment status for the PM_{10} NAAQS and approved the PM_{10} Maintenance Plan. California's ambient air monitoring network is one of the most extensive in the world, with more than 250 sites and 700 individual monitors measuring

air pollutant levels across a diverse range of topography, meteorology, emissions, and air quality. Existing levels of ambient air quality and historical trends and projections in the Project are best documented by measurements made by these monitoring sites. The nearest monitoring site to the Project is in the City of Parlier. The site measures O_3, PM_{10}, and $PM_{2.5}$. Data presented in Table 4-4 summarize monitoring data from the CARB's Aerometric Data Analysis and Management System, published from 2018 to 2020. Particulate matter data was collected from the Drummond and Hamilton and Winery Stations in Fresno.

Table 4-4: Ambient Air Quality Monitoring Summary

Air Pollutant	Averaging Time	Item	2018	2019	2020
Ozone	1-hour	Max 1 Hour (ppm)	0.129	0.110	0.124
		Days > State Standard (0.09 ppm)	10	9	10
	8-hour	Max 8 Hour (ppm)	0.098	0.094	0.096
		Days > State Standard (0.070 ppm)	50	47	46
		Days > National Standard (0.070 ppm)	49	39	43
		Days > National Standard (0.075 ppm)	26	18	19
Inhalable coarse particles (PM10)	Annual	National Annual Average (µg/m3)	45.8	38.6	59.9
	24-hour	National 24 Hour (µg/m3)	152.2	175.6	350.4
		Days > State Standard (50 µg/m3)	19	13	25
		Days > National Standard (150 µg/m3)	0	1	1
Fine particulate matter (PM2.5)	Annual	National Annual Average (µg/m3)	17.1	11.2	18.5
	24-hour	24 Hour (µg/m3)	89.8	44.7	143.3
		Days > National Standard (35 µg/m3)	11	3	13

Table 4-5: Summary of Ambient Air Quality Standards and Attainment Designation

Pollutant		Averaging Time	California Standards*		National Standards*	
			Concentration*	Attainment Status	Primary	Attainment Status
Ozone (O_3)		1-hour	0.09 ppm	Nonattainment/ Severe	–	No Federal Standard
		8-hour	0.070 ppm	Nonattainment	0.075 ppm	Nonattainment (Extreme)**
Particulate Matter (PM_{10})		AAM	20 µg/m^3	Nonattainment	–	Attainment
		24-hour	50 µg/m^3		150 µg/m^3	
Fine Particulate Matter ($PM_{2.5}$)		AAM	12 µg/m^3	Nonattainment	12 µg/m^3	Nonattainment
		24-hour	No Standard		35 µg/m^3	
Carbon Monoxide (CO)		1-hour	20 ppm	Attainment/ Unclassified	35 ppm	Attainment/ Unclassified
		8-hour	9 ppm		9 ppm	
		8-hour (Lake Tahoe)	6 ppm		–	
Nitrogen Dioxide (NO_2)		AAM	0.030 ppm	Attainment	53 ppb	Attainment/ Unclassified
		1-hour	0.18 ppm		100 ppb	
Sulfur Dioxide (SO_2)		AAM	–	Attainment	--	Attainment/ Unclassified
		24-hour	0.04 ppm		--	
		3-hour	–		0.5 ppm	
		1-hour	0.25 ppm		75 ppb	
Lead (Pb)		30-day Average	1.5 µg/m^3	Attainment	–	No Designation/ Classification
		Calendar Quarter	–		--	
		Rolling 3-Month Average	–		0.15 µg/m^3	
Sulfates (SO_4)		24-hour	25 µg/m^3	Attainment	No Federal Standards	
Hydrogen Sulfide (H_2S)		1-hour	0.03 ppm (42 µg/m^3)	Unclassified		
Vinyl Chloride (C_2H_3Cl)		24-hour	0.01 ppm (26 µg/m^3)	Attainment		
Visibility-Reducing Particle Matter		8-hour	Extinction coefficient: 0.23/km-visibility of 10 miles or more due to particles when the relative humidity is less than 70%.	Unclassified		

** For more information on standards visit: https://ww3.arb.ca.gov/research/aaqs/aaqs2.pdf*
*** No Federal 1-hour standard. Reclassified extreme nonattainment for the Federal 8-hour standard.*
****Secondary Standard*
Source: CARB 2015; SJVAPCD 2015

4.3.2 Thresholds

To assist local jurisdictions in the evaluation of air quality impacts, the SJVAPCD has published the *Guide for Assessing and Mitigating Air Quality Impacts*. This guidance document includes recommended thresholds of significance to be used for the evaluation of short-term construction, long-term operational, odor, toxic air contaminant, and cumulative air quality impacts. Accordingly, the SJVAPCD-recommended thresholds of significance are used to determine whether implementation of the proposed Project would result in a significant air quality impact. Projects that exceed these recommended thresholds would be considered to have a potentially significant impact to human health and welfare. The thresholds of significance are summarized, as follows:

Short-Term Emissions of Particulate Matter (PM_{10}): Construction impacts associated with the proposed Project would be considered significant if the feasible control measures for construction in compliance with Regulation VIII as listed in the SJVAPCD guidelines are not incorporated or implemented, or if project-generated emissions would exceed 15 tons per year (TPY).

Short-Term Emissions of Ozone Precursors (ROG and NO_X): Construction impacts associated with the proposed Project would be considered significant if the project generates emissions of Reactive Organic Gases (ROG) or NO_X that exceeds 10 TPY.

Long-Term Emissions of Particulate Matter (PM_{10}): Operational impacts associated with the proposed Project would be considered significant if the project generates emissions of PM_{10} that exceed 15 TPY.

Long-Term Emissions of Ozone Precursors (ROG and NOX): Operational impacts associated with the proposed Project would be considered significant if the project generates emissions of ROG or NO_X that exceeds 10 TPY.

Conflict with or Obstruct Implementation of Applicable Air Quality Plan: Due to the region's nonattainment status for ozone, $PM_{2.5}$, and PM_{10}, if the project-generated emissions of either of the ozone precursor pollutants (i.e., ROG and NO_x) or PM_{10} would exceed the SJVAPCD's significance thresholds, then the project would be considered to conflict with the attainment plans. In addition, if the project would result in a change in land use and corresponding increases in vehicle miles traveled, the project may result in an increase in vehicle miles traveled that is unaccounted for in regional emissions inventories contained in regional air quality control plans.

Local Mobile-Source CO Concentrations: Local mobile source impacts associated with the proposed Project would be considered significant if the project contributes to CO concentrations at receptor locations in excess of the CAAQS (i.e. 9.0 ppm for 8 hours or 20 ppm for 1 hour).

Toxic Air Contaminants: Exposure to toxic air contaminants (TAC) would be considered significant if the probability of contracting cancer for the Maximally Exposed Individual (i.e., maximum individual risk) would exceed 10 in 1 million or would result in a Hazard Index greater than 1.

Odors: Odor impacts associated with the proposed Project would be considered significant if the project has the potential to frequently expose members of the public to objectionable odors.

Table 4-6: Summary of Ambient Air Quality Standards and Attainment Designation

Pollutant	Averaging Time	California Standards*		National Standards*	
		Concentration*	Attainment Status	Primary	Attainment Status
Ozone (O_3)	1-hour	0.09 ppm	Nonattainment/ Severe	–	No Federal Standard
	8-hour	0.070 ppm	Nonattainment	0.075 ppm	Nonattainment (Extreme)**
Particulate Matter (PM_{10})	AAM	20 µg/m^3	Nonattainment	–	Attainment
	24-hour	50 µg/m^3		150 µg/m^3	
Fine Particulate Matter ($PM_{2.5}$)	AAM	12 µg/m^3	Nonattainment	12 µg/m^3	Nonattainment
	24-hour	No Standard		35 µg/m^3	
Carbon Monoxide (CO)	1-hour	20 ppm	Attainment/ Unclassified	35 ppm	Attainment/ Unclassified
	8-hour	9 ppm		9 ppm	
	8-hour (Lake Tahoe)	6 ppm		–	
Nitrogen Dioxide (NO_2)	AAM	0.030 ppm	Attainment	53 ppb	Attainment/ Unclassified
	1-hour	0.18 ppm		100 ppb	
Sulfur Dioxide (SO_2)	AAM	–	Attainment	--	Attainment/ Unclassified
	24-hour	0.04 ppm		--	
	3-hour	–		0.5 ppm	
	1-hour	0.25 ppm		75 ppb	
Lead (Pb)	30-day Average	1.5 µg/m^3	Attainment	–	No Designation/ Classification
	Calendar Quarter	–		--	
	Rolling 3-Month Average	–		0.15 µg/m^3	
Sulfates (SO_4)	24-hour	25 µg/m^3	Attainment	No Federal Standards	
Hydrogen Sulfide (H_2S)	1-hour	0.03 ppm (42 µg/m^3)	Unclassified		
Vinyl Chloride (C_2H_3Cl)	24-hour	0.01 ppm (26 µg/m^3)	Attainment		
Visibility-Reducing Particle Matter	8-hour	Extinction coefficient: 0.23/km-visibility of 10 miles or more due to particles when the relative humidity is less than 70%.	Unclassified		

** For more information on standards visit: https://ww3.arb.ca.gov/research/aaqs/aaqs2.pdf*
*** No Federal 1-hour standard. Reclassified extreme nonattainment for the Federal 8-hour standard.*
****Secondary Standard*
Source: CARB 2015; SJVAPCD 2015

4.3.3 Impact Analysis

a) Would the project conflict with or obstruct implementation of the applicable air quality plan? and

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

Less than Significant Impact. Estimated construction-generated emissions are summarized in Table 4-7 below and will be less than the SJVAPCD established thresholds of significance. Construction-related air quality emissions are below the SJVAPCD Rule 9510 threshold to reduce construction emissions. Impacts will be less than significant.

Table 4-7: Unmitigated Short-Term Construction-Generated Emissions of Criteria Air Pollutants

Source	Annual Emissions (Tons/Year) (1)					
	ROG	NO_X	CO	SO_x	PM_{10}	$PM_{2.5}$
Pipeline Construction	0.0926	0.9904	0.9768	<0.01	0.0500	0.0401
SJVAPCD Significance Thresholds:	*10*	*10*	*100*	*27*	*15*	*15*
Exceed SJVAPCD Thresholds?	*No*	*No*	*No*	*No*	*No*	*No*

1. 2. Refer to **Appendix A** for modeling results and assumptions. Totals may not sum due to rounding.

c) Expose sensitive receptors to substantial pollutant concentrations?

Less than Significant Impact. Implementation of the Project would not result in the long-term operation of any major onsite stationary sources of TACs. However, construction of the Project may result in temporary increases in emissions of diesel particulate matter (DPM) associated with the use of off-road diesel equipment. Construction of the Project would occur over seven months, across seven different sites. Health-related risks associated with diesel-exhaust emissions are primarily associated with long-term exposure and associated risk of contracting cancer. As such, cancer risks associated with exposure of to TACs are typically calculated based on a long-term (e.g., 70-year) period of exposure. However, the use of diesel-powered construction equipment would be temporary and episodic.

Construction activities would occur over approximately 7 months, which would constitute approximately 0.8 percent of the typical 70-year exposure period. Construction length of the Project is estimated to be approximately seven months days across seven different sites. Construction activity areas during this phase would be constantly changing as progress is made on pipeline installation; thus, sensitive receptors would not be exposed to TACs for an extended amount of time. For these reasons and given the relatively high dispersive properties of DPM, exposure to construction-generated DPM would not be anticipated to exceed applicable thresholds (i.e., incremental increase in cancer risk of 10 in one million).

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

Less than Significant Impact. Land uses that commonly emit odorous compounds include dairies, agricultural uses, wastewater treatment plants, chemical plants, food processing facilities, composting, refineries, and fiberglass molding facilities. The operational phase of the basin Project would not emit any odorous compounds. Impacts would be less than significant.

4.4 BIOLOGICAL RESOURCES

Table 4-8: Biological Resources Impacts

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

4.4.1 Baseline Conditions

4.4.1.1 General

The Project is located in Parlier along Foothill Avenue, South Milton Avenue, East Parlier Avenue, Tuolumne Street, South Whitner Avenue, Manning Avenue, Avila Street, East Industrial Drive, and South Newmark Avenue. The Project's Area of Potential Effect (APE) is approximately 22 acres which included a 50-foot buffer. The Project lies in Fresno County within the Lower San Joaquin Valley, part of the Central Valley of California (see Figure 2-2). The Central Valley is bordered by the Sierra Nevada Mountain Ranges to the east, the Coast Ranges to the west, the Klamath Mountains and Cascade Range to the north, and the Transverse Ranges and Mojave Desert to the south. The area is relatively flat and is at an elevation between 328-354 feet above sea level.

Like most of California, the San Joaquin Valley experiences a Mediterranean climate. Warm, dry summers are followed by cool, moist winters. Average summer temperatures range from 70 to 80 degrees Fahrenheit (°F), but often exceeds 90 °F. Average winter temperatures are around 45 °F. Near the Project, the average annual precipitation is approximately 12 inches, falling mainly from October to May.[5]

[5] Weatherspark. (2021). Average Weather in Parlier California United States Year Round. Retrieved from Weatherspark: https://weatherspark.com/y/1497/Average-Weather-in-Parlier-California-United-States-Year-Round (Accessed December 2021)

Figure 4-2: Existing Stormwater Basin

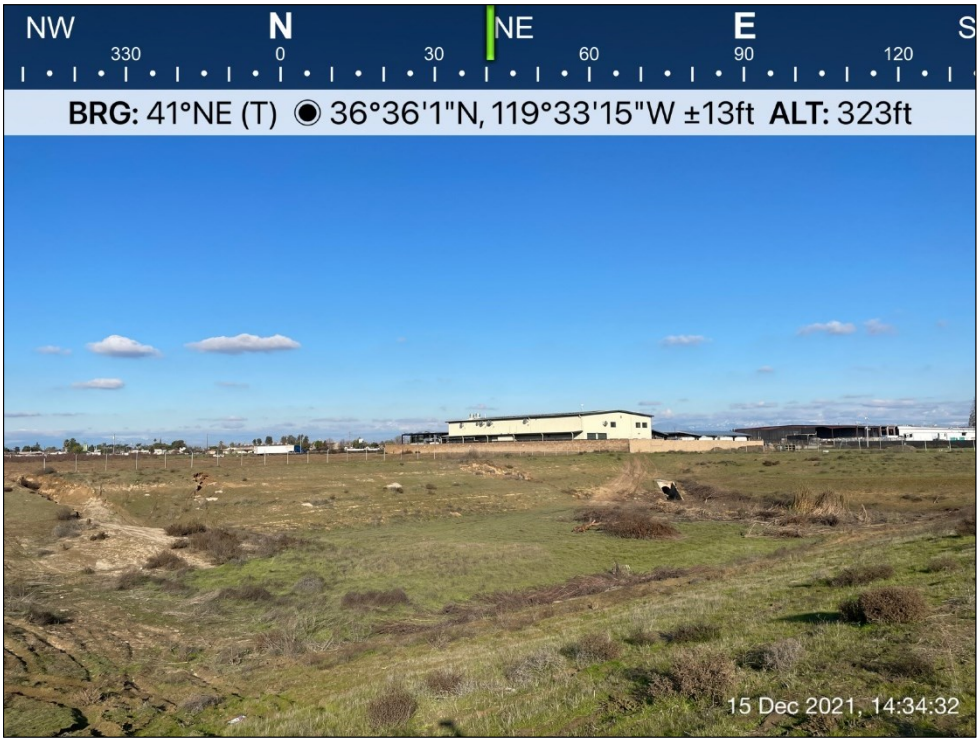

Figure 4-3: Existing Stormwater Basin

4.4.1.2 Water

A watershed is the topographic region that drains into a stream, river, or lake and can consist of many smaller subwatersheds. The nearest surface waters are the Kingsburg Branch Canal that runs along the west portion of the APE, the Santa Fe Canal that runs along Whitner Avenue, and Harp Ditch which runs through the eastern portion of the APE. The Cole Slough-Kings River watershed is comprised of stormwater or snowmelt collected in upland areas which flows down into Pine flat lake, Fish creek, and Hughes Creek which all flow down into Kings River. The Kings River then flows through canals down into Kingsburg Branch and the unnamed canal off Whitner Avenue which connects to Collins Creek (USEPA, 2021). The APE lies within the Cole Slough-Kings River watershed; Hydrologic Unit Code (HUC): 1803001202 and a single subwatershed: Cole Slough subwatershed; HUC: 180300120206.[6]

4.4.1.3 Soil

Three soil mapping units representing five soil types were identified within the APE: Delhi sand, Delhi loamy sand, Hanford sandy loam, Hanford fine sandy loam, and Tujunga loamy sand.[7] Refer to Section 4.7 Geology and Soils for further discussion.

4.4.1.4 Wildlife and Plant Species

A qualified biologist conducted a desktop analysis of potential Project-related impacts to biological resources based on the resources known to exist or with potential to exist within the Project site and surrounding areas. Sources of information used in preparation of this analysis included: the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB); the United States Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) system; the California Native Plant Society (CNPS) Online Inventory of Rare and Endangered Vascular Plants of California; CalFlora's online database of California native plants; the Jepson Herbarium online database (Jepson eFlora); USFWS Environmental Conservation Online System (ECOS); the NatureServe Explorer online database; the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Plants Database; the CDFW California Wildlife Habitat Relationships (CWHR) database; the California Herps online database; and various manuals, reports, and references related to plants and animals of the San Joaquin Valley region.

A thorough search of the CNDDB for published accounts of special status plant and animal species was conducted for the *Selma* 7.5-minute quadrangle that contain the APE in its entirety, and for the eight surrounding quadrangles: *Malaga*, *Sanger*, *Wahtoke*, *Reedley*, *Traver*, *Burris Park*, *Laton*, and *Conejo*. These species, and their potential to occur within the proposed Project area are listed in Table 4-9 and Table 4-10.

Table 4-9: List of Special Status Animals with Potential to Occur Onsite and/or in the Vicinity.

Species	*Status*	*Habitat*	*Occurrence within APE*
Blunt-nosed leopard lizard (*Gambelia sila)*	FE, CE, CFP	Inhabits semi-arid grasslands, alkali flats, low foothills, canyon floors, large washes, and arroyos, usually on sandy, gravelly, or loamy substrate, sometimes on	**Absent.** The APE and surrounding areas are existing stormwater retention basins and residential houses with paved roads that are unsuitable for this species. There is no recorded observation of this

[6] United States Environmental Protection Agency (USEPA). (2021). Retrieved from Waters GeoViewer: https://www.epa.gov/waterdata/waters-geoviewer (Accessed December 2021).

[7] United States Department of Agriculture, Natural Resources Conservation Service. (2021). Custom Soil Resources Report, California. Retrieved from http://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx (Accessed December 2021).

Species	*Status*	*Habitat*	*Occurrence within APE*
		hardpan. Often found where there are abundant rodent burrows in dense vegetation or tall grass. Cannot survive on lands under cultivation. Known to bask on kangaroo rat mounds and often seeks shelter at the base of shrubs, in small mammal burrows, or in rock piles. Adults may excavate shallow burrows but rely on deeper pre-existing rodent burrows for hibernation and reproduction.	species within the 9 quad search on CNDDB.
Burrowing owl (*Athene cunicularia*)	CSC	Resides in open, dry annual or perennial grasslands, deserts, and scrublands with low growing vegetation. Nests underground in existing burrows created by mammals, most often ground squirrels.	**Unlikely.** Nesting and foraging habitat is absent due to incompatible vegetative cover. At most, a Burrowing Owl individual could potentially pass over or through the site but would not be expected to nest or forage within or adjacent to the APE. Additionally, he presence of raptors in the vicinity makes this site generally unsuitable for Burrowing Owl. The closest recorded observation of this species was 15 years ago and 7.5 miles southeast of the APE, the most recent recorded observation of this species was 4 years ago and 14 miles south of the APE.
California glossy snake (*Arizona elegans occidentalis*)	CSC	Inhabits arid scrub, rocky washes, grasslands, and chaparral. Prefers open areas with loose soil for easy burrowing.	**Absent.** The APE and surrounding areas are unsuitable for this species. The only recorded observation of this species was 128 years ago and 12 miles northwest of the APE.
California red-legged frog (*Rana draytonii*)	FT, CSC	Inhabits perennial rivers, creeks, and stock ponds with vegetative cover within the Coast Range and northern Sierra foothills.	**Absent.** The APE and surrounding are unsuitable for this species. The APE does not provide suitable habitat for this species and is outside of its current known range. There is no recorded observation of this species within the 9 quad search on CNDDB.
California tiger salamander (*Ambystoma californiense*)	FT, CT, CWL	Requires vernal pools or seasonal ponds for breeding and small mammal burrows for aestivation. Generally found in grassland and oak savannah plant communities in central California from sea level to 1500 feet in elevation.	**Absent.** The APE does not provide suitable habitat for this species, no vernal pool or upland habitat with mammal burrows was present. The only recorded observation of this species was over 100 years ago and 8 miles south of the APE. The observation of this species is presumed to be extirpated.
Coast horned lizard (*Phrynosoma blainvilli*)	CSC	Found in grasslands, coniferous forests, woodlands, and chaparral, primarily in open areas with patches of loose, sandy soil and low-lying vegetation in valleys,	**Absent.** The APE and surrounding are unsuitable for this species. The only recorded observation of this species was 128 years ago and 12 miles northeast of the APE.

Species	*Status*	*Habitat*	*Occurrence within APE*
		foothills, and semi-arid mountains. Frequently found near ant hills and along dirt roads in lowlands along sandy washes with scattered shrubs.	
Crotch bumble bee (*Bombus crotchii*)	CCE	Occurs throughout coastal California, as well as east to the Sierra-Cascade crest, and south into Mexico. Food plant genera include *Antirrhinum, Phacelia, Clarkia, Dendromecon, Eschscholzia*, and *Eriogonum*.	**Unlikely.** The APE and surrounding areas lack suitable foraging habitat and plant species. A crotch bumblebee could potentially pass through the area, but nesting and foraging habitat is absent due to land use. The most recent recorded observation of this species was 109 years ago and 3 miles southwest of the APE.
Delta smelt (Hypomesus transpacificus)	FT, CE	This pelagic and euryhaline species is Endemic to the Sacramento-San Joaquin River Delta, upstream through Contra Costa, Sacramento, San Joaquin, and Solano Counties.	**Absent.** Suitable perennial aquatic habitat for this species is absent from the APE and surrounding lands. There are no connections between streams that host Delta smelt and the canals that run through or past the APE. There are no recorded observations of this species within the 9-quad search on CNDDB.
Foothill yellow-legged frog (*Rana boylii*)	CCT, CSC	Frequents rocky streams and rivers with rocky substrate and open, sunny banks in forests, chaparral, and woodlands. Occasionally found in isolated pools, vegetated backwaters, and deep, shaded, spring-fed pools.	**Absent.** The APE and surrounding areas are unsuitable for this species. The only recorded observation of this species was 105 years ago and 8 miles northeast of the APE.
Fresno Kangaroo Rat (*Dipodomys nitratoides exilis*)	FE, CE	An inhabitant of alkali sink open grassland environments in western Fresno County. Prefers bare, alkaline, clay-based soils subject to seasonal inundation with more friable soil mounds around shrubs and grasses.	**Absent.** The APE and surrounding areas are unsuitable for this species. There are no recorded observations of this species within the 9-quad search on CNDDB.
Giant gartersnake (*Thamnophis gigas*)	FT, CT	Occurs in marshes, sloughs, drainage canals, irrigation ditches, rice fields, and adjacent uplands. Prefers locations with emergent vegetation for cover and open areas for basking. This species uses small mammal burrows adjacent to aquatic habitats for hibernation in the winter and to escape from excessive heat in the summer.	**Absent.** The APE and surrounding areas are unsuitable for this species. There are no recorded observations of this species within the 9-quad search on CNDDB.
Loggerhead shrike (*Lanius ludovicianus*)	CSC	Frequents open habitats with sparse shrubs and trees, other suitable perches, bare ground, and low herbaceous cover. In the Central Valley, nests in riparian	**Unlikely.** The APE and surrounding areas are unsuitable for this species. The Loggerhead shrike could potentially pass over the APE, but it is unlikely they would be found within the APE. The only recorded observation of this

Species	Status	Habitat	Occurrence within APE
		areas, desert scrub, and agricultural hedgerows.	species was 29 years ago and 13.5 miles southeast of the APE.
Monarch Butterfly (*Danaus plexippus*)	FC	Roosts located in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby. Larval host plants consist of milkweeds (*Asclepias* sp.). Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico.	**Absent.** The APE and surrounding areas are existing stormwater retention basins and residential houses with paved roads that are unsuitable for this species. There are no recorded observations of this species within the 9-quad search on CNDDB.
Northern California legless lizard (*Anniella pulchra*)	CSC	Found primarily underground, burrowing in loose, sandy soil. Forages in loose soil and leaf litter during the day. Occasionally observed on the surface at dusk and night.	**Unlikely.** The APE and surrounding areas are existing stormwater retention basins and residential houses with paved roads that are unsuitable for this species. The only recorded observation of this species was over 130 years ago and 12 miles northwest of the APE.
Pallid bat (*Antrozous pallidus*)	CSC	Found in grasslands, chaparral, and woodlands, where it feeds on ground- and vegetation-dwelling arthropods, and occasionally takes insects in flight. Prefers to roost in rock crevices, but may also use tree cavities, caves, bridges, and other man-made structures.	**Unlikely.** The APE and surrounding areas are existing stormwater retention basins and residential houses with paved roads that are unsuitable for this species. Roosting and foraging habitat is minimal, but a pallid bat could potentially pass through the area. The only recorded observation of this species was 20 years ago and 5 miles northwest of the APE.
San Joaquin kit fox (*Vulpes macrotis mutica*)	FE, CT	Underground dens with multiple entrances in alkali sink, valley grassland, and woodland in valleys and adjacent foothills.	**Unlikely.** The APE and surrounding areas are existing stormwater retention basins and residential houses with paved roads that are unsuitable for this species. The presence of coyotes in the Industrial Basin would deter this species from living there. The most recently recorded observation of this species was 18 years ago and 17 miles southeast of the APE. The closest recorded observation of this species was over 30 years ago and 5 miles north of the APE.
Swainson's Hawk (*Buteo swainsoni*)	CT	Nests in large trees in open areas adjacent to grasslands, grain or alfalfa fields, or livestock pastures suitable for supporting rodent populations.	**Possible.** The APE and surrounding areas are existing stormwater retention basins and residential houses with paved roads that are unsuitable for this species. While the APE does not contain large trees, the areas surrounding the APE contains suitable trees for nesting. The closest recorded observation of this species was 95 years ago and 5 miles south of the APE, the most recent recorded observation of this species was 4 years ago and 14 miles southeast of the APE.

Species	*Status*	*Habitat*	*Occurrence within APE*
Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*)	FT	Lives in mature elderberry shrubs of the Central Valley and foothills. Adults are active March to June.	**Absent.** The APE and surrounding areas are existing stormwater retention basins and residential houses with paved roads that are unsuitable for this species. No Elderberry shrubs were seen within the APE or surrounding areas during the biological survey. The closest recorded observation of this species was 30 years ago and 3.5 miles east of the APE, the most recent recorded observation of this species was 16 years ago and 8 miles northeast of the APE.
Vernal pool fairy shrimp (*Branchinecta lynchi*)	FT	Occupies vernal pools, clear to tea-colored water, in grass or mud-bottomed swales, and basalt depression pools.	**Absent.** The basins have riparian vegetation which indicate they hold water for long periods of time. This species only lives in ephemeral habitats and needs long periods of dry soils for rest-quiescent which makes the APE unsuitable for this species (USFWS, 2007). The most recent recorded observation of this species was 4 years ago and 14 miles south of the APE.
Vernal pool tadpole shrimp (*Lepidurus packardi*)	FE	Occurs in vernal pools, clear to tea-colored water, in grass or mud-bottomed swales, and basalt depression pools.	**Absent.** The basins have riparian vegetation which indicate they hold water for long periods of time. This species only lives in ephemeral habitats and needs long periods of dry soils for rest-quiescent which makes the APE unsuitable for this species (USFWS, n.d.). The most recent recorded observation of this species was 3 years ago and 14 miles southeast of the APE.
Western mastiff bat (*Eumops perotis californicus*)	CSC	Found in open, arid to semi-arid habitats, including dry desert washes, flood plains, chaparral, oak woodland, open ponderosa pine forest, grassland, and agricultural areas, where it feeds on insects in flight. Roosts most commonly in crevices in cliff faces but may also use high buildings and tunnels.	**Unlikely.** The APE and surrounding areas are existing stormwater retention basins and residential houses with paved roads that are unsuitable for this species. Roosting and foraging habitat is minimal, but a Western red bat could potentially pass through the area. The only recorded observation of this species was 122 years ago and 10.5 miles south of the APE.
Western pond turtle (*Emys marmorata*)	CSC	An aquatic turtle of ponds, marshes, slow-moving rivers, streams, and irrigation ditches with riparian vegetation. Requires adequate basking sites and sandy banks or grassy open fields to deposit eggs.	**Unlikely.** The APE and surrounding areas are existing stormwater retention basins surrounded by residential houses and paved roads that are unsuitable for this species. Upland habitat for hibernation and laying eggs is absent from the APE and surrounding areas. The only recorded observation of this species was 25 years ago and 11 miles northeast of the APE in Wahtoke Creek.

Species	*Status*	*Habitat*	*Occurrence within APE*
Western spadefoot (*Spea hammondii*)	CSC	Prefers open areas with sandy or gravelly soils, in a variety of habitats including mixed woodlands, grasslands, coastal sage scrub, chaparral, sandy washes, lowlands, river floodplains, alluvial fans, playas, alkali flats, foothills, and mountains. Vernal pools or temporary wetlands, lasting a minimum of three weeks, which do not contain bullfrogs, fish, or crayfish are necessary for breeding.	**Absent.** The APE and surrounding areas are existing stormwater retention basins and residential houses with paved roads that are unsuitable for this species. The most recently recorded observation of this species was 3 years ago and 14 miles southeast of the APE in Cottonwood Creek.
Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*)	FT, CE	Suitable nesting habitat in California includes dense riparian willow-cottonwood and mesquite habitats along a perennial river. Once a common breeding species in riparian habitats of lowland California, this species currently breeds consistently in only two locations in the State: along the Sacramento and South Fork Kern Rivers.	**Absent.** The APE and surrounding areas are existing stormwater retention basins and residential houses with paved roads that are unsuitable for this species. There is no suitable nesting habitat and there are only two locations where this species is known to breed. One is along the Sacramento River and the other is in the South Fork of the Kern River. The nearest recorded observation of this species was 123 years ago, 3 miles southwest of the APE and is presumed to be extirpated.

Table 4-10: List of Special Status Plants with Potential to Occur Onsite and/or in the Vicinity.

Species	*Status*	*Habitat*	*Occurrence within APE*
Alkali-sink goldfields (*Lasthenia chrysantha*)	CNPS 1B	This species is found in vernal pool and wet saline flat habitats. Occurrences are documented in the San Joaquin and Sacramento Valleys at elevations below 656 feet. Bloom period is from February - April.	**Absent.** Required soils are absent and anthropogenic disturbance makes the APE unsuitable for this species. The most recent recorded observation of this species was 4 years ago and 14 miles southeast of the APE.
Bristly sedge (*Carex comosa*)	CNPS 2B.1	Marshes and swamps, lake margins, wet places, coastal prairie, valley and foothill grassland. Found at elevations between -16 feet and 3300 feet; site below sea level is on a Delta Island.	**Unlikely.** Required habitat is present within the APE, but this species was not seen during the field survey. The only recorded observation of this species was 32 years ago and 4 miles north of the APE.
Brittlescale (*Atriplex depressa*)	CNPS 1B	This species is found in the San Joaquin Valley and Sacramento Valley in alkaline or clay soils, typically in meadows or annual grassland at elevations below 1050 feet. It is sometimes associated with vernal pools. Bloom period is from June–October.	**Absent.** Required soils are absent and anthropogenic disturbance makes the APE unsuitable for this species. The most recent recorded observation of this species was 53 years ago and 11.5 miles southeast of the APE.
California alkali grass (*Puccinellia simplex*)	CNPS 1B	This species is found in the San Joaquin Valley and other parts of California in saline flats and mineral springs within valley grassland and wetland-riparian	**Absent.** Required soils are absent and anthropogenic disturbance makes the APE unsuitable for this species. The only recorded observation of this species was 4

Species	*Status*	*Habitat*	*Occurrence within APE*
		communities at elevations below 3000 feet. Bloom period is from March–May.	years ago and 14 miles southeast of the APE.
California jewelflower (*Caulanthus californicus*)	FE, CE, CNPS 1B	This species is found in the San Joaquin Valley and Western Transverse Ranges in sandy soils. It occurs on flats and slopes, generally in non-alkaline grassland at elevations between 230 feet and 6100 feet. Bloom period is from February–April.	**Absent.** Required habitats are absent and anthropogenic disturbance makes the APE unsuitable for this species. The only recorded observation of this species in the region was 35 years ago, 11 miles northwest of the APE and is presumed to be extirpated.
California satintail (*Imperata brevifolia*)	CNPS 2B	Although this facultative species is equally likely to occur in wetlands and non-wetlands, it is often found in wet springs, meadows, streambanks, and floodplains at elevations below 1600 feet. Bloom period is from September – May.	**Unlikely.** Required habitat is present within the APE, but this species was not seen during the field survey. The nearest recorded observation was 88 years ago, 3.5 miles west of the APE. The most recent recorded observation was 51 years ago, 9 miles northeast of the APE.
Earlimart orache (*Atriplex cordulata var. erecticaulis*)	CNPS 1B	This species is found in the San Joaquin Valley in saline or alkaline soils, typically within valley and foothill grassland at elevations below 375 feet. Bloom period is from August–September.	**Absent.** Required soil is absent and anthropogenic disturbance makes the APE unsuitable for this species. The most recent recorded observation was 4 years ago, 14 miles southeast of the APE.
Greene's tuctoria (*Tuctoria greenei*)	FE, CR, CNPS 1B	This species is found in the San Joaquin Valley and other parts of California in vernal pools within valley grassland, wetland, and riparian communities at elevations below 3500 feet. Bloom period is from May – September.	**Unlikely.** Anthropogenic disturbance makes the APE unsuitable for this species. The only recorded observation of this species was 34 years ago and 9 miles north of the APE.
Lesser saltscale (*Atriplex minuscula*)	CNPS 1B	This species is found in the San Joaquin Valley in sandy, alkaline soils in alkali scrub, valley and foothill grassland, and alkali sink communities at elevations below 750 feet. Bloom period is from April–October.	**Absent.** Required soils are absent and anthropogenic disturbance makes the APE unsuitable for this species. The most recent recorded observation of this species was 5 years ago and 14.5 miles southeast of the APE.
Madera leptosiphon (*Leptosiphon serrulatus*)	CNPS 1B	Found in openings in foothill woodland, often yellow-pine forest, and chaparral at elevations between 1000 feet and 4300 feet. Bloom period is from April – May.	**Absent.** Required habitats are absent and the APE is outside of its elevational range making it unsuitable for this species. The only recorded observation of this species was 99 years ago and 12 miles southeast of the APE.
San Joaquin adobe sunburst (*Pseudobahia peirsonii*)	FT, CE, CNPS 1B	This species is found in the San Joaquin Valley and the Sierra Nevada Foothills in bare dark clay soils in valley and foothill grassland and cismontane woodland communities at elevations between 325 feet and 2950 feet. Bloom period is from March–May.	**Absent**. Required soils and habitat are absent and anthropogenic disturbance makes the APE unsuitable for this species. The most recent recorded observation of this species was 11 years ago, 9 miles northeast of the APE.
San Joaquin Valley Orcutt grass (*Orcuttia inaequalis*)	FT, CE, CNPS 1B	This species is found in the eastern San Joaquin Valley and the Sierra Nevada foothills in vernal pools within valley grassland, freshwater wetland, and wetland-riparian communities at elevations below 2600 feet. Bloom period is from April – September.	**Unlikely.** Anthropogenic disturbance makes the APE unsuitable for this species. The only recorded observation of this species was 34 years ago and 8.5 miles east of the APE.

Species	*Status*	*Habitat*	*Occurrence within APE*
Sanford's arrowhead (*Sagittaria sanfordii*)	CNPS 1B	This species is found in the San Joaquin Valley and other parts of California in freshwater-marsh, primarily ponds and ditches, at elevations below 1000 feet. Bloom period is from May–October.	**Possible.** Required habitat is present within the APE and this species may be found. The closest recorded observation of this species was 4 years ago and 5.5 miles northeast of the APE.
Spiny-sepaled button-celery (*Eryngium spinosepalum*)	CNPS 1B	This species is found in the Sierra Nevada Foothills and the San Joaquin Valley. Occurs in vernal pools, swales, and roadside ditches. Often associated with clay soils in vernal pools within grassland communities. Occurs at elevations between 50 feet and 4160 feet. Bloom period is from April–July.	**Unlikely.** Anthropogenic disturbance makes the APE unsuitable for this species. The only recorded observation of this species was 14 years ago and 11 miles northeast of the APE.
Winter's sunflower (*Helianthus winteri*)	CNPS 1B	Found in the Sierra Nevada foothills on steep, south-facing grassy slopes, rock outcrops, and road-cuts at elevations ranging from 600 feet to 1500 feet. Blooms year-round.	**Absent.** Required habitats are absent and anthropogenic disturbance makes the APE unsuitable for this species. The only recorded observation of this species was 6 years ago and 9.5 miles northeast of the APE.

EXPLANATION OF OCCURRENCE DESIGNATIONS AND STATUS CODES

Present:	Species observed on the site at time of field surveys or during recent past.
Likely:	Species not observed on the site, but it may reasonably be expected to occur there on a regular basis.
Possible:	Species not observed on the site, but it could occur there from time to time.
Unlikely:	Species not observed on the site, and would not be expected to occur there except, perhaps, as a transient.
Absent:	Species not observed on the site, and precluded from occurring there due to absence of suitable habitat.

STATUS CODES

FE	Federally Endangered
FT	Federally Threatened
FPE	Federally Endangered (Proposed)
FPT	Federally Threatened (Proposed)
FC	Federal Candidate
CE	California Endangered
CT	California Threatened
CCT	California Threatened (Candidate)
CFP	California Fully Protected
CSC	California Species of Concern
CWL	California Watch List
CCE	California Endangered (Candidate)
CR	California Rare

CNPS LISTING

1A	Plants Presumed Extinct in California.
1B	Plants Rare, Threatened, or Endangered in California and elsewhere.
2A	Plants Presumed Extirpated in California, but more common elsewhere.
2B	Plants Rare, Threatened, or Endangered in California, but more common elsewhere.

4.4.2 Applicable Regulations

4.4.2.1 Threatened and Endangered Species

Permits may be required from the USFWS and/or CDFW if activities associated with a project have the potential to result in the "take" of a species listed as threatened or endangered under the federal and/or state Endangered Species Acts. Take is defined by the State of California as "to hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture or kill" (California Fish and Game Code, Section 86). Take is more broadly defined by the federal Endangered Species Act to include "harm" (16 United States Code (USC), Section 1532(19), 50 Code of Federal Regulation (CFR), Section 17.3). CDFW and USFWS are responsible agencies under CEQA and the National Environmental Policy Act (NEPA). Both agencies review

CEQA and NEPA documents in order to determine the adequacy of their treatment of endangered species issues and to make project-specific recommendations for their conservation.[8]

4.4.2.2 Designated Critical Habitat

When species are listed as threatened or endangered, the USFWS often designates areas of "Critical Habitat" as defined by Section 3(5)(A) of the federal Endangered Species Act (ESA). Critical Habitat is a term defined in the ESA as a specific geographic area that contains features essential for the conservation of a threatened or endangered species and that may require special management and protection. Critical Habitat is a tool that supports the continued conservation of imperiled species by guiding cooperation with the federal government. Designations only affect federal agency actions or federally funded or permitted activities. Critical Habitat does not prevent activities that occur within the designated area. Only activities that involve a federal permit, license, or funding and are likely to destroy or adversely modify Critical Habitat will be affected.[9]

4.4.2.3 Migratory Birds

The federal Migratory Bird Treaty Act (MBTA) (16 USC 703-712) prohibits killing, possessing, or trading in any bird species covered in one of four international conventions to which the United States is a party, except in accordance with regulations prescribed by the Secretary of the Interior. The name of the act is misleading, as it covers nearly all birds native to the United States, even those that are non-migratory. The MBTA encompasses whole birds, parts of birds, nests, and eggs. Additionally, California Fish and Game Code Sections 3513 and 3800 make it unlawful to take or possess any non-game bird covered by the MBTA as well as any other native non-game bird.[10]

4.4.2.4 Birds of Prey

Birds of prey are protected in California under provisions of Fish and Game Code Section 3503.5, which states that it is unlawful to take, possess, or destroy any birds in the order Falconiformes (hawks and eagles) or Strigiformes (owls), as well as their nests and eggs. The bald eagle and golden eagle are afforded additional protection under the federal Bald and Golden Eagle Protection Act (16 USC 668), which makes it unlawful to kill birds or their eggs.[11]

4.4.2.5 Nesting Birds

In California, protection is afforded to the nests and eggs of all birds. California Fish and Game Code Section 3503 states that it is "unlawful to take, possess, or needlessly destroy the nest or eggs of any bird except as otherwise provided by this code or any regulation adopted pursuant thereto". Breeding-season disturbance that causes nest abandonment and/or loss of reproductive effort is considered a form of "take" by the CDFW.[12]

4.4.2.6 Wetlands and other "Jurisdictional Waters"

Natural drainage channels and adjacent wetlands may be considered "waters of the United States" or "jurisdictional waters" subject to the jurisdiction of the United States Army Corps of Engineers (USACE).

[8] California Department of Fish and Wildlife. (2021, December). *California Natural Diversity Database*. (Accessed December 2021).
[9] United States Fish and Wildlife Service. (2021). *Environmental Conservation Online System (ECOS)*. Retrieved from https://ecos.fws.gov/ecp/ (Accessed December 2021).
[10] United States Fish and Wildlife Service. (2021). *Environmental Conservation Online System (ECOS)*. Retrieved from https://ecos.fws.gov/ecp/ (Accessed December 2021).
[11] United States Fish and Wildlife Service. (2021). *Environmental Conservation Online System (ECOS)*. Retrieved from https://ecos.fws.gov/ecp/ (Accessed December 2021).
[12] United States Fish and Wildlife Service. (2021). *Environmental Conservation Online System (ECOS)*. Retrieved from https://ecos.fws.gov/ecp/ (Accessed December 2021).

The extent of jurisdiction has been defined in the Code of Federal Regulations but has also been subject to interpretation of the federal courts. Jurisdictional waters generally include:

All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;

- All interstate waters including interstate wetlands;
- All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce;
- All impoundments of waters otherwise defined as waters of the United States under the definition;
- Tributaries of waters identified in paragraphs the bulleted items above.

As of October 2021, the regulations have reverted back to 2015 compliance standards. As determined by the United States Supreme Court in its 2001 *Solid Waste Agency of Northern Cook County v. United States Army Corps of Engineers* (SWANCC) decision, channels and wetlands isolated from other jurisdictional waters cannot be considered jurisdictional on the basis of their use, hypothetical or observed, by migratory birds. Similarly, in its 2006 consolidated *Carabell/Rapanos* decision, the Supreme Court ruled that a significant nexus between a wetland and other navigable waters must exist for the wetland itself to be considered a navigable and therefore jurisdictional water. Furthermore, the Supreme Court clarified that the United States Environmental Protection Agency (USEPA) and the USACE will not assert jurisdiction over ditches excavated wholly in and draining only uplands and that do not carry a relatively permanent flow of water.

The USACE regulates the filling or grading of Waters of the United States under the authority of Section 404 of the Clean Water Act. The extent of jurisdiction within drainage channels is defined by "ordinary high-water marks" on opposing channel banks. All activities that involve the discharge of dredge or fill material into Waters of the United States are subject to the permit requirements of the USACE. Such permits are typically issued on the condition that the applicant agrees to provide mitigation that results in no net loss of wetland functions or values. No permit can be issued until the RWQCB issues a Section 401 Water Quality Certification (or waiver of such certification) verifying that the proposed activity will meet State water quality standards.

Under the Porter-Cologne Water Quality Control Act of 1969, the SWRCB has regulatory authority to protect the water quality of all surface water and groundwater in the State of California ("Waters of the State"). Nine Regional Water Quality Control Boards (RWQCB) oversee water quality at the local and regional level. The RWQCB for a given region regulates discharges of fill or pollutants into Waters of the State through the issuance of various permits and orders. Discharges into Waters of the State that are also Waters of the United States require a Section 401 Water Quality Certification from the RWQCB as a prerequisite to obtaining certain federal permits, such as a Section 404 Clean Water Act permit. Discharges into all Waters of the State, even those that are not also Waters of the United States., require Waste Discharge Requirements (WDRs), or waivers of WDRs, from the RWQCB. The RWQCB also administers the Construction Storm Water Program and the federal NPDES program. Projects that disturb one acre or more of soil must obtain a Construction General Permit under the Construction Storm Water Program. A prerequisite for this permit is the development of a Storm Water Pollution Prevention Plan (SWPPP) by a certified Qualified SWPPP Developer. Projects that discharge wastewater, storm water, or other pollutants into a Water of the United States may require a NPDES permit.

CDFW has jurisdiction over the bed and bank of natural drainages and lakes according to provisions of Sections 1601 and 1602 of the California Fish and Game Code. Activities that may substantially modify such

waters through the diversion or obstruction of their natural flow, change or use of any material from their bed or bank, or the deposition of debris require a notification of a Lake or Streambed Alteration. If CDFW determines that the activity may adversely affect fish and wildlife resources, a Lake or Streambed Alteration Agreement will be prepared. Such an agreement typically stipulates those certain measures will be implemented to protect the habitat values of the lake or drainage in question.[13]

4.4.3 Impact Analysis

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

Less than Significant Impact with Mitigation Incorporated. Of the 24 regionally occurring special status species, 23 are considered absent from or unlikely to occur within the APE due to past or ongoing disturbance and/or the absence of suitable habitat (see Table 4-9). The following 15 species were deemed absent from occurring within the APE: blunt-nosed leopard lizard, California glossy snake, California Red-legged frog, California Tiger Salamander, Coast horned lizard, Delta Smelt, Foothill yellow-legged frog, Fresno kangaroo rat, Giant gartersnake, Monarch butterfly, Valley elderberry longhorn beetle, vernal pool fairy shrimp, vernal pool tadpole shrimp, western spadefoot and western yellow-billed cuckoo. The following 8 species were deemed unlikely to occur within the APE: Burrowing owl, Crotch bumble bee, Loggerhead Shrike, Northern California legless lizard, Pallid bat, San Joaquin kit fox, western pond turtle, and western mastiff bat. Since it is unlikely that these species would occur onsite, implementation of the Project should have no impact on these 23 special status species through construction mortality, disturbance, or loss of habitat. Mitigation measures are not warranted.

There is one species identified in Table 4-9 that could possibly exist within or near the APE. This species is the Swainson's Hawk (*Buteo swainsoni*). This species and corresponding mitigation measures are provided specific to Swainson's Hawk and any tree and ground nesting bird that may nest, roost, or forage within the APE. These mitigation measures are provided below.

4.4.4.1 Nesting Birds

There is the possibility for the special status species Swainson's Hawk and other nesting birds to be impacted by the Project. The areas surrounding the APE contains suitable nesting and/or foraging habitat for ground and tree nesting avian species. Trees near the APE have the potential to host a multitude of nesting birds, and species such as Killdeer (*Charadrius vociferus*) are known to build nests on bare ground or compacted dirt roads. Furthermore, the trees are large enough to act as suitable nesting habitat for Swainson's Hawk and other raptors. Swainson's hawks have been recorded in the area surrounding the APE. Raptors could also potentially use the ruderal area and surrounding agricultural areas for foraging. Construction activities could disturb birds nesting within or adjacent to work areas, resulting in nest abandonment. Construction activities that adversely affect the nesting success of raptors and migratory birds or result in the mortality of individual birds constitute a violation of State and federal laws and are considered a significant impact under CEQA. Mitigation measures are warranted and are identified in Section 4.4.4 below. With implementation of mitigation measures **BIO-1**, **BIO-2**, and **BIO-3**, impacts would be reduced to less than significant.

[13] United States Environmental Protection Agency (USEPA). (2021). Retrieved from Waters GeoViewer: https://www.epa.gov/waterdata/waters-geoviewer (Accessed December 2021).

4.4.4.2 Mammals

Evidenced of active coyote dens were observed within the Industrial Basin. Although coyotes are not a protected species, to ensure no harm comes to those residing within the basin the following is recommended. Mitigation measures will be implemented to reduce potential impacts to this species and are identified in Section 4.4.4 below. With implementation of mitigation measures BIO-4, BIO-5 and BIO-6, impacts would be reduced to less than significant.

Project-Related Impacts to Special Status Plant Species

Of the 15 special status plant species documented within the area 14 are considered absent or unlikely from occurring within the APE due to past or ongoing disturbance and/or the absence of suitable habitat. As explained in Table 4-10, the following species were deemed absent from the APE: alkali-sink goldfields, bristly sedge, brittlescale, California alkali grass, California jewelflower, California satintail, Earlimart orache, Greene's tuctoria, lesser saltscale, Madera leptosiphon, San Joaquin adobe sunburst, San Joaquin Valley Orcutt grass, spiny-sepaled button-celery, and Winter's sunflower. Since it is unlikely that these species would occur onsite, implementation of the Project would have no impact on these 14 special status species through construction mortality, disturbance, or loss of habitat. Mitigation measures are not warranted.

There is one species identified in Table 4-10 that could possibly exist within the APE. This species is the Sanford's arrowhead (*Sagittaria sanfordii*). This species and corresponding mitigation measures are discussed below.

4.4.4.2 Plants

Sensitive natural communities or special status plants were not observed within the surveyed areas at the time of the biological reconnaissance survey, however there is the potential for Sanford's Arrowhead to occur on the edges of the basins within the APE. There is potential for Project activities to impact individual plants which constitutes a violation of State and federal laws and is considered a significant impact under CEQA. Mitigation measures are warranted and are identified in Section 4.4.4 below. With implementation of mitigation measures BIO-7, BIO-8, and BIO-9, impacts would be reduced to less than significant.

b) Would the project 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 Wildlife or U.S. Fish and Wildlife Service?

No Impact. There are no CNDDB-designated natural communities of special concern recorded within the APE or surrounding lands.[14] The APE contains existing stormwater retention basins, canals, and buried pipelines. The lands surrounding the Foothill Basin, Veterans Park Basin, Milton Basin, Tuolumne Basin, Avila Basin, and Manning Basin consist mainly of residential housing, while the Industrial Basin is surrounded by vacant agricultural fields and industrial buildings. There would be no impact.

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

No Impact. Potential Waters of the United States, riparian habitat, typical wetlands, vernal pools, lakes, or streams, and other sensitive natural communities were not observed onsite at the time of the biological

[14] California Department of Fish and Wildlife. (2021, November). *California Natural Diversity Database*. (Accessed November 2021).

survey. Although a wetland was listed within the National Wetland Inventory database,[15] groundwater recharge basins are manmade structures designed to provide water infiltration to remove pollutant found in stormwater runoff. Continued and on-going maintenance is required and includes scraping the bottom of accumulated sediment and debris to provide optimal infiltration. As such these basins should not require additional regulatory involvement. Implementation of the Project would have no impact on jurisdictional waters, wetlands, navigable waters, wild and scenic rivers, riparian habitat or other water features. Therefore, the Project would not require jurisdictional permits from regulatory compliance agencies. There would be no impact.

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

No Impact. Wildlife movement corridors are routes that animals regularly and predictably follow during seasonal migration, dispersal from native ranges, daily travel within home ranges, and inter-population movements. Movement corridors in California are typically associated with valleys, ridgelines, and rivers and creeks supporting riparian vegetation.

Most of the APE does not contain features that would be likely to function as wildlife movement corridors as all of the basins are surrounded by chain link fencing. Some of the pipelines for the Project are within existing roads which proves to be dangerous for species movement. Other portions cross lots that are currently vacant. The canals could be potentially used as wildlife movement corridors, but the disturbance would be temporary and minimal. Further, most of the APE is located in an area where it is possible to be used by species more tolerant of consistent human activities such as some birds and gophers but is not ideal due to the heavy disturbance of human activities, which would discourage dispersal and migration. There would be no impact.

d) e) Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

No Impact. The Project would not interfere with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. Continued and on-going maintenance of the basins is required and includes vegetation removal to provide optimal infiltration. There would be no impact.

e) f) Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

No Impact. A wetland was identified within the Milton basin on the National Wetland Inventory database.[16] The Milton basin is a manmade structure built prior to 1984, houses surrounding the basin were built between 1959 and 1992. The stormwater basin needs to be regularly maintained to perform effectively, it is not considered a wetland. This would mean there is no net loss of wetlands in the area. There are no known habitat conservation plans (HCPs) or a Natural Community Conservation Plan in the Project vicinity.[17] There would be no impact.

15 National Wetlands Inventory (NWI) map. (2021). Retrieved December 2021, from http://fws.gov/wetlands/Data/Mapper.html
16 National Wetlands Inventory (NWI) map. (2021). Retrieved December 2021, from http://fws.gov/wetlands/Data/Mapper.html
17 Fresno County General Plan. (2000, October). Fresno County. Retrieved from Fresno County General Plan Policy Document: https://www.co.fresno.ca.us/departments/public-works-planning/divisions-of-public-works-and-planning/development-services-division/planning-and-land-use/general-plan-maps (Accessed December 2021).

4.4.4 Mitigation

BIO-1 (Avoidance): The Project's construction activities would occur, if feasible, between September 16 and January 31 (outside of nesting bird season) in an effort to avoid impacts to nesting birds.

BIO-2 (Pre-construction Surveys): If activities must occur within nesting bird season (February 1 to September 15), a qualified biologist would conduct pre-construction surveys for Swainson's hawk nests onsite and within a 0.5-mile radius. This survey would be conducted in accordance with the *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley*[18] or current guidance. The pre-construction survey would also provide a presence/absence survey for all other nesting birds within the APE and an additional 50 feet, no more than 7 days prior to the start of construction. All raptor nests would be considered "active" upon the nest-building stage.

BIO-3 (Establish Buffers): On discovery of any active nests near work areas, the biologist would determine appropriate construction setback distances based on applicable CDFW and/or USFWS guidelines and/or the biology of the species in question. Construction buffers would be identified with flagging, fencing, or other easily visible means, and would be maintained until the biologist has determined that the nestlings have fledged, dens are inactive, and/or based on a direction from a qualified biologist on next steps.

BIO-4 (Pre-construction Survey): A qualified biologist shall conduct a pre-construction survey to determine if the existing coyote dens are still active in the Industrial Basin 30 days prior to ground disturbing activities. If dens are found to be active exclusion of this species from the site will be necessary. If dens are found inactive, immediate destruction of the dens should occur under the direction of a qualified biologist.

BIO-5 (Exclusion): A qualified biologist will install one-way doors to ensure the coyotes are unable to reenter dens. Exclusion fencing will be installed around the Industrial Basin as to not allow the species to reenter the APE. Den eviction will occur outside of pupping season March – September,[19] and in accordance with CDFW's recommendations. If the survey cannot occur before pupping season March - September, then full avoidance will be required.

BIO-6 (Avoidance): If work must occur within pupping season March – September a disturbance-free buffer be placed around the area with appropriate entrance and exit areas as not to disturb the adults or the pups until it has been determined that the pups have been weaned and full eviction occurs with use of one-way doors.

BIO-7 (Focused Survey): A qualified botanist/biologist will conduct a pre-construction survey for Sanford's Arrowhead during the bloom season (May-October) in accordance with CDFW's Protocols for Surveying and Evaluating Impacts to Special Status Native Plant

[18] Swainson's Hawk Technical Advisory Committee. (2000, May). Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley. CA: CDFW. (Accessed December 2021).

[19] United States Deparment of Agriculture (USDA) Forest Service. (2020). *Mendocino National Forest - Nature & Science.* Retrieved January 2022, from Coyotes: https://www.fs.usda.gov/detailfull/mendocino/learning/nature-science/?cid=FSBDEV3_004458&width=full

Populations and Sensitive Natural Communities,[20] in all basins 30 days prior to vegetation clearing or ground disturbing activities. If construction cannot occur during the species' bloom period (May-October), then a focused survey will be required.

BIO-8 (Avoidance): If Sanford's Arrowhead are identified during the survey, a disturbance-free buffer will be placed around the area as not to disturb the plants or its root system.

BIO-9 (Formal Consultation): If rare plant individuals or populations or sensitive natural communities are detected within Project work areas during the focused survey, the Project proponent shall initiate consultation with CDFW. If CDFW determines that "take" cannot be avoided, the Project proponent may be required to obtain an Incidental Take Permit (ITP).

[20] California Department of Fish and Wildlife (CDFW). (2018, March). *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensative Natural Communities.* Retrieved December 2021, from https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=18959&inline

4.5 CULTURAL RESOURCES

Table 4-11: Cultural Resources Impacts

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource pursuant to 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?	☐	☒	☐	☐

4.5.1 Baseline Conditions

Phase 1 Cultural Resources Field Survey

An intensive Class III Inventory/Phase I Survey of the Project APE was conducted by ASM Associates in January 2022. The field methods employed included intensive pedestrian examination of the ground surface for evidence of archaeological sites in the form of artifacts, surface features (such as bedrock mortars, historical mining equipment), and archaeological indicators (e.g., organically enriched midden soil, burnt animal bone); the identification and location of any discovered sites, should they be present; tabulation and recording of surface diagnostic artifacts; site sketch mapping; preliminary evaluation of site integrity; and site recording, following the California Office of Historic Preservation Instructions for Recording Historic Resources and the BLM 8100 Manual, using DPR 523 forms. (See Appendix C)

The survey fieldwork conducted in January 2022, used parallel transects spaced at 15-meter intervals walked across the recharge basin and pipeline route locations, totaling approximately 21.2-ac. The locations of three previously recorded resources were re-located within the APEs and assessed: the Kingsburg – Centerville Canal, the Santa Fe Canal, and the Burlington Northern Santa Fe (BNSF) Railroad grade. The Santa Fe Canal and the BNSF Railroad grade are no longer present within the City of Parlier, having been placed in an underground pipeline through town, and entirely demolished and removed, respectively. Neither of these two previous recorded cultural resources still exist in their original condition.

Two of the three previously recorded resources, the Santa Fe Canal and Burlington Northern Santa Fe railroad grade, are no longer present within the City of Parlier and thus the Project APE. Three segments of the Kingsburg – Centerville Canal were documented during the survey. This cultural resource was recommended as not eligible to the National Register of Historic Places in 2001. Due to this resource's lack of integrity of materials, workmanship, design, setting and feel, and also recommend it as not eligible for the California Register of Historical Places. (See Appendix C)

Figure 4-4: Centerville-Kingsburg Canal (P-10-005812) at location of Foothill Basin pipeline tie-in.

Figure 4-5: Centerville-Kingsburg Canal (P-10-005812) at location of Milton Basin pipeline tie-in.

Figure 4-6: Centerville-Kingsburg Canal (P-10-005812) at location of Industrial Basin pipeline tie-in.

Figure 4-7: Former location of BNSF Rail Road (P-10-004675) within the northeast pipeline APE.

No additional cultural of any kind were identified within the Project APEs. (Appendix C)

Records Search

A records search from the Southern San Joaquin Valley Information Center (SSJVIC) of the California Historical Resources Information System (CHRIS), located at California State University, Bakersfield was conducted in December 2021. The SSJVIC records search includes a review of all recorded archaeological and built-environment resources as well as a review of cultural resource reports on file. In addition, the California Points of Historical Interest, the California Historical Landmarks , the California Register of Historical Resources, the National Register of Historic Places (NRHP), and the California State Built Environment Resources Directory listings were reviewed for the above referenced APE and an additional ¼-mile radius. Due to the sensitive nature of cultural resources, archaeological site locations are not released.

Additional sources included the State Office of Historic Preservation Historic Properties Directory, Archaeological Determinations of Eligibility, and the California Inventory of Historic Resources. (See Appendix C)

Native American Outreach

The Native American Heritage Commission (NAHC) in Sacramento was contacted in December 2021. It was provided with a brief description of the Project and a map showing its location with a request that the NAHC perform a search of the Sacred Lands File to determine if any Native American resources have been recorded in the immediate APE. The NAHC identifies, catalogs, and protects Native American cultural resources -- ancient places of special religious or social significance to Native Americans and known ancient graves and cemeteries of Native Americans on private and public lands in California. The NAHC is also charged with ensuring California Native American tribes' accessibility to ancient Native American cultural resources on public lands, overseeing the treatment and disposition of inadvertently discovered Native American human remains and burial items, and administering the California Native American Graves Protection and Repatriation Act, among many other powers and duties. NAHC provide a current list of Native American Tribal contacts to notify of the project. The ten tribal representatives identified by NAHC were contacted in writing via United States Postal Service in a letter mailed January 5, 2022, informing each Tribe of the Project.

1. Big Sandy Rancheria of Western Mono Indians, Elizabeth D. Kipp, Chairperson
2. Cold Springs Rancheria, Carol Bill, Chairperson
3. Dunlap Band of Mono Indians, Benjamin Charley Jr., Tribal Chair
4. Dunlap Band of Mono Indians, Dirk Charley, Tribal Secretary
5. Kings River Choinumni Farm Tribes, Stan Alec, Tribal Representative
6. North Fork Mono Tribe, Ron Goode, Chairperson
7. Santa Rosa Rancheria Tachi Yokut Tribe, Leo Sisco, Chairperson
8. Table Mountain Rancheria, Brenda Lavell, Chairperson
9. Traditional Choinumni Tribe, Rick Osborne, Cultural Resources
10. Wuksache Indian Tribe/Eshom Valley Band, Kenneth Woodrow, Chairperson

The Dumna Wo Wah Tribal Government responded with an email dated February 22, 2022 to ASM. The tribe is requesting for a monitor to be present on site when Project activities are to begin. In addition, the tribe recommends that cultural monitors be in place prior to any, shelters, pipelines, grading, clearing, concrete, fencing or other earth disturbing activities. Any boring activities would require two monitors for the duration of such boring activities. They are requesting two monitors be on site for sifting of all soil resulting from any and all ground disturbing activities from a centimeter to a mile. The tribe is also recommending the use of exclusion fencing where applicable. Due to the location and nature of the proposed Project, mitigation measures outlined below have been incorporated into the Project.

4.5.2 Impact Analysis

a) Would the project cause a substantial adverse change in the significance of a historical resource pursuant to in § 15064.5?

Less than Significant Impact with Mitigation Incorporated. The Project would convert seven existing stormwater basins for recharge use. According to the CHRIS search, five previous studies have been conducted within small portions of the study area, and three linear historic resources were recorded within the study area as a result. These studies and resources, consisting of a railway and two canal systems, and are listed below Table 4-12 and Table 4-13.

Table 4-12: Survey Reports within the APE

IC # FR-	Date	Author	Title
2278	2006	Basin Research	Cultural Resource Assessment, 13075 E. South Ave., Parlier, Fresno County, CA
2398	2009	Peak & Assoc.	Determination of Eligibility & Effect, 14100 E. Parlier Ave., Parlier, Fresno County, CA
2626	2007	J&R Environmental Services	Phase I Archaeological Survey for the Proposed City of Parlier Industrial Park Improvements Project, Parlier, Fresno County, California
2787	2016	EBI Consulting	Cultural Resources Survey Parlier CA/411135 South Whitener Avenue, Parlier, Fresno County, California
2865	2016	Environmental Assessment Services	Cultural Resources Records Search and Site Visit Results for T-Mobile West, LLC Candidate SC10412A (Whitner Parlier), 7988 South Whitner Avenue, Parlier, Fresno County, California

An additional 15 previous studies had been completed within 0.5-mi of the study area, resulting in the recording of one cultural resource within that outer radius. This resource is a historical building structure. An additional archaeological survey is currently being conducted within the project area. (Appendix C)

Table 4-13: Cultural Resources within Project APE

Resource Number	Name	NRHP/CRHR Eligibility Status
P-10-4675	Burlington Northern Santa Fe Rail Road	Not Eligible, Lack of Integrity, 2001
P-10-005812/CA-FRE-3572H	Centerville-Kingsburg Canal	Not Eligible, Lack of Integrity, 2001
P-10-006240/CA-FRE-3655H	Santa Fe Canal	Not Eligible, Lack of Integrity, 2001

The three previously recorded cultural resources within the APE that are listed above and depicted in Figure 4-4 through Figure 4-6, are present on early maps and air photos. The Santa Fe Canal was heavily altered after 1946 while the alignment of the Kingsburg – Centerville Canal has not been changed in the vicinity of Parlier. The Burlington Northern Santa Fe rail road has been dismantled down to its grade through town and no longer exists as a cultural resource at this location. A possible fourth linear cultural

resource, the Harp Canal, was also identified on sources after 1954. This resource too was heavily altered with the construction of the existing basins and now primarily consists of an underground pipeline through Parlier. (Appendix C)

It is unlikely that the Project has the potential to result in significant impacts or adverse effects to cultural or historical resources, such as archaeological remains, artifacts or historic properties due to the level of disturbance in the existing basin areas. However, in the unlikely event that cultural or historic resources are encountered during Project construction, implementation of mitigation measure CULT-1 outlined below, would reduce impacts to less than significant.

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

Less than Significant Impact with Mitigation Incorporated. The Project area as a whole has a moderate potential for buried archaeological deposits. However, the seven existing basins will be modified to serve as recharge basins. They have thus already been excavated and are in heavily disturbed locations. The likelihood for intact buried archaeological deposits is therefore considered very low for this Project. (See Appendix C). Implementation of the mitigation measure CUL-1 outlined below, would reduce impacts to less than significant.

c) Would the project disturb any human remains, including those interred outside of dedicated cemeteries?

Less than Significant Impact with Mitigation Incorporated. No formal cemeteries or other places of human internment are known to exist on the Project site; however, in accordance with Health and Safety Code Section 7050.5 and Public Resource Code Section 5097.98, if human remains are uncovered, Mitigation Measure CUL-2 as outlined below, would be implemented to reduce impacts to less than significant to human remains should they be discovered during construction.

4.5.3 Mitigation

CUL-1 (Archaeological Remains) In the event that archaeological remains are encountered at any time during development or ground-moving activities within the entire project area, all work in the vicinity of the find shall halt until a qualified archaeologist can assess the discovery. The City shall implement all recommendations of the archaeologist necessary to avoid or reduce to a less than significant level potential impacts to cultural resource. Appropriate actions could include a Data Recovery Plan or preservation in place.

CUL-2 (Human Remains) If human remains are uncovered, or in any other case when human remains are discovered during construction, the Fresno County Coroner will be notified to arrange proper treatment and disposition. If the remains are identified—on the basis of archaeological context, age, cultural associations, or biological traits—as those of a Native American, California Health and Safety Code 7050.5 and Public Resource Code 5097.98 require that the coroner notify the NAHC within 24 hours of discovery. The NAHC will then identify the Most Likely Descendent who will determine the manner in which the remains are treated.

4.6 ENERGY

Table 4-14: Energy Impacts

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

4.6.1 Baseline Conditions

Pacific Gas and Electric (PG&E) supplies electricity and natural gas to the Project area. PG&E obtains its power through hydroelectric, thermal (natural gas), wind, and solar generation of purchases. PG&E continually produces new electric generation and natural gas sources and implements continuous improvements to gas lines throughout its service areas to ensure the provision of services to residents. New construction would be subject to Titles 20 and 24 of the California Code of Regulations which each serve to reduce demand for electrical energy by implementing energy-efficient standards for residential, as well as non-residential buildings. As the Project does not involve buildings of any kind, these regulations are not applicable.

4.6.2 Impact Analysis

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

Less than Significant Impact. As discussed in Section 4.3, the Project would not exceed any air emission thresholds during construction or operation. The Project would comply with construction best management practices and will be required to complete a SWPPP as part of construction. Once completed, the Project would be mostly passive in nature and would not use an excessive amount of energy. Therefore, the Project would not result in potentially significant environmental impacts due to wasteful, inefficient, or unnecessary consumption of energy resources during construction or operation. Impacts would be less than significant.

b) Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Less than Significant Impact. The Project would be passive in nature once it is completed, and the construction phase would be temporary in nature and would not exceed any thresholds set by the SJVAPCD. Impacts would be less than significant.

4.7 GEOLOGY AND SOILS

Table 4-15: Geology and Soils Impacts

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:	☐	☐	☒	☐
i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to 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 direct or indirect risks to life or property?	☐	☐	☒	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒
f) Directly or indirectly destroy a unique paleontological resource or site or unique geological feature?	☐	☐	☐	☒

4.7.1 Baseline Conditions

Geology and Soils

The Project lies in Fresno County within the Lower San Joaquin Valley, part of the Central Valley of California. The Central Valley is bordered by the Sierra Nevada Mountain Ranges to the east, the Coast Ranges to the west, the Klamath Mountains and Cascade Range to the north, and the Transverse Ranges and Mojave Desert to the south. The area is relatively flat area and is at an elevation between 328-354 feet above sea level.

Three soil mapping units representing five soil types were identified within the APE. The soils and their core properties are displayed in the Table 2 below, according to the Major Land Resource Area of California 19

map area. The three soil units are primarily used for agriculture in the form of irrigated cropland and annual pasture, uncultivated areas generally host annual grasses and herbaceous plants, in urban areas ornamentals and turf-grass are common.

Table 4-16: Soils of the Area of Potential Effect

Soil	Soil Map Unit	Percent of APE	Hydric Unit	Hydric Minor Units	Drainage	Permeability	Runoff
Delhi	Sand, 3 to 9 percent slopes	3.6%	No	No	Somewhat excessively drained	Rapid permeability	Low runoff
	Loamy Sand, 0 to 3 percent slopes	11.8%	No	Yes	Somewhat excessively drained	Rapid permeability	Very low runoff
Hanford	Sandy loam, 0 to 1 percent slopes	11.5%	No	No	Well drained	Moderately rapid permeability	Very low runoff
	Fine sandy loam	47.2%	No	Yes	Well drained	Moderately rapid permeability	Very low runoff
Tujunga	Loamy Sand, 0 to 3 percent slopes	25.9%	No	Yes	Somewhat excessively drained	Moderately rapid permeability	Very low runoff

None of the major soil mapping units were identified as hydric. Some of the minor soil mapping units, which make up 1.439% of the soil in the APE, were identified as hydric (NRCS, 2021). Hydric soils are defined as soils that are saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions such that under sufficiently wet conditions, hydrophytic vegetation can be supported.

The complete Natural Resources Conservation Service (NRCS) Web Soil Survey report is available in Appendix D of Appendix B.

Faults and Seismicity

According to the Department of Conservation Fault Activity Map the nearest fault to the Project APE is the Clovis Fault approximately 15 miles to the north.[21] The Clovis Fault is not an active fault. The nearest active fault to the Project area is the Kern County Fault approximately 45 miles to the east of the Project site.

Liquefaction

Liquefaction is the loss of land during seismic activity due to loosely packed or waterlogged soils. According to the California Geological Survey, there are no areas that should experience liquefaction near the Project site.[22]

[21] (California Department of Conservation 2015)
[22] (California Department of Conservation (DOC) n.d.)

Soil Subsidence

Soil subsidence is the sinking of the ground due to excessive groundwater pumping. According to the United States Geological Survey, there are no areas of soil subsidence located in the Project area.[23]

Dam and Levee Failure

According to the California Dam Breach Inundation Map, the Project area is not at risk of flooding due to a dam or levee failure.[24]

4.7.2 Impact Analysis

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

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

ii. Strong seismic ground shaking?

a-i – a-ii) Less than Significant Impact. Ground shaking intensity is largely a function of distance from the earthquake epicenter and underlying geology. The City of Parlier is not in the immediate vicinity of an active fault zone but could experience ground shaking during a large earthquake. The most common impact associated with strong ground shaking is damage to structures and no structures are associated with the Project. The Project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving the 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. No known faults with evidence of historic activity cut through the valley soils in the Project site's area. Due to the geology of the Project area and its distance from active faults, the potential for loss of life, property damage, ground settlement, or liquefaction to occur in the Project area is considered minimal. Therefore, impacts would be less than significant.

iii. Seismic-related ground failure, including liquefaction?

Less than Significant Impact. The Project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction. Liquefaction describes a phenomenon in which a saturated soil loses strength during an earthquake as a result of induced shearing strains. Lateral and vertical movement of the soil mass combined with loss of bearing usually results. Loose sand, high groundwater conditions (where the water table is less than 30 feet below the surface), higher intensity earthquakes, and particularly long duration of ground shaking are the requisite conditions for liquefaction. Therefore, impacts would be less than significant.

iv. Landslides?

[23] (United States Geological Survey 2020)
[24] (California Department of Water Resources n.d.)

Less than Significant Impact. The Project is located on the Valley floor where no major geologic landforms exist on or near the site that could result in a landslide event. The potential landslide impact at this location is minimal as the site is more than 20 miles from the foothills and the local topography is essentially flat and level. There will be no impact.

b) Would the project result in substantial soil erosion or the loss of topsoil?

Less than Significant Impact. Earthmoving activities associated with the Project would include excavation and basin construction to achieve the desired depth. These activities could expose soils to erosion processes and the extent of erosion would vary depending on slope steepness/stability, vegetation/cover, concentration of runoff, and weather conditions. Dischargers whose projects disturb one (1) or more acres of soil, or whose projects disturb less than one acre but are part of a larger common plan of development that in total disturbs one or more acres, are required to obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity Construction General Permit Order 2009-0009-DWQ. Construction activity subject to this permit includes clearing, grading, and disturbances to the ground such as stockpiling or excavation but does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility. The Construction General Permit requires the development of a SWPPP. Since the Project site has relatively flat terrain with a low potential for soil erosion and would comply with the SWRCB requirements, the impact would be less than significant.

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

Less than Significant Impact. Most of the Project site and the surrounding area do not have any substantial grade changes to the point where the basins would expose people or structures to potential substantial adverse effects on- or offsite such as landslides, lateral spreading, subsidence, liquefaction, or collapse. Subsidence and liquefaction risk are low to moderate at the site.[25] Any impact would be less than significant.

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

Less than Significant Impact. The soil at the Project site is Delhi sand, Delhi loamy sand, Hanford sandy loam, Hanford fine sandy loam, and Tujunga loamy sand. Permeability ranges from moderately rapid to rapid, which is desired for recharge basins. The Project will not contain any facilities that could be affected by expansive soils, nor would substantial grading change the topography such that the project would generate substantial risks to life or property. The Project will be consistent with the California Building Standards Code; therefore, impacts would be less than significant.

e) Would the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

No Impact. Disposal of wastewater is not necessary for the Project, therefore there would be no impact.

[25] (United State Geological Survey (USGS) n.d.); (California Department of Conservation (DOC) n.d.)

f) Would the project directly or indirectly destroy a unique paleontological resource or site or unique geological feature?

No Impact. Unique paleontological resources or sites or unique geological features have not been identified in the Project area. There would be no impact.

4.8 GREENHOUSE GAS EMISSIONS

Table 4-17: Greenhouse Gas Emissions Impacts

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

4.8.1 Environmental Setting

Commonly identified GHG emissions and sources include the following:

Carbon dioxide (CO_2) is an odorless, colorless natural greenhouse gas. CO_2 is emitted from natural and anthropogenic sources. Natural sources include the following: decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; evaporation from oceans; and volcanic out gassing. Anthropogenic sources include the burning of coal, oil, natural gas, and wood.

Methane (CH_4) is a flammable greenhouse gas. A natural source of methane is the anaerobic decay of organic matter. Geological deposits, known as natural gas fields, also contain methane, which is extracted for fuel. Other sources are from landfills, fermentation of manure, and ruminants such as cattle.

Nitrous oxide (N_2O), also known as laughing gas, is a colorless greenhouse gas. Nitrous oxide is produced by microbial processes in soil and water, including those reactions that occur in fertilizer containing nitrogen. In addition to agricultural sources, some industrial processes (fossil fuel-fired power plants, nylon production, nitric acid production, and vehicle emissions) also contribute to its atmospheric load.

Carbon dioxide equivalent (CO_2e), CO2e is the summation of CO_2, CH_4, and N_2O, multiplied by each greenhouse gases' global warming potential (GWP). For purposes of this analysis, CH_4 and N_2O are assigned a multiplier of 25 and 298, respectively, based on longevity in the atmosphere and the intensity of infrared absorbed. This is consistent with CARB's calculation and the 2007 Intergovernmental Panel on Climate Change fourth assessment report (AR4).

Water vapor is the most abundant, and variable greenhouse gas. It is not considered a pollutant; in the atmosphere, it maintains a climate necessary for life.

Ozone (O_3) is known as a photochemical pollutant and is a greenhouse gas; however, unlike other greenhouse gases, ozone in the troposphere is relatively short-lived and, therefore, is not global in nature. Ozone is not emitted directly into the atmosphere but is formed by a complex series of chemical reactions between volatile organic compounds, nitrogen oxides, and sunlight.

Aerosols are suspensions of particulate matter in a gas emitted into the air through burning biomass (plant material) and fossil fuels. Aerosols can warm the atmosphere by absorbing and emitting heat and can cool the atmosphere by reflecting light.

Chlorofluorocarbons (CFCs) are nontoxic, nonflammable, insoluble, and chemically unreactive in the troposphere (the level of air at the earth's surface). CFCs were first synthesized in 1928 for use as refrigerants, aerosol propellants, and cleaning solvents. CFCs destroy stratospheric ozone; therefore, their production was stopped as required by the Montreal Protocol in 1987.

Hydrofluorocarbons (HFCs) are synthetic chemicals that are used as a substitute for CFCs. Of all the greenhouse gases, HFCs are one of three groups (the other two are perfluorocarbons and sulfur hexafluoride) with the highest global warming potential. HFCs are human-made for applications such as air conditioners and refrigerants.

Perfluorocarbons (PFCs) have stable molecular structures and do not break down through the chemical processes in the lower atmosphere; therefore, PFCs have long atmospheric lifetimes, between 10,000 and 50,000 years. The two main sources of PFCs are primary aluminum production and semiconductor manufacture.

Sulfur hexafluoride (SF_6) is an inorganic, odorless, colorless, nontoxic, nonflammable gas. It has the highest global warming potential of any gas evaluated. Sulfur hexafluoride is used for insulation in electric power transmission and distribution equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer gas for leak detection.

There are uncertainties as to exactly what the climate changes will be in various local areas of the earth, and what the effects of clouds will be in determining the rate at which the mean temperature will increase. There are also uncertainties associated with the magnitude and timing of other consequences of a warmer planet: sea level rise, spread of certain diseases out of their usual geographic range, the effect on agricultural production, water supply, sustainability of ecosystems, increased strength and frequency of storms, extreme heat events, air pollution episodes, and the consequence of these effects on the economy.

Emissions of GHGs contributing to global climate change are largely attributable to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors. About three-quarters of human emissions of CO_2 to the global atmosphere during the past 20 years are due to fossil fuel burning. Atmospheric concentrations of CO_2, CH_4, and N_2O have increased 31 percent, 151 percent, and 17 percent respectively since the year 1750 (CEC 2008). GHG emissions are typically expressed in carbon dioxide-equivalents (CO_2e), based on the GHG's Global Warming Potential (GWP). The GWP is dependent on the lifetime, or persistence, of the gas molecule in the atmosphere. For example, one ton of CH_4 has the same contribution to the greenhouse effect as approximately 21 tons of CO_2. Therefore, CH_4 is a much more potent GHG than CO_2.

The Air Quality Output Files were prepared in January 2022 and are contained in Appendix A.

4.8.2 Impact Analysis

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

Less than Significant Impact. Construction of the Project would result in GHG emissions from operation of both on-road and off-road equipment. As discussed previously, Project operations would require routine maintenance conducted by existing staff and would not be a source of new emissions, and therefore are not addressed further. As shown in Table 3 15, the Project would be below the Bay Area Air Quality Management District thresholds for total Project emissions and well below the thresholds after amortizing the construction emissions. Therefore, the GHG emissions from the proposed Project would not have significant impacts on climate change.

	EMISSIONS (MT CO2E)
Construction	162.8582
Amortized over Life of Project (30 years)	5.4286
AB 32 Consistency Threshold for Land-Use Development Projects	1,100
Exceed Threshold?	No

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

Less than Significant Impact. After Project construction, operational GHG emissions would consist of routine maintenance conducted by existing staff and would not generate any new emissions during operations. The Project would provide potable water to residences whose current water sources do not meet safety standards. GHG emissions from the Project construction activities would be temporary and would not have a long-term impact on the state's ability to achieve the Scoping Plan's emission reduction targets for 2030 or beyond. Based on this, the Project would be consistent with the 2017 Scoping Plan and would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions; therefore, impacts would be less than significant.

4.9 HAZARDS AND HAZARDOUS MATERIALS

Table 4-18 Hazards and Hazardous Materials Impacts

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

4.9.1 Baseline Conditions

Hazardous Materials

The Hazardous Waste and Substances Sites (Cortese) List is a planning document used by the State, local agencies, and developers to comply with CEQA requirements in providing information about the location of hazardous materials release sites. Government Code Section 65962.5 requires the California Environmental Protection Agency to develop at least annually an updated Cortese List. The Department of Toxic Substances Control (DTSC) is responsible for a portion of the information contained in the Cortese List. Other State and local government agencies are required to provide additional hazardous material release information for the Cortese List. DTSC's EnviroStor database provides DTSC's component of Cortese List data (DTSC, 2010). In addition to the EnviroStor database, the State Water Resources Control Board

(SWRCB) Geotracker database provides information on regulated hazardous waste facilities in California, including underground storage tank (UST) cases and non-UST cleanup programs, including Spills-Leaks-Investigations-Cleanups sites, Department of Defense sites, and Land Disposal program. A search of the DTSC EnviroStor database and the SWRCB Geotracker performed on December 14, 2021, determined that there are no known active hazardous waste generators or hazardous material spill sites within the Project site or immediate surrounding vicinity. Historically, there have been multiple previous hazardous spill sites within the City of Parlier, but the cases have since been cleaned up and closed.

Airports

The Project area is located approximately 5.8 miles northeast of the Selma Airport and approximately 5.6 miles southwest of the Reedley Airport. The Project site is not located inside an Airport Land Use Compatibility Plan (ALUCP) for either of the mentioned airports.

Emergency Response Plan

The City of Parlier does not have an adopted Emergency Response Plan.

Sensitive Receptors

Sensitive Receptors are groups that would be more affected by air, noise, and light pollution, pesticides, and other toxic chemicals than others. This includes infants, children under 16, elderly over 65, athletes, and people with cardiovascular and respiratory diseases. High concentrations of these groups would include, daycares, residential areas, hospitals, elder care facilities, schools and parks. Because the Project site is located within an urbanized setting, there would be sensitive receptor areas near the seven basin sites and proposed pipeline connections. These include the single- and multi-family residences, schools, and parks that surround the Project sites with the Project APE.

4.9.2 Impact Analysis

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

b) Would the project 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?

a) and b) Less than Significant Impact. There would be no transport, use, or disposal of hazardous materials associated with Project construction, with the exception of diesel fuel for construction equipment. Any potential accidental hazardous materials spills during Project construction are the responsibility of the contractor to remediate in accordance with industry best management practices local jurisdictional regulations. Any impacts would therefore be less than significant.

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

Less than Significant Impact. Although multiple proposed groundwater recharge basins are located adjacent to a school, there would be no transport, use, or disposal of hazardous materials associated with Project construction, except for diesel fuel for construction equipment. Any potential accidental hazardous materials spills during construction would comply with industry Best Management Practices (BMP) and local jurisdictional regulations. Therefore, impacts would be less than significant.

d) Would the project 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?

Less than Significant Impact. The Project does not involve land that is listed as an active hazardous materials site pursuant to Government Code Section 65962.5 and is not included on a list compiled by DTSC. Both the State Water Quality Control Board's GeoTracker and DTSC's EnviroStor websites were queried on December 14, 2021, for contaminated groundwater or sites in the area with negative findings. Operation of the recharge basins and supporting infrastructure would not involve the transport, use, or disposal of hazardous materials and the parcels to be utilized for the basins have not been identified as active hazardous waste generators or hazardous material spill sites. Facility operation would be consistent with that of other similar basins in that groundwater conditions would be monitored to minimize negative impacts on the surrounding areas (such as nearby wells, crops, and septic systems). The impacts would be less than significant.

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

No Impact. The Project is not located within two miles of an existing airstrip or airport and is not located within any ALUCP. Therefore, there would be no impact.

f) Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Less than Significant Impact. The Project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. Therefore, impacts would be less than significant.

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

No Impact. The Project would not expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires. As discussed in Section 4.21, the Project site is not located in an area designated as being a State Responsibility Area or in a very high fire hazard severity area. The Project site is located in an urbanized area inside the City of Parlier, where wildland fires are unlikely to occur. Therefore, there would be no impact.

4.10 HYDROLOGY AND WATER QUALITY

Table 4-19: Hydrology and Water Quality Impacts

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	☒	☐
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:	☐	☐	☒	☐
i. result in substantial erosion or siltation on- or off-site;	☐	☐	☐	☒
ii. substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;	☐	☐	☒	☐
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?	☐	☐	☒	☐

4.10.1 **Baseline Conditions**

The Project area is located in the San Joaquin Valley Kings Subbasin and the City of Parlier is a member of the South Kings Groundwater Sustainability Agency (GSA).[26] The Kings River winds southward from the Sierra Nevada Mountains and passes approximately four miles northeast and east of the Project site. The Kings River starts at Helen Lake near John Muir Pass at an elevation of nearly 12,000 feet and runs southwest to Stratford near Lemoore Naval Station. The river is primarily fed by snowfall that accumulates in the winter months and flows into the river when melted. The nearest area with flood potential is

[26] (California Department of Water Resources 2018); (South Kings Groundwater Sustainability Agecncy 2021)

approximately 100 feet east of the proposed pipeline to be connected to the Richard Flores Basin.[27] In addition, the EPA does not recognize the Kings River as being a part of the 303d Impaired Waters list.[28]

Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map Panel No. 06019C2657H and 06019C2660H (effective 9/26/2008) indicate that the Project area is located within Zone X (unshaded). Zone X unshaded designated areas on FEMA maps represent areas with minimal flooding risk

4.10.2 **Impact Analysis**

a) Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Less than Significant Impact. SWRCB requires that a SWPPP be prepared for projects that disturb one (1) acre or more of soil. A SWPPP involves site planning and scheduling, limiting disturbed soil areas, and determining best management practices (BMPs) to minimize the risk of pollution and sediments being discharged from construction sites. Implementation of the SWPPP would minimize the potential for the Project to substantially alter the existing drainage pattern in a manner that would result in substantial erosion or siltation onsite or offsite. Additionally, there would be no discharge to any surface source. However, by design, there would be percolation discharge to groundwater via the proposed recharge basins. Use of chemicals or surfactants would not be generated through the maintenance or operation of the Project and as such, there would be no discharge directly associated with Project implementation that could impact water quality standards. The Project would not violate any water quality standards and would not impact waste discharge requirements. The impact would be less than significant.

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

Less than Significant Impact. The purpose of the Project consists of converting seven stormwater retention basins into groundwater recharge basins, and connecting those basins, in addition to an eight basin, to CID facilities to improve groundwater supplies to help mitigate the City's pumping for municipal water uses. The Project would slow the decline of groundwater levels in the underlying San Joaquin Valley Kings Subbasin. No additional groundwater would be required compared to baseline conditions; therefore, the impacts would be less than significant. The Project would not substantially decrease groundwater supplies or interfere with groundwater recharge. Impacts would be less than significant.

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

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

Less than Significant Impact. The conversion to recharge basins would allow for improved surface water management by the City. The Project would consist of excavating to a uniform depth for the purpose of groundwater recharge. In order to minimize erosion and run-off during construction activities, a SWPPP

[27] (United States Federal Emergency Management Agency (FEMA) 2020)
[28] (California Environmental Protection Agency 2010)

may be implemented. Therefore, with the implementation of these BMPs, impacts would be less than significant.

ii. substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;

No Impact. This Project will not result in an increase in the amount of surface runoff because the scope of this Project does not include the conversion of any permeable surface into impermeable surfaces. There would be no impact.

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

No Impact. The Project would convert existing stormwater retention basins to groundwater recharge basins and connect these basins to CID facilities. The Project would not create or contribute runoff water. There would be no impact.

iv. impede or redirect flood flows?

No Impact. The Project would not impede or redirect flood flows. The Project is designed to receive water from CID facilities and allow the water to infiltrate into the ground, thereby facilitating recharge of the underlying aquifer. There would be no impact.

d) Would the project in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundations?

No Impact. The Project is not located in a flood hazard, tsunami, or seiche zone; therefore, there would be no impact.

e) Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Less than Significant Impact. The Project would not conflict with implementation of a water quality control plan. It is intended to help implement a groundwater sustainability plan.

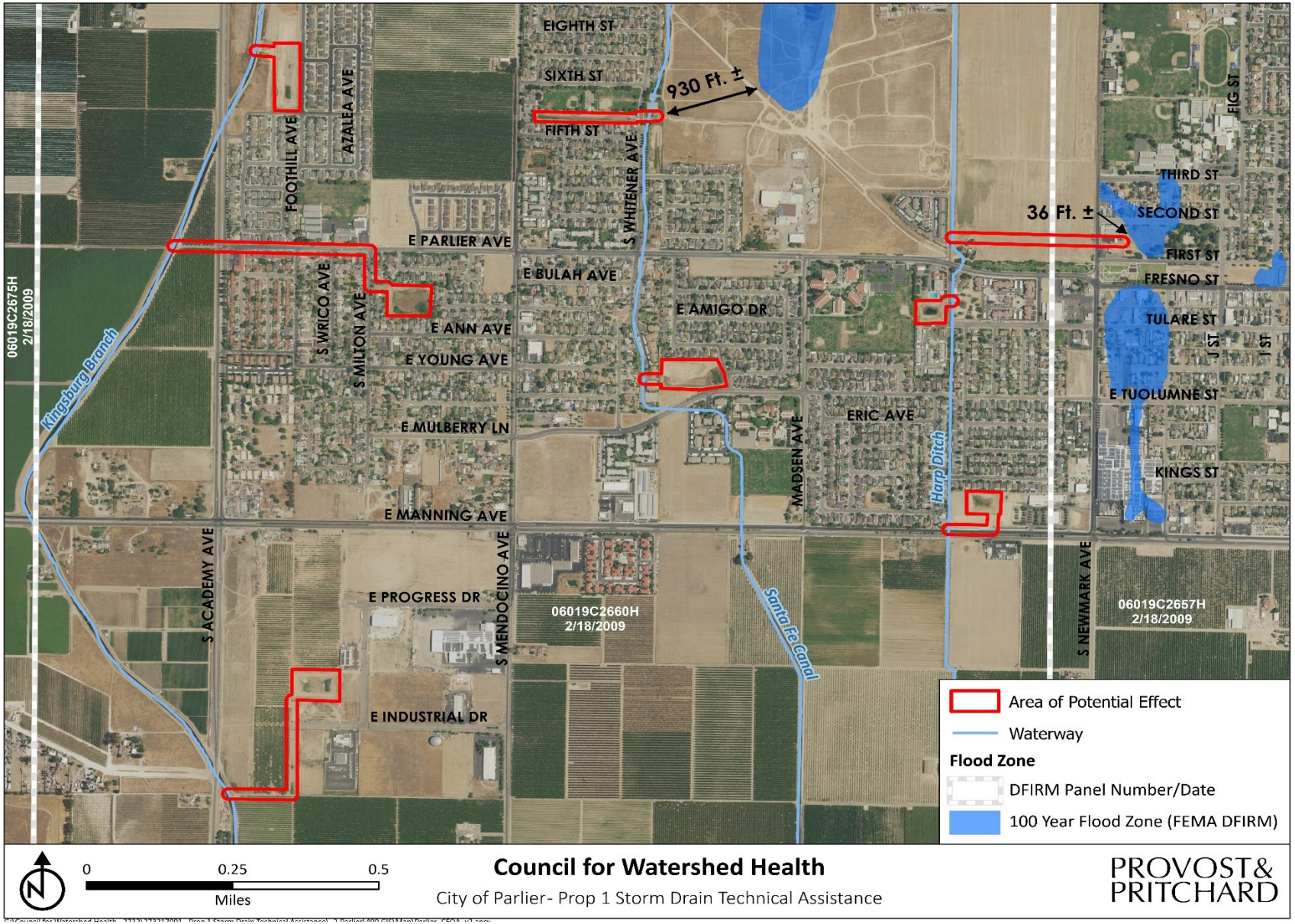

Figure 4-8: FEMA Flood Map

4.12 LAND USE AND PLANNING

Table 4-20: Land Use and Planning Impacts

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
f) Physically divide an established community?	☐	☐	☐	☒
g) 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?	☐	☐	☒	☐

4.12.1 Baseline Conditions

The Project area is classified by DOC's FMMP as Urban and Built-Up Land, Farmland of Local Importance, Farmland of Statewide Importance, and Prime Farmland. The Project APE has multiple General Plan land use designations and zoning designations. The Project's City of Parlier land use designation consists of Medium-Low Density Residential, Medium Density Residential, Ponding Basin, Light Industrial, Park, Open Space, Community Commercial, and Public Facilities. Within Fresno County, a portion of the Project is designated Agriculture. (Figure 4-9) The Project's zoning within the City of Parlier consists of Single-Family Residential, Low Density/Multiple Family Residential, Central Trading, Manufacturing, Open Space, and Public Facilities. The portion of the Project located within Fresno County is zoned AE-20 (Exclusive Agriculture, 20-Acre Minimum). (Figure 4-10)

4.12.2 Impact Analysis

a) Would the project physically divide an established community?

No Impact. The Project would not physically divide an established community. The stormwater basins are existing and will be upgraded by this project. Access to the adjacent housing to the Project APE would not be affected by construction activities related to the Project.

b) Would the project cause a significant environmental conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

Less than Significant Impact. The existing land uses and zoning designations will remain as is and the Project would not conflict with any land use plan, policy, or regulation adopted as the sites are currently be utilized for a similar use. Therefore, impacts would be less than significant.

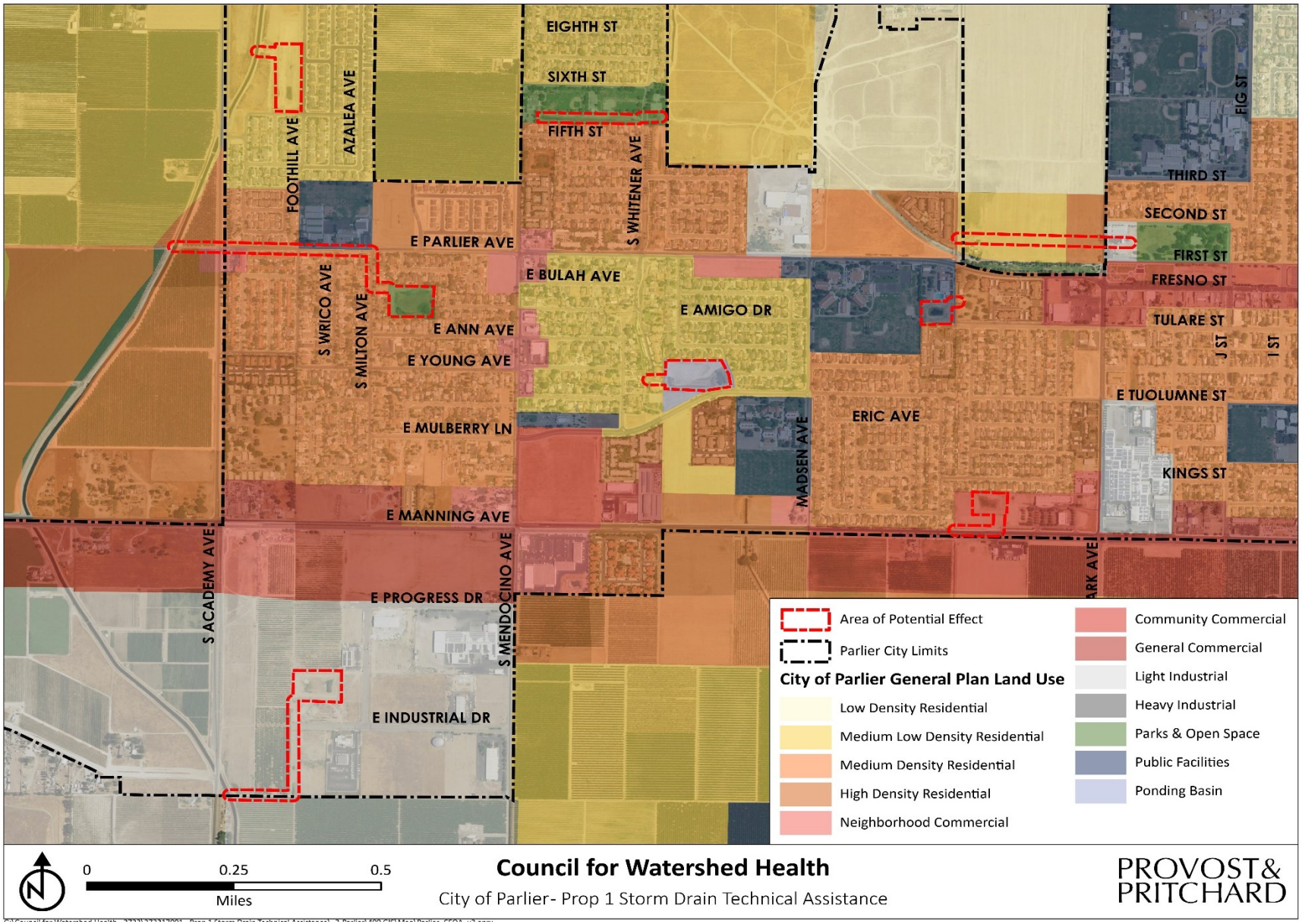

Figure 4-9: General Plan Land Use Designation Map

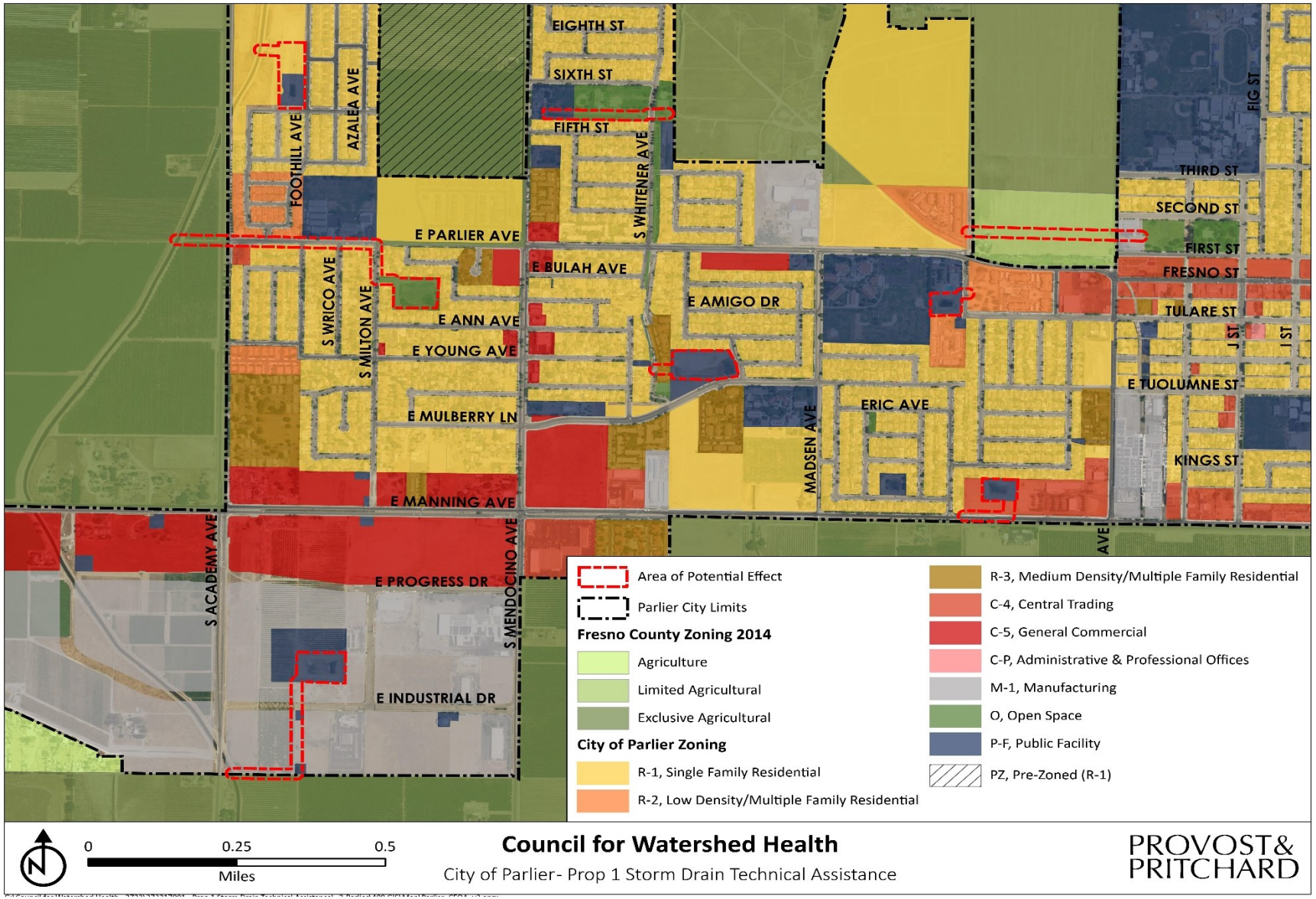

Figure 4-10: Zone District Map

4.13 MINERAL RESOURCES

Table 4-21: Mineral Resources Impacts

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

4.13.1 Baseline Conditions

The California Geological Survey (CGS) is responsible for the classification and designation of areas within California containing or potentially containing significant mineral resources. The CGS classifies lands into Aggregate and Mineral Resource Zones (MRZs) based on guidelines adopted by the California State Mining and Geologic Board, as mandated by the Surface Mining and Reclamation Act of 1975. These MRZs identify whether known or inferred significant mineral resources are presented in areas. Lead agencies are required to incorporate identified MRZs resource areas delineated by the state into their general plans.[29] While the CGS lists aggregate minerals being located near Parlier, the Parlier General Plan and the Fresno County General Plan do not identify any mineral resource being located in the area of the Project site.[30]

4.13.2 Impact Analysis

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

No Impact. The Project would not 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. The Parlier General Plan and the Fresno County General plan do not designate any location within the Project area as being home to any mineral resource that would be of importance to the region or the residents of the state. Therefore, there would be no impact.

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

No Impact. The Project would not 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. The Parlier General Plan and the Fresno County General Plan do not designate the Project area as being a mineral resource recovery site. Therefore, there would be no impact.

[29] Public Resources Code, Section 2762(a)(1).
[30] (Fresno County General Plan Policy Document 2000); (California Department of Conservation 1999)

4.14 NOISE

Table 4-22: Noise Impacts

Would the project result in:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b) Generation of excessive ground borne vibration or ground borne 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?	☐	☐	☐	☒

4.14.1 Baseline Conditions

The Project area is located in the City of Parlier which is an urbanized area. The surrounding areas are made up typical urban developments such residential, commercial, industrial, and public facilities. The City of Parlier does not have any adopted noise level standards, however, the City provides an exemption for an exceedance of noise levels when the source is from construction activities, as long as activities do not take place before 7 am and after 7 pm Monday through Friday, and before 9 am and after 5 pm on Saturday and Sunday. Noise and vibrations created by construction activities diminish 6 decibels with each doubling of distance from the source. In addition, the Project APE is not located within any ALUCP that would cause the Project site to experience excessive noise levels. Table 4-23 below shows the dBA emission levels for commonly used construction equipment, including those that would be used for this Project.

Table 4-23: Construction Equipment Noise Emissions Levels

Equipment	Typical Noise Levels 50 ft. from Source (dBA)
ROCK DRILL	98
PAVER	89
SCRAPER	101
CRANE, DERRICK	98
JACK HAMMER	96
TRUCK	89
CONCRETE MIXER	89
DOZER	88
GRADER	88
IMPACT WRENCH	88

Equipment	Typical Noise Levels 50 ft. from Source (dBA)
LOADER	85
PNEUMATIC TOOL	85
CRANE, MOBILE	83
COMPACTOR	82
CONCRETE PUMP	82
SHOVEL	82
AIR COMPRESSOR	81
GENERATOR	81
BACKHOE	80
CONCRETE VIBRATOR	76
PUMP	76
SAW	76
ROLLER	74
Source: (Federal Transit Administration 1995)	

4.14.2 Impact Analysis

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

Less than Significant Impact. The City of Parlier does not have any adopted noise level standards. However, construction activities are allowed between 7 am – 7 pm during the week and between 9 am – 5 pm on the weekends. This would allow for noise levels to exceed the normally accepted levels while being compliant with the applicable regulations. In addition, according to the inverse square law, noise diminishes from its source by 6 dBA with each doubling of distance from origin. As a result, any noise generated from the Project would have a diminished effect when heard from people in the surrounding area. Therefore, impacts would be less than significant.

b) Would the project result in generation of excessive ground borne vibration or ground borne noise levels?

Less than Significant Impact. Construction equipment generates vibrations that spread through the ground and diminish in amplitude with distance from the source. Construction activities can result in varying degrees of ground vibration, depending on the equipment and methods used, distance to the affected structures, and soil type. The generation of vibration can range from no perceptible effects at the lowest vibration levels, to low rumbling sounds and perceptible vibrations at moderate levels, to slight damage at the highest levels. Given the type of construction, it is not anticipated the Project would generate excessive ground-borne vibration or ground-borne noise levels. In addition, vibration levels subside with increased distance from the source, diminishing the effect the Project would have. Therefore, impacts would be less than significant.

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

No Impact. The Project is not located in the vicinity of a private airstrip or within an airport land use plan. The nearest airports or airstrips to the Project site are Selma airport, approximately 5.8 miles southwest

of the Project site and Reedley airport approximately 5.6 miles northeast of the Project site. Therefore, there would be no impact.

4.15 POPULATION AND HOUSING

Table 4-24: Population and Housing Impacts

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

4.15.1 Baseline Conditions

The Project is located in Parlier, CA, one of 15 cities within Fresno County. Based on census data, as of 2021, the population of Parlier is approximately 16,170.[31]

4.15.2 Impact Analysis

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

Less than Significant Impact. The Project is not expected to induce population growth by encouraging housing development within the vicinity of the Project area upon Project completion. The scope of the Project does not include the construction of additional dwelling units. The proposed improvements are intended to improve and recharge the groundwater under the City to help mitigate the City's pumping for municipal water uses. Impacts would be less than significant.

b) Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

No Impact. The majority of the Project would be constructed within the footprint of the existing roads, stormwater basins, and portions of vacant lots. Existing people or housing would not be destroyed or displaced. There would be no impact.

[31] (World Population Review 2021)

4.16 PUBLIC SERVICES

Table 4-25: Public Services

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, 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?	☐	☐	☐	☒

4.16.1 Baseline Conditions

Fire Protection: The closest fire station is Fresno County Fire Parlier Station 71, located approximately 0.4 miles from the nearest portion of the Project APE.

Police Protection: The closest police station is the City of Parlier Police Department located approximately 0.4 miles from the nearest portion of the Project APE.

Schools: The Project APE is scattered throughout the City of Parlier and there are multiple schools scattered throughout the City. The closest school to the Project APE is S. Ben Benavidez Elementary located 250 feet from the Project APE (Tuolumne Basin).

Parks: The closest park is the Earl Ruth Park, which is located within a small portion of the Project APE.

Landfills: Parlier, and the Project APE, is served by the American Avenue Landfill located south of Kerman, approximately 32 miles to the northwest.

4.16.2 Impact Analysis

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:

i. Fire Protection:

ii. Police Protection:

iii. Schools:

iv. Parks:

v. Other public facilities:

No Impact. The Project would not require new or altered governmental facilities in order to maintain acceptable service ratios, response times, or other performance objectives for public services. The Project involves the conversion of existing stormwater retention basins into groundwater recharge basins, along with the installation of supporting infrastructure. Construction and operation of recharge facilities and supporting infrastructure would not have an impact on the listed public services. There would be no impact.

4.17 RECREATION

Table 4-26: Recreation Impacts

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) 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?	☐	☐	☐	☒

4.17.1 Baseline Conditions

The nearest parks to the Project area are Earl Ruth Park, Veterans Park, Veterans Memorial Park and Heritage Park. Earl Ruth Park and Veterans Park both lie adjacent to a proposed basin. Veterans Memorial Park and Heritage Park are both located within a quarter mile of the Project as a whole. There are also multiple schools near the Project area that could be used for recreational purposes. The Project is located adjacent to or within a quarter mile of multiple school sites.

4.17.2 Impact Analysis

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

No Impact. Substantial physical deterioration of recreational facilities in the vicinity of the Project limits is not expected to occur given that the proposed improvements are for improving and recharging groundwater. The improvements are intended to help mitigate the City's pumping for municipal water uses. The nearby recreational facilities will not experience an increased use as a result of the Project. There would be no impact.

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

No Impact. The Project would not include recreational facilities or require the construction or expansion of recreational facilities. The Project proposes to convert existing stormwater retention basins into groundwater recharge basins, along with installing supporting infrastructure. There would be no impact.

4.18 TRANSPORTATION

Table 4-27: Transportation Impacts

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	☐	☒
b) 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?	☐	☐	☒	☐

4.18.1 Baseline Conditions

The Project area is located in the City of Parlier located in the central portion of Fresno County. The Project spans approximately 21.2 acres and portions of the Project would be constructed in existing rights-of-way. State Route (SR) 99, the nearest major highway to the Project area, is located approximately four miles to the west. SR 99 provides access to much of the state and runs north through Sacramento, ending in Red Bluff, while it runs south to Bakersfield.

4.18.2 Impact Analysis

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

No Impact. The Project would not conflict with a plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities. The Project would not be in conflict with the standards and goals set forth in the City of Parlier General Plan Circulation Element. There would be no impact.

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

No Impact. The proposed improvements of this project are limited to water infrastructure improvements; as such, this project is consistent with CEQA Guidelines section 15064.3 because this project will not have an impact on the long-term vehicle miles traveled. There would be no impact.

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

No Impact. The Project does not involve geometric roadway features or propose incompatible uses. No additional roads would be constructed as a result of the Project. There would be no impact.

d) Would the project result in inadequate emergency access?

Less than Significant Impact. The Project proposed would not conflict with circulation standards identified in the Circulation Element of the City of Parlier's General Plan. Roadways will remain open for traffic during the construction phase, and trenches will be covered at the end of each workday to ensure full access to residents and emergency vehicles during nonworking hours. Impacts would be less than significant.

4.19 TRIBAL CULTURAL RESOURCES

Table 4-28: Tribal Cultural Resources Impacts

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

4.19.1 Baseline Conditions

Penutian-speaking Yokuts tribal groups occupied the southern San Joaquin Valley region and much of the nearby Sierra Nevada. For a variety of historical reasons, existing research information emphasizes the central Yokuts tribes who occupied both the valley and particularly the foothills of the Sierra. The northernmost tribes suffered from the influx of Euro-Americans during the Gold Rush and their populations were in substantial decline by the time ethnographic studies began in the early twentieth century. In contrast, the southernmost tribes were partially removed by the Spanish to missions and eventually absorbed into multi-tribal communities on the Sebastian Indian Reservation (on Tejon Ranch), and later the Tule River Reservation and Santa Rosa Rancheria to the north. The result is an unfortunate scarcity of ethnographic detail on southern Valley tribes, especially in relation to the rich information collected from the central foothills tribes where native speakers of the Yokuts dialects are still found. Regardless, the general details of indigenous life-ways were similar across the broad expanse of Yokuts territory, particularly in terms of environmentally influenced subsistence and adaptation and with regard to religion and belief, which were similar everywhere.

Phase 1 Cultural Resources Field Survey

An intensive Class III inventory/Phase I survey of the Project APE was conducted by ASM Affiliates in January 2022. The field methods employed included intensive pedestrian examination of the ground surface for evidence of archaeological sites in the form of artifacts, surface features (such as bedrock mortars, historical mining equipment), and archaeological indicators (e.g., organically enriched midden soil, burnt animal bone); the identification and location of any discovered sites, should they be present; tabulation and recording of surface diagnostic artifacts; site sketch mapping; preliminary evaluation of site integrity; and site recording, following the California Office of Historic Preservation Instructions for Recording Historic Resources and the BLM 8100 Manual, using DPR 523 forms. Parallel survey transects spaced at 15-m apart were employed for pedestrian survey of the Project APE.

The Project APE currently consists of seven existing stormwater retention basins. The lands surrounding the Foothill Basin, Veterans Park Basin, Milton Basin, Tuolumne Basin, Avila Basin, and Manning Basin consist mainly of residential housing. The Foothill Basin, Veterans Park Basin, Milton, Tuolumne, Avila, Manning and Industrial Basin contains bare ground, sparse herbaceous and riparian vegetation.

Based on these results, the City of Parlier Groundwater Banking Project does not have the potential to result in significant impacts or adverse effects to historical resources or historic properties. (See Section 4.5 above and Appendix C for details of Field Survey)

Records Search

A records search from the Southern San Joaquin Valley Information Center (SSJVIC) of the California Historical Resources Information System (CHRIS), located at California State University, Bakersfield was conducted in December 2021. The SSJVIC records search includes a review of all recorded archaeological and built-environment resources as well as a review of cultural resource reports on file. In addition, the California Points of Historical Interest, the California Historical Landmarks, the California Register of Historical Resources, the National Register of Historic Places (NRHP), and the California State Built Environment Resources Directory listings were reviewed for the above referenced APE and an additional ¼-mile radius. Due to the sensitive nature of cultural resources, archaeological site locations are not released.

Additional sources included the State Office of Historic Preservation Historic Properties Directory, Archaeological Determinations of Eligibility, and the California Inventory of Historic Resources. (See Appendix C)

Public Ressources Code Section 21080.3.1, et seq. (Codification of AB 52, 2013-14)

Public Ressources Code Section 21080.3.1, et seq. (codification of AB 52, 2013-14) requires that a lead agency, within 14 days of determining that it would undertake a project, must notify in writing any California Native American Tribe traditionally and culturally affiliated with the geographic area of the project if that Tribe has previously requested notification about projects in that geographic area. The notice must briefly describe the project and inquire whether the Tribe wishes to initiate request formal consultation. Tribes have 30 days from receipt of notification to request formal consultation. The lead agency then has 30 days to initiate the consultation, which then continues until the parties come to an agreement regarding necessary mitigation or agree that no mitigation is needed, or one or both parties determine that negotiation occurred in good faith, but no agreement would be made.

Native American Outreach

A search of the NAHC Sacred Lands File was conducted in October 2021. According to the NAHC records, there are no sacred sites or tribal cultural resources are known in or near the Project APE. Letters requesting information on any tribal cultural resources were sent to representatives on the NAHC contact list on January 5, 2022. Follow-up emails were also sent on January 24, 2022, and February 22, 2022 (Appendix C).

4.19.2 Impact Assessment

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

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

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

Less than Significant Impact with Mitigation Incorporated. A search of the NAHC Sacred Lands File was completed for the APE. No tribal cultural resources were identified. Additionally, a records search was conducted at the Southern San Joaquin Valley Archaeological Information Center, California State University, Bakersfield. This search determined that tribal cultural resources were not discovered.

The City of Parlier has received a consultation letter pursuant to Public Resources Code Section 21080.3.1 (AB 52) from Santa Rosa Rancheria – Tachi Yokut Tribe. A letter was then sent to the tribe with a project description and map of the Project area On January 25, 2022. No response regarding AB 52 was received.

During general Native American Tribal Outreach efforts, the Dumna Wo Wah Tribal Government responded with an email dated February 22, 2022 to ASM. The tribe is requesting for a monitor to be present on site when Project activities are to begin. In addition, the tribe recommends that cultural monitors be in place prior to any, shelters, pipelines, grading, clearing, concrete, fencing or other earth disturbing activities . Any boring activities would require two monitors for the duration of such boring activities. They are requesting two monitors be on site for sifting of all soil resulting from any and all ground disturbing activities from a centimeter to a mile. The tribe is also recommending the use of exclusion fencing where applicable.

There is little chance the Project would cause a substantial adverse change to the significance of a tribal cultural resource as defined. Mitigation Measures **CUL-1 and CUL-2,** described in Section 4.5.3 are recommended in the event cultural materials or human remains are unearthed during excavation or construction. Implementation of mitigation measures outlined above would reduce impacts to tribal cultural resources to less than significant impacts.

Given the nature and location of the Project and related activities, the City does not feel that any tribal monitors would be necessary for any of its activities.

4.20 UTILITIES AND SERVICE SYSTEMS

Table 4-29: Utilities and Service Systems Impacts

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

4.20.1 Baseline Conditions

The Project area is located in the San Joaquin Valley Kings Subbasin and the City of Parlier is a member of the South Kings GSA. Declines in groundwater basin storage from groundwater overdraft are recurring problems in the Central Valley. Measures to ensure groundwater conservation in the city are being employed in order to help recharge the groundwater availability for the area.

4.20.2 Impact Analysis

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

Less than Significant Impact. The Project would not require relocation or expansion of existing facilities for wastewater treatment, storm water drainage, electric power, natural gas, or telecommunications. The Project includes the conversion of existing stormwater retention basins to groundwater recharge basins and connecting them to CID facilities but would not cause significant environmental effects since the Project would follow all required standards and policies. Additionally, the Project construction would increase water supply to its beneficiaries, improve groundwater conditions, reduce costs to produce

groundwater, increase diversification and availability of water supplies, and facilitate compliance with the Sustainable Groundwater Management Act.

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

No Impact. The Project would not include recreational facilities or require the construction or expansion of recreational facilities The Project includes the conversion of existing stormwater retention basins to groundwater recharge basins and connecting them to CID facilities to increase the availability of wet-year recharge capacity. Project operation is passive and would not reduce the area's available water supply under any scenario. There would be no impact.

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

No Impact. The Project does not require wastewater treatment, so analysis of capacity is unwarranted. There would be no impact.

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

No Impact. The Project would not generate any solid waste, therefore there would be no impact.

e) Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

No Impact. The Project would comply with all federal, State, and local standards, policies, and goals. There would be no impact.

4.21 WILDFIRE

Table 4-30: Wildfire Impacts

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrollable spread of 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?	☐	☐	☐	☒

4.21.1 Baseline Conditions

The Project area is served by the Fresno County Fire Protection District.. The area is not located in a very high fire hazard severity zone nor is the site located in a State Responsibility Area. The nearest very high fire hazard severity zone is located approximately 28 miles east of the site.[32] The nearest State Responsibility Area is approximately 10 miles northeast of the site.[33] The Project would not result in population growth, and it does not involve the construction of any habitable structures.

4.21.2 Impact Analysis

a) If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project substantially impair an adopted emergency response plan or emergency evacuation plan?

b) If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project 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?

[32] (ArcGIS n.d.)
[33] (ArcGIS n.d.)

c) If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project 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) If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

a-d) No Impact. The Project is not located in a State Responsibility Area or on lands classified as very high severity zones. The Project is located at least 15 miles from any State Responsibility Area, or an area determined to be considered a very high fire hazard severity zone. Further analysis of the Project's potential impacts regarding wildfire are not warranted. There would be no impacts.

4.22 CEQA MANDATORY FINDINGS OF SIGNIFICANCE

Table 4-31: CEQA Mandatory Findings of Significance

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

4.22.1 Statement of Findings

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

Less than Significant Impact with Mitigation Incorporated. The analysis conducted in this IS/MND results in a determination that the Project, with incorporation of mitigation measures, will have a less than significant effect on the environment. The potential for impacts to biological resources, cultural resources, and tribal cultural resources from the construction and operation of the Project will be less than significant with the incorporation of the mitigation measures discussed in Chapter 5 Mitigation, Monitoring, and Reporting Program. Accordingly, the Project will involve no potential for significant impacts through the degradation of the quality of the environment, the reduction in the habitat or population of fish or wildlife, including endangered plants or animals, the elimination of a plant or animal community or example of a major period 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)?

Less than Significant Impact. CEQA Guidelines Section 15064(i) States that a Lead Agency shall consider whether the cumulative impact of a project is significant and whether the effects of the project are cumulatively considerable. The assessment of the significance of the cumulative effects of a project must, therefore, be conducted in connection with the effects of past projects, other current projects, and probable future projects. The Project would include the conversion of the seven existing stormwater retention basins into groundwater recharge basins and connecting these basins and an additional basin – eight basins total - to Consolidated Irrigation District (CID) facilities (open canals and buried pipelines) with approximately 7,800 linear feet (lf) of buried 48" diameter pipelines, associated turnouts, pump stations, and metering facilities. No additional roads would be constructed as a result of the Project, nor would any additional public services be required. The Project is not expected to result in direct or indirect population growth. Therefore, implementation of the Project would not result in significant cumulative impacts and all potential impacts would be reduced to less than significant through the implementation of mitigation measures and basic regulatory requirements incorporated into future Project design.

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

Less than Significant Impact. The Project would include the conversion of the seven existing stormwater retention basins into groundwater recharge basins and connecting these basins and an additional basin – eight basins total - to Consolidated Irrigation District (CID) facilities (open canals and buried pipelines) with approximately 7,800 linear feet (lf) of buried 48" diameter pipelines, associated turnouts, pump stations, and metering facilities. The Project in and of itself would not create a significant hazard to the public or the environment. Construction-related air quality/dust exposure impacts could occur temporarily as a result of project construction. However, implementation of basic regulatory requirements identified in this IS/MND would ensure that impacts are less than significant. Therefore, the Project would not have any direct or indirect adverse impacts on humans. This impact would be less than significant.

CHAPTER 5 MITIGATION, MONITORING, AND REPORTING PROGRAM

This Mitigation Monitoring and Reporting Program (MMRP) has been formulated based upon the findings of the Initial Study/Mitigated Negative Declaration (IS/MND) for the Project in the City of Parlier. The MMRP lists mitigation measures recommended in the IS/MND for the Project and identifies monitoring and reporting requirements.

Table 5-1: Mitigation, Monitoring, and Reporting Program presents the mitigation measures identified for the Project. Each mitigation measure is numbered with a symbol indicating the topical section to which it pertains, a hyphen, and the impact number. For example, AIR-2 would be the second mitigation measure identified in the Air Quality analysis of the IS/MND.

The first column of **Table 5-1: Mitigation, Monitoring, and Reporting** Program identifies the mitigation measure. The second column, entitled "When Monitoring is to Occur," identifies the time the mitigation measure should be initiated. The third column, "Frequency of Monitoring," identifies the frequency of the monitoring of the mitigation measure. The fourth column, "Agency Responsible for Monitoring," names the party ultimately responsible for ensuring that the mitigation measure is implemented. The last columns will be used by the Lead and Responsible Agencies to ensure that individual mitigation measures have been complied with and monitored

Table 5-1: Mitigation, Monitoring, and Reporting Program

Mitigation, Monitoring, and Reporting Program						
Item	Mitigation Measure	When Monitoring is to Occur	Frequency of Monitoring	Agency Responsible for Monitoring	Method to Verify Compliance	Verification of Compliance
Biological Resources						
BIO-1	**(Avoidance):** The Project's construction activities would occur, if feasible, between September 16 and January 31 (outside of nesting bird season) in an effort to avoid impacts to nesting birds.	Between September 16 and January 31 (outside of nesting bird season)	Daily during construction	City of Parlier		
BIO-2	**(Pre-construction Surveys):** If activities must occur within nesting bird season (February 1 to September 15), a qualified biologist would conduct pre-construction surveys for Swainson's hawk nests onsite and within a 0.5-mile radius. This survey would be conducted in accordance with the *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley or* current guidance. The pre-construction survey would also provide a presence/absence survey for all other nesting birds within the APE and an additional 50 feet, no more than 7 days prior to the start of construction. All raptor nests would be considered "active" upon the nest-building stage.	Before construction and ground disturbing activities begin	One time survey prior to construction	City of Parlier		
BIO-3	**(Establish Buffers):** On discovery of any active nests near work areas, the biologist would determine appropriate construction setback distances based on applicable CDFW and/or USFWS guidelines and/or the biology of the species in question. Construction buffers would be identified with flagging, fencing, or other easily visible means, and would be maintained until the biologist has determined that the nestlings have fledged, dens are inactive, and/or based on a direction from a qualified biologist on next steps.	On discovery of any active nests near work areas, prior to construction and ground disturbing activities	One time survey prior to construction	City of Parlier		
BIO-4	**(Pre-construction Survey):** A qualified biologist shall conduct a pre-construction survey to determine if the existing coyote dens are still active in the Industrial Basin 30 days prior to ground disturbing activities. If dens are found to be active exclusion of	Before construction activities begin	One time survey prior to construction	City of Parlier		

Mitigation, Monitoring, and Reporting Program						
Item	Mitigation Measure	When Monitoring is to Occur	Frequency of Monitoring	Agency Responsible for Monitoring	Method to Verify Compliance	Verification of Compliance
	this species from the site will be necessary. If dens are found inactive, immediate destruction of the dens should occur under the direction of a qualified biologist.					
BIO-5	**(Exclusion):** A qualified biologist will install one-way doors to ensure the coyotes are unable to reenter dens. Exclusion fencing will be installed around the Industrial Basin as to not allow the species to reenter the APE. Den eviction will occur outside of pupping season March – September, and in accordance with CDFW's recommendations. If the survey cannot occur before pupping season March - September, then full avoidance will be required.	During construction and ground disturbing activities	During construction	City of Parlier		
BIO-6	**(Avoidance):** If work must occur within pupping season March – September a disturbance-free buffer be placed around the area with appropriate entrance and exit areas as not to disturb the adults or the pups until it has been determined that the pups have been weaned and full eviction occurs with use of one-way doors.	If work must occur within pupping season March – September.		City of Parlier		
BIO-7	**(Focused Survey):** A qualified botanist/biologist will conduct a pre-construction survey for Sanford's Arrowhead during the bloom season (May-October) in accordance with CDFW's Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities, in all basins 30 days prior to vegetation clearing or ground disturbing activities. If construction cannot occur during the species' bloom period (May-October), then a focused survey will be required.	During the bloom season		City of Parlier		
BIO-8	**(Avoidance):** If Sanford's Arrowhead are identified during the survey, a disturbance-free buffer will be placed around the area as not to disturb the plants or its root system.	During construction and ground disturbing activities		City of Parlier		

Mitigation, Monitoring, and Reporting Program						
Item	Mitigation Measure	When Monitoring is to Occur	Frequency of Monitoring	Agency Responsible for Monitoring	Method to Verify Compliance	Verification of Compliance
BIO-9	**(Formal Consultation):** If rare plant individuals or populations or sensitive natural communities are detected within Project work areas during the focused survey, the Project proponent shall initiate consultation with CDFW. If CDFW determines that "take" cannot be avoided, the Project proponent may be required to obtain an Incidental Take Permit (ITP).	Prior to construction and ground disturbing activities.	Duration of construction and ground disturbing activities	City of Parlier		
BIO-1						
Cultural Resources						
CUL-1	**(Archaeological Remains):** In the event that archaeological remains are encountered at any time during development or ground-moving activities within the entire project area, all work in the vicinity of the find shall halt until a qualified archaeologist can assess the discovery. The City shall implement all recommendations of the archaeologist necessary to avoid or reduce to a less than significant level potential impacts to cultural resource. Appropriate actions could include a Data Recovery Plan or preservation in place	During construction or ground disturbing activities	Seven months	City of Parlier		
CUL-2	**(Human Remains):** If human remains are uncovered, or in any other case when human remains are discovered during construction, the Fresno County Coroner will be notified to arrange proper treatment and disposition. If the remains are identified—on the basis of archaeological context, age, cultural associations, or biological traits—as those of a Native American, California Health and Safety Code 7050.5 and Public Resource Code 5097.98 require that the coroner notify the NAHC within 24 hours of discovery. The NAHC will then identify the Most Likely Descendent who will determine the manner in which the remains are treated.	During excavation	Seven months	City of Parlier		

CHAPTER 6 REFERENCES

ArcGIS. n.d. *California State Responsibility Areas.*

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Appendix A: CalEEMod Output Files

City of Parlier Stormwater Rechare Basin Project - Fresno County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

City of Parlier Stormwater Rechare Basin Project

Fresno County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	13.96	1000sqft	0.32	13,960.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	45
Climate Zone	3			**Operational Year**	2022
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Basins are existing. Pipeline is 3,490 linear feet, and assumes a 4-foot wide excavation area.

Construction Phase - Construction length is 7 months

Off-road Equipment - Construction equipment will likely include excavators, backhoes, graders, skid steers, and loaders.

Consumer Products - No consumer products will be used

Area Coating - No parking lot

Landscape Equipment - No landscape equipment will be used

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Parking	838	0
tblConstructionPhase	PhaseEndDate	5/18/2022	12/31/2022
tblConstructionPhase	PhaseStartDate	5/17/2022	5/1/2022

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblConsumerProducts	ROG_EF	2.14E-05	0
tblConsumerProducts	ROG_EF_Degreaser	3.542E-07	0
tblConsumerProducts	ROG_EF_PesticidesFertilizers	5.152E-08	0
tblLandscapeEquipment	NumberSummerDays	180	0
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	LoadFactor	0.41	0.41
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Graders
tblOffRoadEquipment	OffRoadEquipmentType		Skid Steer Loaders

2.0 Emissions Summary

City of Parlier Stormwater Rechare Basin Project - Fresno County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.0926	0.9904	0.9768	1.8400e-003	9.0900e-003	0.0409	0.0500	2.4200e-003	0.0376	0.0401	0.0000	161.5388	161.5388	0.0501	2.3000e-004	162.8582
Maximum	**0.0926**	**0.9904**	**0.9768**	**1.8400e-003**	**9.0900e-003**	**0.0409**	**0.0500**	**2.4200e-003**	**0.0376**	**0.0401**	**0.0000**	**161.5388**	**161.5388**	**0.0501**	**2.3000e-004**	**162.8582**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.0926	0.9904	0.9768	1.8400e-003	9.0900e-003	0.0409	0.0500	2.4200e-003	0.0376	0.0401	0.0000	161.5387	161.5387	0.0501	2.3000e-004	162.8580
Maximum	**0.0926**	**0.9904**	**0.9768**	**1.8400e-003**	**9.0900e-003**	**0.0409**	**0.0500**	**2.4200e-003**	**0.0376**	**0.0401**	**0.0000**	**161.5387**	**161.5387**	**0.0501**	**2.3000e-004**	**162.8580**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

City of Parlier Stormwater Rechare Basin Project - Fresno County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	5-1-2022	7-31-2022	0.4068	0.4068
2	8-1-2022	9-30-2022	0.2698	0.2698
		Highest	0.4068	0.4068

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

City of Parlier Stormwater Rechare Basin Project - Fresno County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Trenching	Trenching	5/1/2022	12/31/2022	5	175	

Acres of Grading (Site Preparation Phase): 0

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.32

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Trenching	Excavators	1	8.00	158	0.38
Trenching	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Trenching	Graders	1	8.00	187	0.41
Trenching	Skid Steer Loaders	1	8.00	65	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Trenching	5	13.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Trenching - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0888	0.9878	0.9474	1.7500e-003		0.0409	0.0409		0.0376	0.0376	0.0000	154.1038	154.1038	0.0498	0.0000	155.3498
Total	**0.0888**	**0.9878**	**0.9474**	**1.7500e-003**		**0.0409**	**0.0409**		**0.0376**	**0.0376**	**0.0000**	**154.1038**	**154.1038**	**0.0498**	**0.0000**	**155.3498**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.8300e-003	2.6100e-003	0.0294	8.0000e-005	9.0900e-003	5.0000e-005	9.1400e-003	2.4200e-003	4.0000e-005	2.4600e-003	0.0000	7.4351	7.4351	2.4000e-004	2.3000e-004	7.5084
Total	**3.8300e-003**	**2.6100e-003**	**0.0294**	**8.0000e-005**	**9.0900e-003**	**5.0000e-005**	**9.1400e-003**	**2.4200e-003**	**4.0000e-005**	**2.4600e-003**	**0.0000**	**7.4351**	**7.4351**	**2.4000e-004**	**2.3000e-004**	**7.5084**

City of Parlier Stormwater Rechare Basin Project - Fresno County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Trenching - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0888	0.9878	0.9474	1.7500e-003		0.0409	0.0409		0.0376	0.0376	0.0000	154.1036	154.1036	0.0498	0.0000	155.3496
Total	**0.0888**	**0.9878**	**0.9474**	**1.7500e-003**		**0.0409**	**0.0409**		**0.0376**	**0.0376**	**0.0000**	**154.1036**	**154.1036**	**0.0498**	**0.0000**	**155.3496**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.8300e-003	2.6100e-003	0.0294	8.0000e-005	9.0900e-003	5.0000e-005	9.1400e-003	2.4200e-003	4.0000e-005	2.4600e-003	0.0000	7.4351	7.4351	2.4000e-004	2.3000e-004	7.5084
Total	**3.8300e-003**	**2.6100e-003**	**0.0294**	**8.0000e-005**	**9.0900e-003**	**5.0000e-005**	**9.1400e-003**	**2.4200e-003**	**4.0000e-005**	**2.4600e-003**	**0.0000**	**7.4351**	**7.4351**	**2.4000e-004**	**2.3000e-004**	**7.5084**

City of Parlier Stormwater Rechare Basin Project - Fresno County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Non-Asphalt Surfaces	0.503307	0.052913	0.176057	0.166236	0.027694	0.007176	0.014144	0.022141	0.000741	0.000292	0.024521	0.001566	0.003212

City of Parlier Stormwater Rechare Basin Project - Fresno County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

City of Parlier Stormwater Rechare Basin Project - Fresno County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

City of Parlier Stormwater Rechare Basin Project - Fresno County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.0 Water Detail

7.1 Mitigation Measures Water

City of Parlier Stormwater Rechare Basin Project - Fresno County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Appendix B: Biological Evaluation

Biological Evaluation

COUNCIL FOR WATERSHED HEALTH

CITY OF PARLIER FLOOD CONTROL AND GROUNDWATER BANKING PROJECT

JANUARY 24, 2022

Shaylea M. Stark, Biologist
PROVOST & PRITCHARD CONSULTING GROUP | 455 W. FIR ST, CLOVIS CA 93611

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I. Introduction

The following technical report, prepared by Provost & Pritchard Consulting Group, in compliance with the California Environmental Quality Act (CEQA) includes a description of the biological resources present or with potential to occur within the proposed City of Parlier Flood Control and Groundwater Banking Project (Project) and surrounding areas, and evaluates potential Project-related impacts to those resources.

Project Description

The City of Parlier (City) Flood Control and Groundwater Banking Project is a capital improvement project that is to design and construct the conversion of the seven existing urban stormwater retention basins found in **Table 1,** into groundwater recharge basins and connecting these basins and an additional basin (the Richard Flores basin/separate project) – eight basins total - to Consolidated Irrigation District (CID) facilities (open canals and buried pipelines) with approximately 7,800 linear feet (lf) of buried 48" diameter pipelines, associated turnouts, pump stations, and metering facilities.

The Project is located along Foothill Avenue, South Milton Avenue, East Parlier Avenue, Tuolumne Street, South Whitner Avenue, Manning Avenue, Avila Street, East Industrial Drive, and South Newmark Avenue in southeast Fresno County, east of the City of Selma and west of the City of Reedley (see **Figure 1** and **Figure 2**). The Project's Area of Potential Effect (APE) includes 21.2 acres plus a 50-foot buffer surrounding the APE (see **Figure 3**).

The following is a table of all existing stormwater basins with their approximate acreages, connecting CID facility, and locations.

Table 1. Existing Stormwater Basins.

Basin Name	Acres	Connecting CID Facility	Location
Foothill	3.8	Kingsburg Branch Canal	Foothill Avenue and 5th Avenue
Veterans	2.24	Santa Fe Canal	South Whitner Avenue and East 5th Street
Milton	3.34	Kingsburg Branch Canal	South Milton Avenue and East Parlier Avenue
Industrial	3.1	Kingsburg Branch Canal	East Industrial Drive and South Milton Avenue
Tuolumne	3.99	Santa Fe Canal	Tuolumne Street and Erica Avenue
Avila	1.42	Harp Ditch	Avila Street and Tulare Street
Manning	1.51	Harp Ditch	Manning Ave and Orit Avenue
Richard Flores Basin and Pipeline * part of a separate project and approval	N/A	Harp Ditch	South Newmark Avenue and 1st Street

The Richard Flores Basin is being improved as a separate project funded by the Proposition 68 Urban Flood Protection Grant Program; however, a new pipe connection to the CID Harp Ditch will be designed and constructed as part of this Project.

This Project intends to improve and recharge the groundwater under the City to help mitigate the City's pumping for municipal water uses. It is likely that implementation of the project will be phased, depending on available funding. For the purposes of this report, we are considering the Project in its entirety.

Report Objectives

Construction activities could potentially damage biological resources or modify habitats that are crucial for sensitive plant and wildlife species. Development would be regulated by State or federal agencies, and/or addressed by local regulatory agencies.

This report addresses issues related to the following:

1. The presence of sensitive biological resources onsite, or with the potential to occur onsite.
2. The federal, State, and local regulations regarding these resources.
3. Mitigation measures that would be required to reduce the magnitude of anticipated impacts and/or comply with permit requirements of state and federal resource agencies.

Therefore, the objectives of this report are:

1. Summarize all site-specific information related to existing biological resources.
2. Make reasonable inferences about the biological resources that could occur onsite based on habitat suitability and the proximity of the site to a species' known range.
3. Summarize all State and federal natural resource protection laws that would be relevant to the APE.
4. Identify and discuss Project impacts to biological resources likely to occur onsite within the context of CEQA and/or State or federal laws.
5. Identify and publish a set of avoidance and mitigation measures that would reduce impacts to a less-than-significant level (as identified by CEQA) and are generally consistent with recommendations of the resource agencies for affected biological resources.

Study Methodology

A reconnaissance-level field survey of the APE (**Figure 3**) and surrounding area was conducted on December 15, 2021, by Provost & Pritchard biologist Shaylea Stark. The survey consisted of walking and driving the APE while identifying and noting plant and animal species encountered, biological habitats and communities, and land uses. Further, the site and surrounding areas were assessed for suitable habitats of various wildlife species.

The biologist conducted an analysis of potential Project-related impacts to biological resources based on the resources known to exist or with potential to exist within the APE. Sources of information used in preparation of this analysis included: the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB); the California Native Plant Society (CNPS) Online Inventory of Rare and Endangered Vascular Plants of California; CalFlora's online database of California native plants; the Jepson Herbarium online database (Jepson eFlora); United States Fish and Wildlife Service (USFWS) Environmental Conservation Online System (ECOS) and Information for Planning and Consultation online database (IPaC); the NatureServe Explorer online database; the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Plants Database; CDFW California Wildlife Habitat Relationships (CWHR) database; the California Herps online database; and various manuals, reports, and references related to plants and animals of the San Joaquin Valley region.

The field investigation did not include focused surveys for special status species. The field survey conducted included the appropriate level of detail to assess the significance of potential impacts to sensitive biological

resources resulting from the Project. Furthermore, the field survey was sufficient to generally describe those features of the Project that could be subject to the jurisdiction of federal and/or State agencies, such as the United States Army Corps of Engineers (USACE), CDFW, Regional Water Quality Control Board (RWQCB) and State Water Resources Control Board (SWRCB) and used to support CEQA documents.

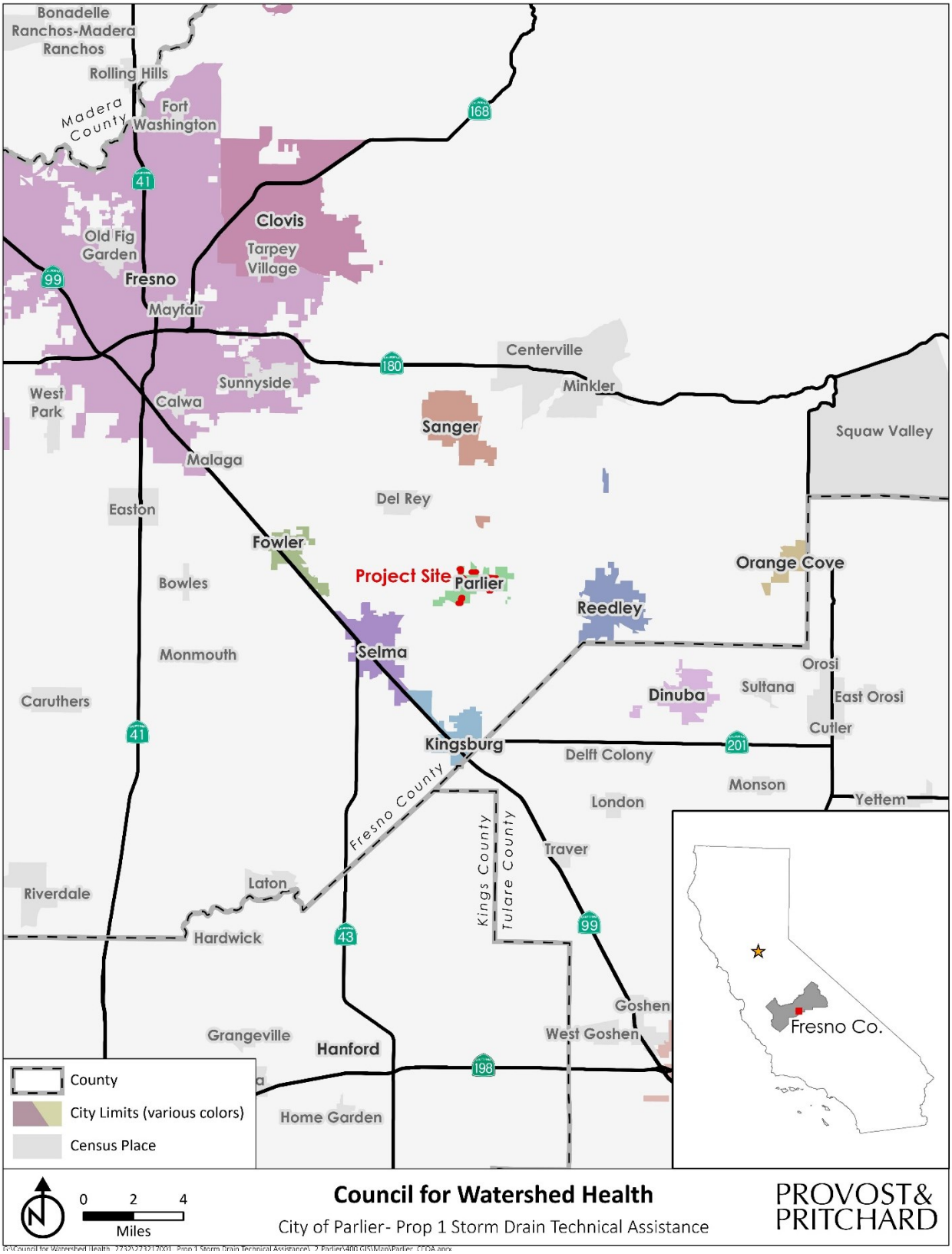

Figure 1. Regional Location Map

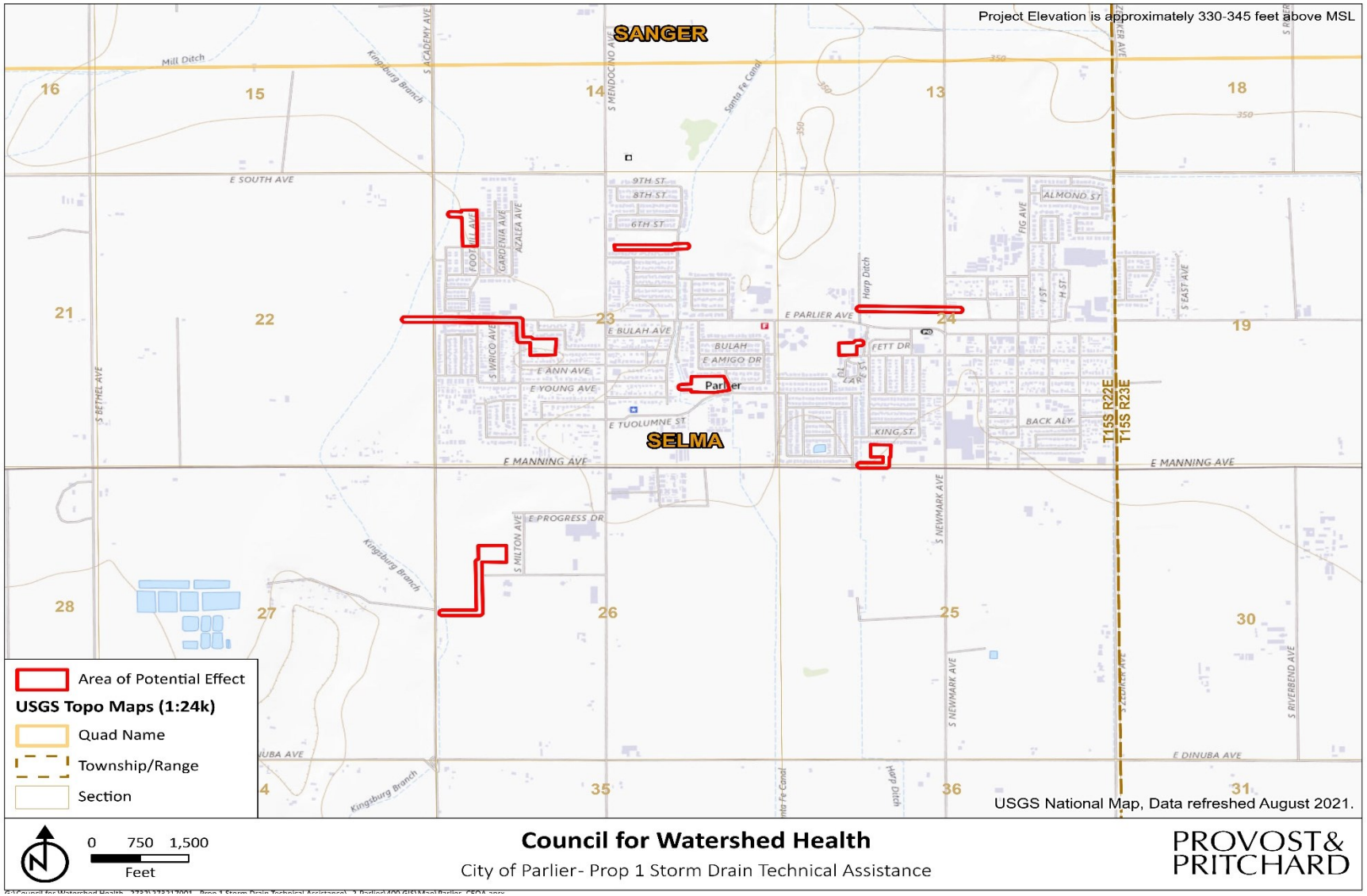

Figure 2. Topographic Quadrangle Map

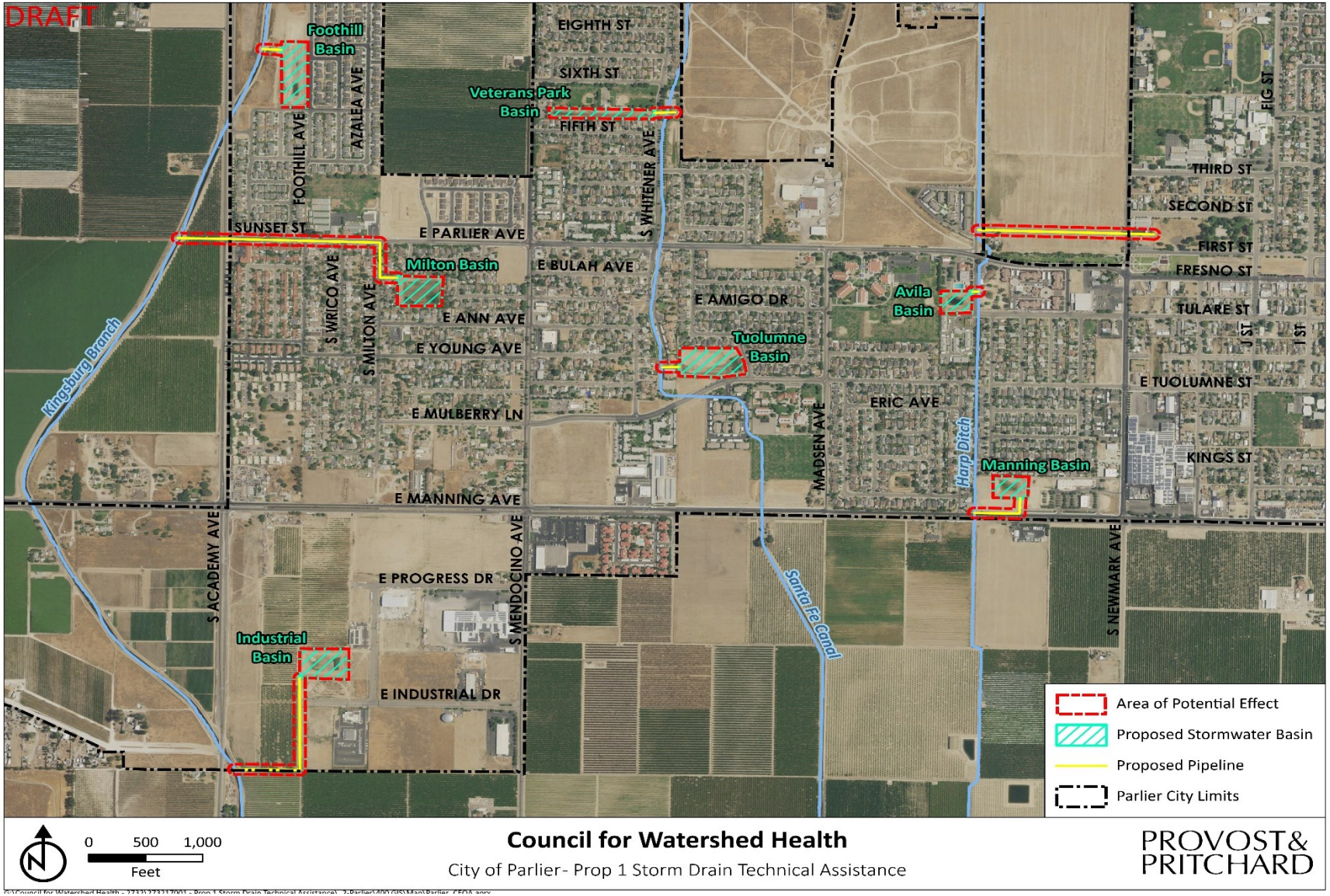

Figure 3. Area of Potential Effect Map

II. Existing Conditions

Regional Setting

Topography

The Project lies in Fresno County within the Lower San Joaquin Valley, part of the Central Valley of California. The Central Valley is bordered by the Sierra Nevada Mountain Ranges to the east, the Coast Ranges to the west, the Klamath Mountains and Cascade Range to the north, and the Transverse Ranges and Mojave Desert to the south. The area is relatively flat area and is at an elevation between 328-354 feet above sea level.

Climate

Most of the San Joaquin Valley experiences a Mediterranean climate. Warm, dry summers are followed by cool, moist winters. Summer temperatures range from 70 to 80 degrees Fahrenheit (°F), but often exceeds 90 °F. Average winter temperatures are around 45 °F. Near the Project, the average annual precipitation is approximately 12 inches, falling mainly from October to May (Weatherspark, 2021).

Hydrology

A watershed is the topographic region that drains into a stream, river, or lake and can consist of many smaller subwatersheds. The nearest surface waters are the Kingsburg Branch Canal that runs along the west portion of the APE, the Santa Fe Canal that runs along Whitner Avenue, and Harp Ditch which runs through the eastern portion of the APE. The Cole Slough-Kings River watershed is comprised of stormwater or snowmelt collected in upland areas which flows down into Pine flat lake, Fish creek, and Huges Creek which all flow down into Kings River. The Kings River then flows through canals down into Kingsburg Branch and the unnamed canal off Whitner Avenue which connects to Collins Creek (USEPA, 2021). The APE lies within the Cole Slough-Kings River watershed; Hydrologic Unit Code (HUC): 1803001202 and a single subwatershed: Cole Slough subwatershed; HUC: 180300120206.

Soils

Three soil mapping units representing five soil types were identified within the APE. The soils and their core properties are displayed in the **Table 2** below, according to the Major Land Resource Area of California (MLRA) 19 map area. The three soil units are primarily used for agriculture in the form of irrigated cropland and annual pasture, uncultivated areas generally host annual grasses and herbaceous plants, in urban areas ornamentals and turf-grass are common.

Table 2. Soils of the Area of Potential Effect.

Soil	Soil Map Unit	Percent of APE	Hydric Unit	Hydric Minor Units	Drainage	Permeability	Runoff
Delhi	Sand, 3 to 9 percent slopes	3.6%	No	No	Somewhat excessively drained	Rapid permeability	Low runoff
	Loamy Sand, 0 to 3 percent slopes	11.8%	No	Yes	Somewhat excessively drained	Rapid permeability	Very low runoff

Soil	Soil Map Unit	Percent of APE	Hydric Unit	Hydric Minor Units	Drainage	Permeability	Runoff
Hanford	Sandy loam, 0 to 1 percent slopes	11.5%	No	No	Well drained	Moderately rapid permeability	Very low runoff
	Fine sandy loam	47.2%	No	Yes	Well drained	Moderately rapid permeability	Very low runoff
Tujunga	Loamy Sand, 0 to 3 percent slopes	25.9%	No	Yes	Somewhat excessively drained	Moderately rapid permeability	Very low runoff

None of the major soil mapping units were identified as hydric. Some of the minor soil mapping units, which make up 1.439% of the soil in the APE, were identified as hydric (NRCS, 2021). Hydric soils are defined as soils that are saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions such that under sufficiently wet conditions, hydrophytic vegetation can be supported.

The complete Natural Resources Conservation Service (NRCS) Web Soil Survey report is available in **Appendix D** at the end of this document.

Biotic Habitats

Stormwater Retention Basins

As illustrated in **Figure 3**, the APE includes 21.2 acres of existing stormwater retention basins, canals, and buried pipelines. The lands surrounding the Foothill Basin, Veterans Park Basin, Milton Basin, Tuolumne Basin, Avila Basin, and Manning Basin consist mainly of residential housing, while the Industrial Basin is surrounded by vacant agricultural fields and industrial buildings. The vast residential housing and stormwater retention basins are heavily disturbed, offers little value to wildlife, and creates unsuitable habitat for many native species.

Foothill Basin

The Foothill Basin contains bare ground, sparse herbaceous and riparian vegetation, and some stormwater at the time of the survey. Although limited, vegetation within the basin includes Russian thistle (*Kali tragus*), telegraphweed (*Heterotheca grandiflora*), bitter dock (*Rumex obtusifolius*), common cattail (*Typha latifolia*), tall flat sedge (*Cyperus eragrostis*), Bermuda grass (*Cynodon dactylon*), and bulrushes (*Scirpus* sp.). Bird observations includes Red-tailed Hawk (*Buteo jamaicensis*), House Finch (*Haemorhous mexicanus*), and European Starling (*Sturnus vulgaris*). Other animal species seen within or near this basin include Botta's pocket gopher (*Thomomys bottae).*

Veterans Park Basin

The Veterans Park Basin contains bare ground, sparse herbaceous and riparian vegetation, and some stormwater at the time of the survey. Although limited, vegetation within the basin includes common fiddleneck (*Amsinckia intermedia*), bitter dock, common cattail, tall flat sedge, Bermuda grass, and bulrushes. Bird observations includes White-crowned Sparrow (*Zonotrichia leucophrys*), California Scrub-Jay (*Aphelocoma californica*), American Crow (*Corvus brachyrhynchos*), and Rock Dove (*Columba livia*). Other animal species seen within or near this basin include Botta's pocket gopher, and domestic cats (*Felis catus*).

Milton Basin

The Milton Basin contains bare ground, sparse herbaceous and riparian vegetation, and some stormwater at the time of the survey. The southwest section of this basin is deemed a wetland by the National Wetlands Inventory. Although limited, vegetation within the basin includes Northern Catalpa (*Catalpa speciosa*), bitter

dock, common cattail, tall flat sedge, Bermuda grass, and bulrushes. Bird observations includes ducks (*Anatidae* sp.), House Finch, and European Starling. Other animal species seen within or near this basin include Botta's pocket gopher, domestic cats, and domestic dogs (*Canis lupus familiaris*).

Tuolumne Basin

The Tuolumne Basin contains bare ground, sparse herbaceous and riparian vegetation, and some stormwater in the southeast portion of the basin and contained significant riparian vegetation that provides suitable nesting habitat for the Red-winged Blackbird (*Agelaius phoeniceus*). Although limited, vegetation within the basin includes castor bean (*Ricinus communis*), Chinese elm (*Ulmus parvifolia*), common yarrow (*Achillea millefolium*), bitter dock, common cattail, tall flat sedge, Bermuda grass, and bulrushes. Bird observations includes Red-winged Blackbird and White-crowned Sparrow. Other animal species seen within or near this basin include Botta's pocket gopher.

Avila Basin

The Avila Basin contains bare ground, sparse herbaceous vegetation. Although limited, vegetation within the basin includes redmaids (*Calandrinia ciliata*), common mallow (*Malva sylvestris*), and Japanese honeysuckle (*Lonicera japonica*). Bird observations includes American Crow, Rock Dove, House Finch, and European Starling. Other animal species seen within or near this basin include Botta's pocket gopher.

Manning Basin

The Manning Basin contains bare ground, sparse herbaceous and riparian vegetation, and water at the time of the survey. Although limited, vegetation within the basin includes castor bean, bitter dock, common cattail, tall flat sedge, Bermuda grass, and bulrushes. Bird observations includes ducks, House Finch, European Starling, and White-crowned Sparrow. Other animal species seen within or near this basin include Botta's pocket gopher, and domestic cats.

Industrial Basin

The Industrial stormwater retention basin contains bare ground, sparse herbaceous and riparian vegetation, and water at the time of the survey. Although limited, vegetation within the APE includes Willow (*Salix* sp.), Russian thistle, bitter dock, common cattail, Bermuda grass, and bulrushes. Bird observations includes House Finch, and European Starling. Other animal species seen within or near this basin include Botta's pocket gopher, and Coyote tracks and dens (*Canis latrans*).

Canals

As illustrated in **Figure 3**, the APE includes 21.2 acres of existing stormwater retention basins, canals, and buried pipelines. There will be connections between the new recharge basins and three canals: Kingsburg Canal, Santa Fe Canal, and Harp Ditch.

Kingsburg Canal

There will be connections between the Foothill basin, Milton basin, and Industrial basin to the Kingsburg Canal, however disturbance in these locations will be temporary and minimal.

Santa Fe Canal

There will be connections between the Tuolumne basin and the Santa Fe Canal, however disturbance in this location will be temporary and minimal.

Harp Ditch

There will be connections between the Manning basin, Avila Basin, and the Richard Flores basin and pipeline to Harp Ditch, however disturbance in these locations will be temporary and minimal.

Ruderal/Residential

The APE is also comprised of bare ground and paved roads where the pipelines are proposed to be constructed. Again, the vegetation within this portion of the APE is limited and consists of invasive grasses and various trees and ornamental plant species within residential properties and along the roads. Trees surrounding the APE are large enough to be used by nesting birds.

Representative photographs of the site at the time of the survey are presented in **Appendix A** at the end of this document.

Natural Communities of Special Concern

Natural communities of special concern are those of limited distribution, distinguished by significant biological diversity, or home to special status species. CDFW is responsible for the classification and mapping of all-natural communities in California. Just as the special status plant and animal species, these natural communities of special concern can be found within CNDDB.

According to CNDDB, there are no recorded observations of natural communities of special concern with potential to occur within the APE or vicinity. Additionally, no natural communities of special concern were observed during the biological survey.

Designated Critical Habitat of the APE

The USFWS often designates areas of "Critical Habitat" when it lists species as threatened or endangered. Critical Habitat is a specific geographic area that contains features essential for the conservation of a threatened or endangered species and would require special management or protection. According to CNDDB and IPaC, designated critical habitat is absent from the APE and vicinity.

Wildlife Movement Corridors

Wildlife movement corridors are routes that animals regularly and predictably follow during seasonal migration, dispersal from native ranges, daily travel within home ranges, and inter-population movements. Movement corridors in California are typically associated with valleys, ridgelines, and rivers and creeks supporting riparian vegetation.

Most of the APE does not contain features that would be likely to function as wildlife movement corridors as all of the basins, but the Industrial basin are surrounded by a chain link fence. The pipeline portion of the Project is within existing roads which proves to be dangerous for species movement. The canals could be potentially used as wildlife movement corridors, but the disturbance would be temporary and minimal. Further, most of the APE is located in an area where it is possible to be used by species more tolerant of consistent human activities such as some birds and gophers but is not ideal due to the heavy disturbance of human activities, which would discourage dispersal and migration.

Special Status Plants and Animals

California contains several "rare" plant and animal species. In this context, rare is defined as species known to have low populations or limited distributions. As human population grows, urban expansion encroaches on the already-limited suitable habitat. This results in sensitive species becoming increasingly more vulnerable to extirpation. State and federal regulations have provided CDFW and USFWS with a mechanism for conserving and protecting the diversity of plant and animal species native to California. Numerous native plants and animals have been formally designated as "threatened" or "endangered" under State and federal endangered species legislation. Other formal designations include "candidate" for listing or "species of special concern" by CDFW. The CNPS has a list of native plants considered rare, threatened, or endangered. Collectively these plants and animals are referred to as "special status species."

A thorough search of the CNDDB for published accounts of special status plant and animal species was conducted for the *Selma* 7.5-minute quadrangle that contain the APE in its entirety, and for the eight surrounding quadrangles: *Malaga*, *Sanger*, *Wahtoke*, *Reedley*, *Traver*, *Burris Park*, *Laton*, and *Conejo*. **Figure 2** shows the Project's 7.5-minute quadrangle, according to United States Geological Survey Topographic Maps. These species, and their potential to occur within the APE, are listed in **Table 3** and **Table 4** on the following pages. Raw data obtained from CNDDB is available in **Appendix B.** All relevant sources of information, as discussed in the *Study Methodology* section of this report, as well field observations, were used to determine if any special status species are known to be within the APE.

Table 3. List of Special Status Animals with Potential to Occur Onsite and/or in the Vicinity.

Species	Status	Habitat	Occurrence on APE
Blunt-nosed leopard lizard (*Gambelia sila*)	FE, CE, CFP	Inhabits semi-arid grasslands, alkali flats, low foothills, canyon floors, large washes, and arroyos, usually on sandy, gravelly, or loamy substrate, sometimes on hardpan. Often found where there are abundant rodent burrows in dense vegetation or tall grass. Cannot survive on lands under cultivation. Known to bask on kangaroo rat mounds and often seeks shelter at the base of shrubs, in small mammal burrows, or in rock piles. Adults may excavate shallow burrows but rely on deeper pre-existing rodent burrows for hibernation and reproduction.	**Absent.** The APE and surrounding areas are existing stormwater retention basins and residential houses with paved roads that are unsuitable for this species. There are no recorded observations of this species within the 9-quad search on CNDDB.
Burrowing owl (*Athene cunicularia*)	CSC	Resides in open, dry annual or perennial grasslands, deserts, and scrublands with low growing vegetation. Nests underground in existing burrows created by mammals, most often ground squirrels.	**Unlikely.** Nesting and foraging habitat is absent due to incompatible vegetative cover. At most, a Burrowing Owl individual could potentially pass over or through the site but would not be expected to nest or forage within or adjacent to the APE. Additionally, he presence of raptors in the vicinity makes this site generally unsuitable for Burrowing Owl. The closest recorded observation of this species was 15 years ago and 7.5 miles southeast of the APE, the most recent recorded observation of this species was 4 years ago and 14 miles south of the APE.
California glossy snake (*Arizona elegans occidentalis*)	CSC	Inhabits arid scrub, rocky washes, grasslands, and chaparral. Prefers open areas with loose soil for easy burrowing.	**Absent.** The APE and surrounding areas are unsuitable for this species. The only recorded observation of this species was 128 years ago and 12 miles northwest of the APE.
California red-legged frog (*Rana draytonii*)	FT, CSC	Inhabits perennial rivers, creeks, and stock ponds with vegetative cover within the Coast Range and northern Sierra foothills.	**Absent.** The APE and surrounding are unsuitable for this species. The APE does not provide suitable habitat for this species and is outside of its current known range. There are no recorded observations of this species within the 9-quad search on CNDDB.

Species	Status	Habitat	Occurrence on APE
California tiger salamander (*Ambystoma californiense*)	FT, CT, CWL	Requires vernal pools or seasonal ponds for breeding and small mammal burrows for aestivation. Generally found in grassland and oak savannah plant communities in central California from sea level to 1500 feet in elevation.	**Absent.** The APE does not provide suitable habitat for this species, no vernal pool or upland habitat with mammal burrows was present. The only recorded observation of this species was over 100 years ago and 8 miles south of the APE. The observation of this species is presumed to be extirpated.
Coast horned lizard (*Phrynosoma blainvilli*)	CSC	Found in grasslands, coniferous forests, woodlands, and chaparral, primarily in open areas with patches of loose, sandy soil and low-lying vegetation in valleys, foothills, and semi-arid mountains. Frequently found near ant hills and along dirt roads in lowlands along sandy washes with scattered shrubs.	**Absent.** The APE and surrounding are unsuitable for this species. The only recorded observation of this species was 128 years ago and 12 miles northeast of the APE.
Crotch bumble bee (*Bombus crotchii*)	CCE	Occurs throughout coastal California, as well as east to the Sierra-Cascade crest, and south into Mexico. Food plant genera include *Antirrhinum, Phacelia, Clarkia, Dendromecon, Eschscholzia*, and *Eriogonum*.	**Unlikely.** The APE and surrounding areas lack suitable foraging habitat and plant species. A crotch bumblebee could potentially pass through the area, but nesting and foraging habitat is absent due to land use. The most recent recorded observation of this species was 109 years ago and 3 miles southwest of the APE.
Delta smelt (Hypomesus transpacificus)	FT, CE	This pelagic and euryhaline species is Endemic to the Sacramento-San Joaquin River Delta, upstream through Contra Costa, Sacramento, San Joaquin, and Solano Counties.	**Absent.** Suitable perennial aquatic habitat for this species is absent from the APE and surrounding lands. There are no connections between streams that host Delta smelt and the canals that run through or past the APE. There are no recorded observations of this species within the 9-quad search on CNDDB.
Foothill yellow-legged frog (*Rana boylii*)	CCT, CSC	Frequents rocky streams and rivers with rocky substrate and open, sunny banks in forests, chaparral, and woodlands. Occasionally found in isolated pools, vegetated backwaters, and deep, shaded, spring-fed pools.	**Absent.** The APE and surrounding areas are unsuitable for this species. The only recorded observation of this species was 105 years ago and 8 miles northeast of the APE.
Fresno Kangaroo Rat (*Dipodomys nitratoides exilis*)	FE, CE	An inhabitant of alkali sink open grassland environments in western Fresno County. Prefers bare, alkaline, clay-based soils subject to seasonal inundation with more friable soil mounds around shrubs and grasses.	**Absent.** The APE and surrounding areas are unsuitable for this species. There are no recorded observations of this species within the 9-quad search on CNDDB.
Giant gartersnake (*Thamnophis gigas*)	FT, CT	Occurs in marshes, sloughs, drainage canals, irrigation ditches, rice fields, and adjacent uplands. Prefers locations with emergent vegetation for cover and open areas for basking. This species uses small mammal burrows adjacent to aquatic habitats for	**Absent.** The APE and surrounding areas are unsuitable for this species. There are no recorded observations of this species within the 9-quad search on CNDDB.

Species	Status	Habitat	Occurrence on APE
		hibernation in the winter and to escape from excessive heat in the summer.	
Loggerhead shrike (*Lanius ludovicianus*)	CSC	Frequents open habitats with sparse shrubs and trees, other suitable perches, bare ground, and low herbaceous cover. In the Central Valley, nests in riparian areas, desert scrub, and agricultural hedgerows.	**Unlikely.** The APE and surrounding areas are unsuitable for this species. The Loggerhead shrike could potentially pass over the APE, but it is unlikely they would be found within the APE. The only recorded observation of this species was 29 years ago and 13.5 miles southeast of the APE.
Monarch Butterfly (*Danaus plexippus*)	FC	Roosts located in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby. Larval host plants consist of milkweeds (*Asclepias* sp.). Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico.	**Absent.** The APE and surrounding areas are existing stormwater retention basins and residential houses with paved roads that are unsuitable for this species. There are no recorded observations of this species within the 9-quad search on CNDDB.
Northern California legless lizard (*Anniella pulchra*)	CSC	Found primarily underground, burrowing in loose, sandy soil. Forages in loose soil and leaf litter during the day. Occasionally observed on the surface at dusk and night.	**Unlikely.** The APE and surrounding areas are existing stormwater retention basins and residential houses with paved roads that are unsuitable for this species. The only recorded observation of this species was over 130 years ago and 12 miles northwest of the APE.
Pallid bat (*Antrozous pallidus*)	CSC	Found in grasslands, chaparral, and woodlands, where it feeds on ground- and vegetation-dwelling arthropods, and occasionally takes insects in flight. Prefers to roost in rock crevices, but may also use tree cavities, caves, bridges, and other man-made structures.	**Unlikely.** The APE and surrounding areas are existing stormwater retention basins and residential houses with paved roads that are unsuitable for this species. Roosting and foraging habitat is minimal, but a pallid bat could potentially pass through the area. The only recorded observation of this species was 20 years ago and 5 miles northwest of the APE.
San Joaquin kit fox (*Vulpes macrotis mutica*)	FE, CT	Underground dens with multiple entrances in alkali sink, valley grassland, and woodland in valleys and adjacent foothills.	**Unlikely.** The APE and surrounding areas are existing stormwater retention basins and residential houses with paved roads that are unsuitable for this species. The presence of coyotes in the Industrial Basin would deter this species from living there. The most recently recorded observation of this species was 18 years ago and 17 miles southeast of the APE. The closest recorded observation of this species was over 30 years ago and 5 miles north of the APE.
Swainson's Hawk (*Buteo swainsoni*)	CT	Nests in large trees in open areas adjacent to grasslands, grain or alfalfa fields, or livestock pastures suitable for supporting rodent populations.	**Possible.** The APE and surrounding areas are existing stormwater retention basins and residential houses with paved roads that are unsuitable for this species. While the APE does not

Species	Status	Habitat	Occurrence on APE
			contain large trees, the areas surrounding the APE contains suitable trees for nesting. The closest recorded observation of this species was 95 years ago and 5 miles south of the APE, the most recent recorded observation of this species was 4 years ago and 14 miles southeast of the APE.
Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*)	FT	Lives in mature elderberry shrubs of the Central Valley and foothills. Adults are active March to June.	**Absent.** The APE and surrounding areas are existing stormwater retention basins and residential houses with paved roads that are unsuitable for this species. No Elderberry shrubs were seen within the APE or surrounding areas during the biological survey. The closest recorded observation of this species was 30 years ago and 3.5 miles east of the APE, the most recent recorded observation of this species was 16 years ago and 8 miles northeast of the APE.
Vernal pool fairy shrimp (*Branchinecta lynchi*)	FT	Occupies vernal pools, clear to tea-colored water, in grass or mud-bottomed swales, and basalt depression pools.	**Absent.** The basins have riparian vegetation which indicate they hold water for long periods of time. This species only lives in ephemeral habitats and needs long periods of dry soils for rest-quiescent which makes the APE unsuitable for this species (USFWS, 2007). The most recent recorded observation of this species was 4 years ago and 14 miles south of the APE.
Vernal pool tadpole shrimp (*Lepidurus packardi*)	FE	Occurs in vernal pools, clear to tea-colored water, in grass or mud-bottomed swales, and basalt depression pools.	**Absent.** The basins have riparian vegetation which indicate they hold water for long periods of time. This species only lives in ephemeral habitats and needs long periods of dry soils for rest-quiescent which makes the APE unsuitable for this species (USFWS, n.d.). The most recent recorded observation of this species was 3 years ago and 14 miles southeast of the APE.
Western mastiff bat (*Eumops perotis californicus*)	CSC	Found in open, arid to semi-arid habitats, including dry desert washes, flood plains, chaparral, oak woodland, open ponderosa pine forest, grassland, and agricultural areas, where it feeds on insects in flight. Roosts most commonly in crevices in cliff faces but may also use high buildings and tunnels.	**Unlikely.** The APE and surrounding areas are existing stormwater retention basins and residential houses with paved roads that are unsuitable for this species. Roosting and foraging habitat is minimal, but a Western red bat could potentially pass through the area. The only recorded observation of this species was 122 years ago and 10.5 miles south of the APE.

Species	Status	Habitat	Occurrence on APE
Western pond turtle (*Emys marmorata*)	CSC	An aquatic turtle of ponds, marshes, slow-moving rivers, streams, and irrigation ditches with riparian vegetation. Requires adequate basking sites and sandy banks or grassy open fields to deposit eggs.	**Unlikely.** The APE and surrounding areas are existing stormwater retention basins surrounded by residential houses and paved roads that are unsuitable for this species. Upland habitat for hibernation and laying eggs is absent from the APE and surrounding areas. The only recorded observation of this species was 25 years ago and 11 miles northeast of the APE in Wahtoke Creek.
Western spadefoot (*Spea hammondii*)	CSC	Prefers open areas with sandy or gravelly soils, in a variety of habitats including mixed woodlands, grasslands, coastal sage scrub, chaparral, sandy washes, lowlands, river floodplains, alluvial fans, playas, alkali flats, foothills, and mountains. Vernal pools or temporary wetlands, lasting a minimum of three weeks, which do not contain bullfrogs, fish, or crayfish are necessary for breeding.	**Absent.** The APE and surrounding areas are existing stormwater retention basins and residential houses with paved roads that are unsuitable for this species. The most recently recorded observation of this species was 3 years ago and 14 miles southeast of the APE in Cottonwood Creek.
Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*)	FT, CE	Suitable nesting habitat in California includes dense riparian willow-cottonwood and mesquite habitats along a perennial river. Once a common breeding species in riparian habitats of lowland California, this species currently breeds consistently in only two locations in the State: along the Sacramento and South Fork Kern Rivers.	**Absent.** The APE and surrounding areas are existing stormwater retention basins and residential houses with paved roads that are unsuitable for this species. There is no suitable nesting habitat and there are only two locations where this species is known to breed. One is along the Sacramento River and the other is in the South Fork of the Kern River. The nearest recorded observation of this species was 123 years ago, 3 miles southwest of the APE and is presumed to be extirpated.

Table 4. List of Special Status Plants with Potential to Occur Onsite and/or in the Vicinity.

Species	*Status*	*Habitat*	*Occurrence on APE*
Alkali-sink goldfields (*Lasthenia chrysantha)*	CNPS 1B	This species is found in vernal pool and wet saline flat habitats. Occurrences are documented in the San Joaquin and Sacramento Valleys at elevations below 656 feet. Bloom period is from February - April.	**Absent.** Required soils are absent and anthropogenic disturbance makes the APE unsuitable for this species. The most recent recorded observation of this species was 4 years ago and 14 miles southeast of the APE.
Bristly sedge (*Carex comosa*)	CNPS 2B.1	Marshes and swamps, lake margins, wet places, coastal prairie, valley, and foothill grassland. Found at elevations between -16 feet and 3300 feet; site below sea level is on a Delta Island.	**Unlikely.** Required habitat is present within the APE, but this species was not seen during the field survey. The only recorded observation of this species was 32 years ago and 4 miles north of the APE.
Brittlescale (*Atriplex depressa*)	CNPS 1B	This species is found in the San Joaquin Valley and Sacramento Valley	**Absent.** Required soils are absent and anthropogenic disturbance makes the

Species	*Status*	*Habitat*	*Occurrence on APE*
		in alkaline or clay soils, typically in meadows or annual grassland at elevations below 1050 feet. It is sometimes associated with vernal pools. Bloom period is from June–October.	APE unsuitable for this species. The most recent recorded observation of this species was 53 years ago and 11.5 miles southeast of the APE.
California alkali grass (*Puccinellia simplex*)	CNPS 1B	This species is found in the San Joaquin Valley and other parts of California in saline flats and mineral springs within valley grassland and wetland-riparian communities at elevations below 3000 feet. Bloom period is from March–May.	**Absent.** Required soils are absent and anthropogenic disturbance makes the APE unsuitable for this species. The only recorded observation of this species was 4 years ago and 14 miles southeast of the APE.
California jewelflower (*Caulanthus californicus*)	FE, CE, CNPS 1B	This species is found in the San Joaquin Valley and Western Transverse Ranges in sandy soils. It occurs on flats and slopes, generally in non-alkaline grassland at elevations between 230 feet and 6100 feet. Bloom period is from February–April.	**Absent.** Required habitats are absent and anthropogenic disturbance makes the APE unsuitable for this species. The only recorded observation of this species in the region was 35 years ago, 11 miles northwest of the APE and is presumed to be extirpated.
California satintail (*Imperata brevifolia*)	CNPS 2B	Although this facultative species is equally likely to occur in wetlands and non-wetlands, it is often found in wet springs, meadows, streambanks, and floodplains at elevations below 1600 feet. Bloom period is from September – May.	**Unlikely.** Required habitat is present within the APE, but this species was not seen during the field survey. The nearest recorded observation was 88 years ago, 3.5 miles west of the APE. The most recent recorded observation was 51 years ago, 9 miles northeast of the APE.
Earlimart orache (*Atriplex cordulata var. erecticaulis*)	CNPS 1B	This species is found in the San Joaquin Valley in saline or alkaline soils, typically within valley and foothill grassland at elevations below 375 feet. Bloom period is from August–September.	**Absent.** Required soil is absent and anthropogenic disturbance makes the APE unsuitable for this species. The most recent recorded observation was 4 years ago, 14 miles southeast of the APE.
Greene's tuctoria (*Tuctoria greenei*)	FE, CR, CNPS 1B	This species is found in the San Joaquin Valley and other parts of California in vernal pools within valley grassland, wetland, and riparian communities at elevations below 3500 feet. Bloom period is from May – September.	**Unlikely.** Anthropogenic disturbance makes the APE unsuitable for this species. The only recorded observation of this species was 34 years ago and 9 miles north of the APE.
Lesser saltscale (*Atriplex minuscula*)	CNPS 1B	This species is found in the San Joaquin Valley in sandy, alkaline soils in alkali scrub, valley and foothill grassland, and alkali sink communities at elevations below 750 feet. Bloom period is from April–October.	**Absent.** Required soils are absent and anthropogenic disturbance makes the APE unsuitable for this species. The most recent recorded observation of this species was 5 years ago and 14.5 miles southeast of the APE.
Madera leptosiphon (*Leptosiphon serrulatus*)	CNPS 1B	Found in openings in foothill woodland, often yellow-pine forest, and chaparral at elevations between 1000 feet and 4300 feet. Bloom period is from April – May.	**Absent.** Required habitats are absent and the APE is outside of its elevational range making it unsuitable for this species. The only recorded observation of this species was 99 years ago and 12 miles southeast of the APE.

Species	*Status*	*Habitat*	*Occurrence on APE*
San Joaquin adobe sunburst (*Pseudobahia peirsonii*)	FT, CE, CNPS 1B	This species is found in the San Joaquin Valley and the Sierra Nevada Foothills in bare dark clay soils in valley and foothill grassland and cismontane woodland communities at elevations between 325 feet and 2950 feet. Bloom period is from March–May.	**Absent**. Required soils and habitat are absent and anthropogenic disturbance makes the APE unsuitable for this species. The most recent recorded observation of this species was 11 years ago, 9 miles northeast of the APE.
San Joaquin Valley Orcutt grass (*Orcuttia inaequalis*)	FT, CE, CNPS 1B	This species is found in the eastern San Joaquin Valley and the Sierra Nevada foothills in vernal pools within valley grassland, freshwater wetland, and wetland-riparian communities at elevations below 2600 feet. Bloom period is from April – September.	**Unlikely.** Anthropogenic disturbance makes the APE unsuitable for this species. The only recorded observation of this species was 34 years ago and 8.5 miles east of the APE.
Sanford's arrowhead (*Sagittaria sanfordii*)	CNPS 1B	This species is found in the San Joaquin Valley and other parts of California in freshwater-marsh, primarily ponds and ditches, at elevations below 1000 feet. Bloom period is from May–October.	**Possible.** Required habitat is present within the APE and this species may be found. The closest recorded observation of this species was 4 years ago and 5.5 miles northeast of the APE.
Spiny-sepaled button-celery (*Eryngium spinosepalum*)	CNPS 1B	This species is found in the Sierra Nevada Foothills and the San Joaquin Valley. Occurs in vernal pools, swales, and roadside ditches. Often associated with clay soils in vernal pools within grassland communities. Occurs at elevations between 50 feet and 4160 feet. Bloom period is from April–July.	**Unlikely.** Anthropogenic disturbance makes the APE unsuitable for this species. The only recorded observation of this species was 14 years ago and 11 miles northeast of the APE.
Winter's sunflower (*Helianthus winteri*)	CNPS 1B	Found in the Sierra Nevada foothills on steep, south-facing grassy slopes, rock outcrops, and road-cuts at elevations ranging from 600 feet to 1500 feet. Blooms year-round.	**Absent.** Required habitats are absent and anthropogenic disturbance makes the APE unsuitable for this species. The only recorded observation of this species was 6 years ago and 9.5 miles northeast of the APE.

EXPLANATION OF OCCURRENCE DESIGNATIONS AND STATUS CODES

Present:	Species observed on the site at time of field surveys or during recent past.
Likely:	Species not observed on the site, but it may reasonably be expected to occur there on a regular basis.
Possible:	Species not observed on the site, but it could occur there from time to time.
Unlikely:	Species not observed on the site, and would not be expected to occur there except, perhaps, as a transient.
Absent:	Species not observed on the site and precluded from occurring there due to absence of suitable habitat.

STATUS CODES

FE	Federally Endangered
FT	Federally Threatened
FPE	Federally Endangered (Proposed)
FPT	Federally Threatened (Proposed)
FC	Federal Candidate
CE	California Endangered
CT	California Threatened
CCT	California Threatened (Candidate)
CFP	California Fully Protected
CSC	California Species of Concern
CWL	California Watch List
CCE	California Endangered (Candidate)
CR	California Rare

CNPS LISTING

1A	Plants Presumed Extinct in California.
1B	Plants Rare, Threatened, or Endangered in California and elsewhere.
2A	Plants Presumed Extirpated in California, but more common elsewhere.
2B	Plants Rare, Threatened, or Endangered in

California, but more common elsewhere.

III. Impacts and Mitigation

Significance Criteria

CEQA

General plans, area plans, and specific projects are subject to the provisions of CEQA. The purpose of CEQA is to assess the impacts of proposed projects on the environment prior to project implementation. Impacts to biological resources are just one type of environmental impact assessed under CEQA and vary from project to project in terms of scope and magnitude. Projects requiring removal of vegetation would result in the mortality or displacement of animals associated with this vegetation. Animals adapted to humans, roads, buildings, and pets would replace those species formerly occurring on a site. Plants and animals that are State and/or federally listed as threatened or endangered would be destroyed or displaced. Sensitive habitats such as wetlands and riparian woodlands would be altered or destroyed. Such impacts would be considered either "significant" or "less than significant" under CEQA. According to CEQA, Statute and Guidelines (AEP 2012), "significant effect on the environment" means a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic interest. Specific project impacts to biological resources would be considered "significant" if they would:

- 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 CDFW or USFWS;
- 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 CDFW or USFWS;
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- 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.
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

Furthermore, CEQA Guidelines Section 15065(a) states that a project would trigger the requirement to make a "mandatory finding of significance" if the project has the potential to:

> "Substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of an endangered, rare, or threatened species, or eliminate important examples of the major periods of California history or prehistory."

Relevant Goals, Policies, and Laws

Fresno County General Plan

The Fresno County General Plan Policy Document contain the following goals and policies related to the Project:

Agriculture

Policy LU-A.1

> The County shall maintain agriculturally designated areas for agriculture use and shall direct urban growth away from valuable agricultural lands to cities, unincorporated communities, and other areas planned for such development where public facilities and infrastructure are available.

Water Quality

Policy OS-A.23

> The County shall protect groundwater resources from contamination and overdraft by pursuing the following efforts: a. Identifying and controlling sources of potential contamination; b. Protecting important groundwater recharge areas; c. Encouraging water conservation efforts and supporting the use of surface water for urban and agricultural uses wherever feasible; d. Encouraging the use of treated wastewater for groundwater recharge and other purposes (e.g., irrigation, landscaping, commercial, and nondomestic uses); e. Supporting consumptive use where it can be demonstrated that this use does not exceed safe yield and is appropriately balanced with surface water supply to the same area; f. Considering areas where recharge potential is determined to be high for designation as open space; and g. Developing conjunctive use of surface and groundwater.

Water Supply

Policy LU-E.11

> The County shall require subdividers of rural residential lots to install, provide, or participate in an effective means for utilization of available surface water entitlements for the area included in the subdivision, such as: a. Facilities to deliver surface water to each parcel; b. To develop a single recharge basin for the entire development (with necessary arrangements for its operation and maintenance); or c. To participate in the activities of a public agency to recharge the available supplies for the beneficial use of the properties within the development and the FCMA. The division shall not render inoperative any existing canal.

Policy PF-C.18

> In the case of lands entitled to surface water, the County shall approve only land use-related projects that provide for or participate in effective utilization of the surface water entitlement such as: a. Constructing facilities for the treatment and delivery of surface water to lands in question; b. Developing facilities for groundwater recharge of the surface water entitlement; c. Participating in the activities of a public agency charged with the responsibility for recharge of available water supplies for the beneficial use of the subject lands.

Policy PF-E.14

> The County shall encourage the use of retention-recharge basins for the conservation of water and the recharging of the groundwater supply.

Policy PF-E.17

The County shall encourage the local agencies responsible for flood control or storm drainage retention-recharge basins located in soil strata strongly conducive to groundwater recharge to develop and operate those basins in such a way as to facilitate year-round groundwater recharge.

Land Use

Policy OS-A.19

The County shall require the protection of floodplain lands and, where appropriate, acquire public easements for purposes of flood protection, public safety, wildlife preservation, groundwater recharge, access, and recreation.

Natural Resources

Policy OS-D.1

The County shall support the "no-net-loss" wetlands policies of the US Army Corps of Engineers, the US Fish and Wildlife Service, and the California Department of Fish and Game. Coordination with these agencies at all levels of project review shall continue to ensure that appropriate mitigation measures and the concerns of these agencies are adequately addressed.

Policy OS-E.1

The County shall support efforts to avoid the "net" loss of important wildlife habitat where practicable. In cases where habitat loss cannot be avoided, the County shall impose adequate mitigation for the loss of wildlife habitat that is critical to supporting special-status species and/or other valuable or unique wildlife resources. Mitigation shall be at sufficient ratios to replace the function, and value of the habitat that was removed or degraded. Mitigation may be achieved through any combination of creation, restoration, conservation easements, and/or mitigation banking. Conservation easements should include provisions for maintenance and management in perpetuity. The County shall recommend coordination with the US Fish and Wildlife Service and the California Department of Fish and Game to ensure that appropriate mitigation measures and the concerns of these agencies are adequately addressed. Important habitat and habitat components include nesting, breeding, and foraging areas, important spawning grounds, migratory routes, migratory stopover areas, oak woodlands, vernal pools, wildlife movement corridors, and other unique wildlife habitats (e.g., alkali scrub) critical to protecting and sustaining wildlife populations.

Threatened and Endangered Species

Permits would be required from the USFWS and/or CDFW if activities associated with a project have the potential to result in the "take" of a species listed as threatened or endangered under the federal and/or state Endangered Species Acts. Take is defined by the State of California as "to hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture or kill" (California Fish and Game Code, Section 86). Take is more broadly defined by the federal Endangered Species Act to include "harm" (16 United States Code (USC), Section 1532(19), 50 Code of Federal Regulation (CFR), Section 17.3). CDFW and USFWS are responsible agencies under CEQA and National Environmental Policy Act (NEPA). Both agencies review CEQA and NEPA documents in order to determine the adequacy of their treatment of endangered species issues and to make project-specific recommendations for their conservation.

Designated Critical Habitat

When species are listed as threatened or endangered, the USFWS often designates areas of "Critical Habitat" as defined by Section 3(5)(A) of the federal Endangered Species Act (ESA). Critical Habitat is a term defined in the ESA as a specific geographic area that contains features essential for the conservation of a threatened or endangered species and that would require special management and protection. Critical Habitat is a tool that supports the continued conservation of imperiled species by guiding cooperation with the federal government.

Designations only affect federal agency actions or federally funded or permitted activities. Critical Habitat does not prevent activities that occur within the designated area. Only activities that involve a federal permit, license, or funding and are likely to destroy or adversely modify Critical Habitat would be affected.

Migratory Birds

The Federal Migratory Bird Treaty Act (MBTA) (16 USC 703-712) prohibits killing, possessing, or trading in any bird species covered in one of four international conventions to which the United States is a party, except in accordance with regulations prescribed by the Secretary of the Interior. The name of the act is misleading, as it covers nearly all bird's native to the United States, even those that are non-migratory. The MBTA encompasses whole birds, parts of birds, nests, and eggs. Additionally, California Fish and Game Code makes it unlawful to take or possess any non-game bird covered by the MBTA (Section 3513), as well as any other native non-game bird (Section 3800).

Birds of Prey

Birds of prey are protected in California under provisions of Fish and Game Code (Section 3503.5), which states that it is unlawful to take, possess, or destroy any birds in the order Falconiformes (hawks and eagles) or Strigiformes (owls), as well as their nests and eggs. The Bald Eagle and Golden Eagle are afforded additional protection under the federal Bald and Golden Eagle Protection Act (16 USC 668), which makes it unlawful to kill birds or their eggs.

Nesting Birds

In California, protection is afforded to the nests and eggs of all birds. California Fish and Game Code (Section 3503) states that it is "unlawful to take, possess, or needlessly destroy the nest or eggs of any bird except as otherwise provided by this code or any regulation adopted pursuant thereto". Breeding-season disturbance that causes nest abandonment and/or loss of reproductive effort is considered a form of "take" by the CDFW.

Wetlands and other "Jurisdictional Waters"

Natural drainage channels and adjacent wetlands would be considered "waters of the United States" or "jurisdictional waters" subject to the jurisdiction of the USACE. The extent of jurisdiction has been defined in the Code of Federal Regulations but has also been subject to interpretation of the federal courts. Jurisdictional waters generally include:

- All waters which are currently used, or were used in the past, or would be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
- All interstate waters including interstate wetlands;
- All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation, or destruction of which could affect interstate or foreign commerce;
- All impoundments of waters otherwise defined as waters of the United States under the definition;
- Tributaries of waters identified in paragraphs the bulleted items above.

As determined by the United States Supreme Court in its 2001 Solid Waste Agency of Northern Cook County v. United States Army Corps of Engineers (SWANCC) decision, channels and wetlands isolated from other jurisdictional waters cannot be considered jurisdictional on the basis of their use, hypothetical or observed, by migratory birds. Similarly, in its 2006 consolidated Carabell/Rapanos decision, the Supreme Court ruled that a significant nexus between a wetland and other navigable waters must exist for the wetland itself to be considered a navigable and therefore jurisdictional water. Furthermore, the Supreme Court clarified that the United States

Environmental Protection Agency (USEPA) and the USACE would not assert jurisdiction over ditches excavated wholly in and draining only uplands and that do not carry a relatively permanent flow of water.

The USACE regulates the filling or grading of Waters of the United States under the authority of Section 404 of the Clean Water Act. The extent of jurisdiction within drainage channels is defined by "ordinary high-water marks" on opposing channel banks. All activities that involve the discharge of dredge or fill material into Waters of the United States are subject to the permit requirements of the USACE. Such permits are typically issued on the condition that the applicant agrees to provide mitigation that results in no net loss of wetland functions or values. No permit can be issued until the RWQCB issues a Section 401 Water Quality Certification (or waiver of such certification) verifying that the proposed activity would meet State water quality standards.

Under the Porter-Cologne Water Quality Control Act of 1969, the SWRCB has regulatory authority to protect the water quality of all surface water and groundwater in the State of California ("Waters of the State"). Nine RWQCBs oversee water quality at the local and regional level. The RWQCB for a given region regulates discharges of fill or pollutants into Waters of the State through the issuance of various permits and orders. Discharges into Waters of the State that are also Waters of the United States require a Section 401 Water Quality Certification from the RWQCB as a prerequisite to obtaining certain federal permits, such as a Section 404 Clean Water Act permit. Discharges into all Waters of the State, even those that are not also Waters of the United States., require Waste Discharge Requirements (WDRs), or waivers of WDRs, from the RWQCB. The RWQCB also administers the Construction Storm Water Program and the federal National Pollution Discharge Elimination System (NPDES) program. Projects that disturb one acre or more of soil must obtain a Construction General Permit under the Construction Storm Water Program. A prerequisite for this permit is the development of a Storm Water Pollution Prevention Plan (SWPPP) by a certified Qualified SWPPP Developer. Projects that discharge wastewater, storm water, or other pollutants into a Water of the United States would require a NPDES permit.

CDFW has jurisdiction over the bed and bank of natural drainages and lakes according to provisions of Section 1601 and 1602 of the California Fish and Game Code. Activities that would substantially modify such waters through the diversion or obstruction of their natural flow, change or use of any material from their bed or bank, or the deposition of debris require a notification of a Lake or Streambed Alteration. If CDFW determines that the activity would adversely affect fish and wildlife resources, a Lake or Streambed Alteration Agreement would be prepared. Such an agreement typically stipulates that certain measures would be implemented to protect the habitat values of the lake or drainage in question.

Potentially Significant Project-Related Impacts and Mitigation

Species identified as candidate, sensitive, or special status species in local or regional plans, policies, or regulations by CDFW or USFWS that have the potential to be impacted by the Project are identified below with corresponding mitigation measures.

Project-Related Mortality and/or Disturbance of Nesting Raptors, Migratory Birds, and Special Status Birds.

The areas surrounding the APE contains suitable nesting and/or foraging habitat for ground and tree nesting avian species. Although, no nests were observed at the time of survey, trees near the APE have the potential to host nesting birds. The areas surrounding the APE provides suitable nesting habitat for Swainson's Hawk and other raptors. Raptors could also potentially use residential land and surrounding agricultural areas for foraging.

If birds are nesting within the APE during construction, they have the potential to be injured or killed by Project-related activities. In addition to the direct "take" of nesting birds, nesting birds within the APE or adjacent areas could be disturbed by Project-related activities resulting in nest abandonment. Projects that adversely affect the nesting success of raptors and migratory birds or result in the mortality of individual birds is considered a violation of State and federal laws and are considered a potentially significant impact under CEQA.

Mitigation. The following measures would be implemented prior to the start of construction:

Mitigation Measure BIO-1a (*Avoidance*): The Project's construction activities would occur, if feasible, between September 16 and January 31 (outside of nesting bird season) in an effort to avoid impacts to nesting birds.

Mitigation Measure BIO-1b (*Pre-construction Surveys*): If activities must occur within nesting bird season (February 1 to September 15), a qualified biologist would conduct pre-construction surveys for Swainson's hawk nests onsite and within a 0.5-mile radius. This survey would be conducted in accordance with the *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley* or current guidance. The pre-construction survey would also provide a presence/absence survey for all other nesting birds within the APE and an additional 50 feet, no more than 7 days prior to the start of construction. All raptor nests would be considered "active" upon the nest-building stage.

Mitigation Measure BIO-1c (*Establish Buffers*): On discovery of any active nests near work areas, the biologist would determine appropriate construction setback distances based on applicable CDFW and/or USFWS guidelines and/or the biology of the species in question. Construction buffers would be identified with flagging, fencing, or other easily visible means, and would be maintained until the biologist has determined that the nestlings have fledged and are no longer dependent on the nest.

Project-Related Mortality and/or Disturbance of Coyotes

Evidenced of active coyote dens were observed within the Industrial Basin. Although coyotes are not a protected species, to ensure no harm comes to those residing within the basin the following is recommended.

Mitigation Measure BIO-2a *(Pre-construction Survey):* A qualified biologist shall conduct a pre-construction survey to determine if the existing coyote dens are still active in the Industrial Basin 30 days prior to ground disturbing activities. If dens are found to be active exclusion of this species from the site will be necessary. If dens are found inactive, immediate destruction of the dens should occur under the direction of a qualified biologist.

Mitigation Measure BIO-2b *(Exclusion):* A qualified biologist will install one-way doors to ensure the coyotes are unable to reenter dens. Exclusion fencing will be installed around the Industrial Basin as to not allow the species to reenter the APE. Den eviction will occur outside of pupping season March – September (USDA Forest Service, 2020), and in accordance with CDFW's recommendations. If the survey cannot occur before pupping season March - September, then full avoidance will be required.

Mitigation Measure BIO-2c *(Avoidance):* If work must occur within pupping season March – September a disturbance-free buffer be placed around the area with appropriate entrance and exit areas as not to disturb the adults or the pups until it has been determined that the pups have been weaned and full eviction occurs with use of one-way doors.

Project-Related Impacts to Special Status Plants

Sensitive natural communities or special status plants were not observed within the surveyed areas at the time of the biological reconnaissance survey, however there is the potential for Sanford's Arrowhead to occur on the edges of the basins within the APE. There is potential for Project activities to impact individual plants.

In order to ensure protection of rare plant species and sensitive natural communities and/or compensate for a potential loss, it is recommended that the Project proponent proceed with a focused botanical survey. If special status plants or sensitive natural communities are detected onsite, the Project proponent will need to initiate consultation with CDFW and/or USFWS to determine if the loss would represent a significant impact and if that impact can be reduced or compensated for.

Mitigation Measure BIO-3a *(Focused Survey):* A qualified botanist/biologist will conduct a pre-construction survey for Sanford's Arrowhead during the bloom season (May-October) in accordance with CDFW's *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities* (2018), in all basins 30 days prior to vegetation clearing or ground disturbing activities. If construction cannot occur during the species' bloom period (May-October), then a focused survey will be required.

Mitigation Measure BIO-3b *(Avoidance):* If Sanford's Arrowhead are identified during the survey, a disturbance-free buffer will be placed around the area as not to disturb the plants or its root system.

Mitigation measure BIO-3c *(Formal Consultation):* If rare plant individuals or populations or sensitive natural communities are detected within Project work areas during the focused survey, the Project proponent shall initiate consultation with CDFW. If CDFW determines that "take" cannot be avoided, the Project proponent may be required to obtain an Incidental Take Permit (ITP).

Less Than Significant Project-Related Impacts

Project-Related Impacts to Special Status Animal Species Absent From, or Unlikely to Occur on, the Project Site

Of the 24 regionally occurring special status species, 23 are considered absent from or unlikely to occur within the APE due to past or ongoing disturbance and/or the absence of suitable habitat. As explained in Table 3, the following 15 species were deemed absent from occurring within the APE: blunt-nosed leopard lizard, California glossy snake, California Red-legged frog, California Tiger Salamander, Coast horned lizard, Delta Smelt, Foothill yellow-legged frog, Fresno kangaroo rat, Giant gartersnake, Monarch butterfly, Valley elderberry longhorn beetle, vernal pool fairy shrimp, vernal pool tadpole shrimp, western spadefoot and western yellow-billed cuckoo. The following 8 species were deemed unlikely to occur within the APE: Burrowing owl, Crotch bumble bee, Loggerhead Shrike, Northern California legless lizard, Pallid bat, San Joaquin kit fox, western pond turtle, and western mastiff bat. Since it is unlikely that these species would occur onsite, implementation of the Project should have no impact on these 23 special status species through construction mortality, disturbance, or loss of habitat. Mitigation measures are not warranted.

Project-Related Impacts to Special Status Plant Species

Of the 15 special status plant species documented in the APE 14 are considered absent or unlikely from occurring within the APE due to past or ongoing disturbance and/or the absence of suitable habitat. As explained in Table 4, the following species were deemed absent from the APE: alkali-sink goldfields, bristly sedge, brittlescale, California alkali grass, California jewelflower, California satintail, Earlimart orache, Greene's tuctoria, lesser saltscale, Madera leptosiphon, San Joaquin adobe sunburst, San Joaquin Valley Orcutt grass, spiny-sepaled button-celery, and Winter's sunflower. Since it is unlikely that these species would occur onsite, implementation of the Project would have no impact on these 14 special status species through construction mortality, disturbance, or loss of habitat. Mitigation measures are not warranted.

Project-Related Impacts to Riparian Habitat and Natural Communities of Special Concern

There are no CNDDB-designated "natural communities of special concern" recorded within the APE or surrounding lands. Mitigation measures are not warranted.

Project-Related Impacts to Regulated Waters, Wetlands, and Water Quality

Potential Waters of the United States, riparian habitat, typical wetlands, vernal pools, lakes, or streams, and other sensitive natural communities were not observed onsite at the time of the biological survey. Although a wetland was listed within the Milton basin on the National Wetland Inventory database (National Wetlands Inventory map, 2021), groundwater recharge basins are manmade structures designed to provide water infiltration to remove pollutant found in stormwater runoff. Continued and on-going maintenance is required

and includes scraping the bottom of accumulated sediment and debris to provide optimal infiltration. As such these basins should not require additional regulatory involvement. However, it is recommended that the Project proponent get confirmation from the regulatory agencies prior to any disturbance in that area.

Additionally, since construction would involve ground disturbance over an area greater than one acre, the Project would be required to obtain a Construction General Permit under the Construction Storm Water Program administered by the SWRCB. A prerequisite for this permit is the development of a Storm Water Pollution Prevention Plan (SWPPP) to ensure construction activities do not adversely affect water quality.

Project-Related Impacts to Wildlife Movement Corridors and Native Wildlife Nursery Sites.

Most of the APE does not contain features that would be likely to function as wildlife movement corridors. The canals could be potentially used as wildlife movement corridors, but the disturbance would be temporary and minimal. Furthermore, the Project is located in an area regularly disturbed by humans which would discourage dispersal and migration. Therefore, the Project would have no impact on wildlife movement corridors. Mitigation measures are not warranted.

Project-Related Impacts to Critical Habitat.

Designated critical habitat is absent from the APE and surrounding lands. Therefore, there would be no impact to critical habitat. Mitigation measures are not warranted.

Local Policies or Habitat Conservation Plans.

The Fresno Basin Plan has a Policy OS-D.1 supporting the protection and no net loss of wetlands. A wetland was identified within the Milton basin on the National Wetland Inventory database (National Wetlands Inventory map, 2021). The Milton basin is a manmade structure built prior to 1984, houses surrounding the basin were built between 1959 and 1992. The stormwater basin needs to be regularly maintained to perform effectively, and to our understanding, it is not considered a wetland. This would mean there is no net loss of wetlands in the area and the Project appears to be consistent with all of the goals and policies of the Fresno County General Plan Policy Document. There are no known habitat conservation plans (HCPs) or a Natural Community Conservation Plan (NCCP) in the Project vicinity. Mitigation measures are not warranted.

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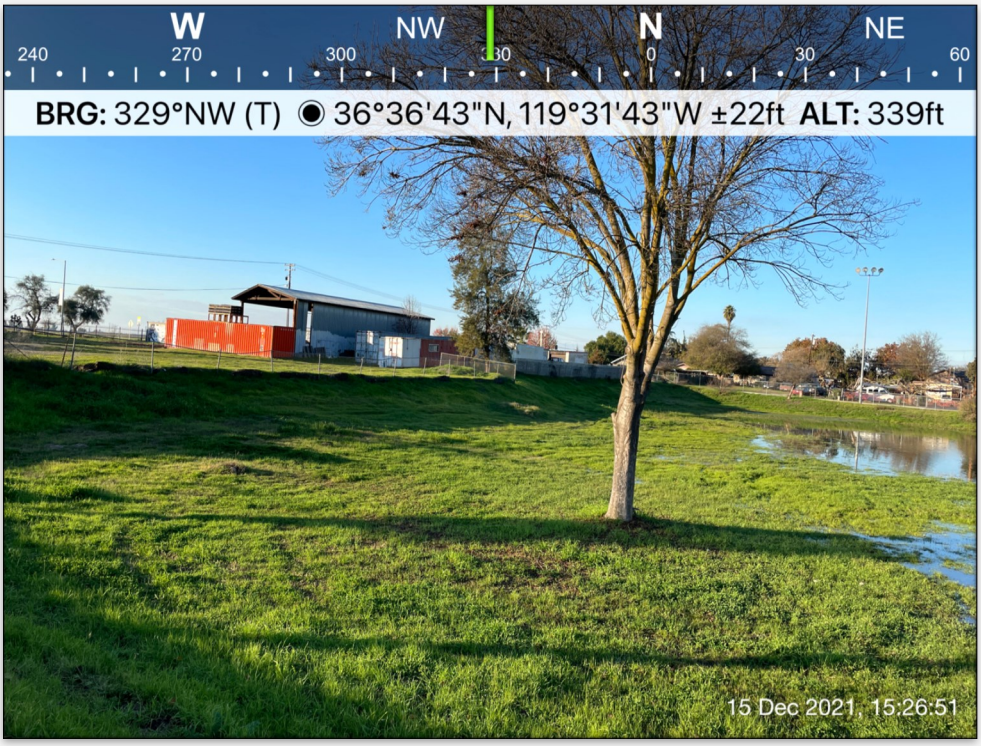
Appendix A: Photographs of the Project

COUNCIL FOR WATERSHED HEALTH

CITY OF PARLIER FLOOD CONTROL AND GROUNDWATER BANKING PROJECT

Photograph 1

Overview of location for new Richard Flores Basin Pipeline.



Photograph 2

Overview location of where new Richard Flores Basin Pipeline will connect to existing Richard Flores Basin.

Photograph 3

Overview location of where new Richard Flores Basin Pipeline will connect to Consolidated Irrigation District (CID) Harp Ditch.

Photograph 4

Photograph of surrounding land past new Richard Flores Basin Pipeline, outside the APE.

Photograph 5

Existing Avila Stormwater Basin which will be converted into a groundwater recharge basin.

Photograph 6

Overview of location for new Avila Basin Pipeline which will connect to CID Harp Ditch.

Photograph 7

Example of surrounding land past Avila Basin, outside the APE.

Photograph 8

Another example of surrounding land past Avila Basin, outside the APE.

Photograph 9

Existing Manning Storm-water Basin which will be converted into a groundwa-ter recharge basin.

Photograph 10

Overview of location for new Manning Basin Pipeline which will connect to CID Harp Ditch.

Photograph 11

Example of surrounding land past Manning Basin, outside the APE.

Photograph 12

Another example of surrounding land past Manning Basin, outside the APE.

Photograph 13

Existing Tuolumne Stormwater Basin which will be converted into a groundwater recharge basin.

Photograph 14

Another photo of existing Tuolumne Stormwater Basin, showing riparian vegetation.

Photograph 15

Overview of location for new Tuolumne Basin Pipeline which will connect to CID Santa Fe Canal.

Photograph 16

Example of surrounding land past Tuolumne Basin, outside the APE.

Photograph 17

Existing Veterans Park Stormwater Basin which will be converted into a groundwater recharge basin.

Photograph 18

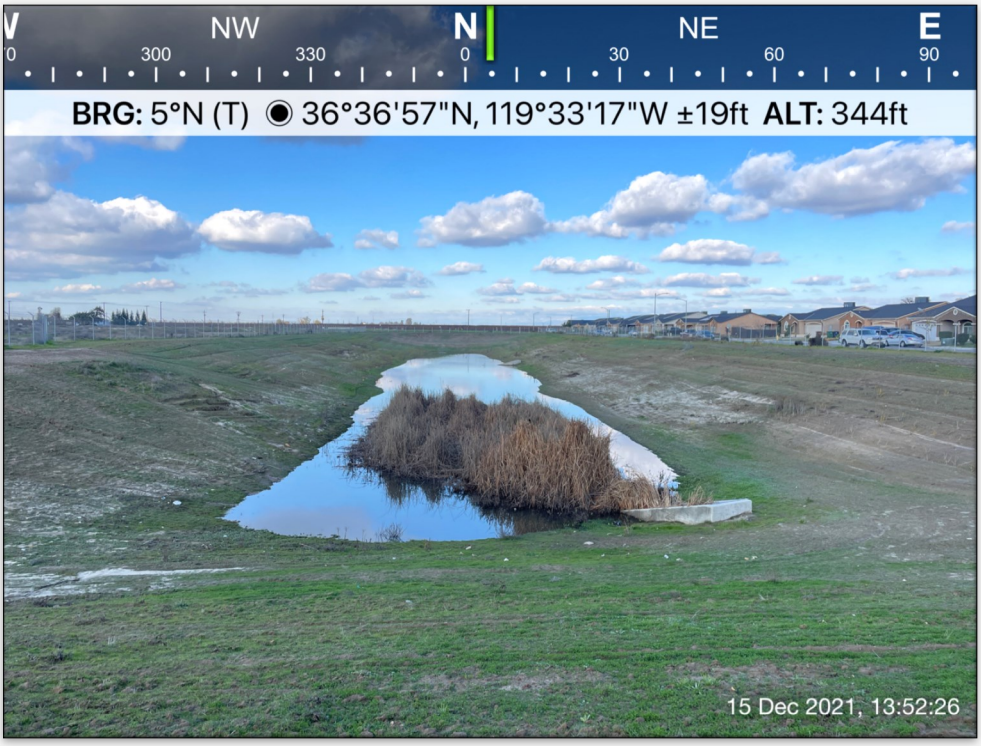
Another photo of existing Veterans Park Stormwater Basin, showing riparian vegetation.

Photograph 19

Overview of location for new Veterans Park Basin Pipeline which will connect to CID Santa Fe Canal.

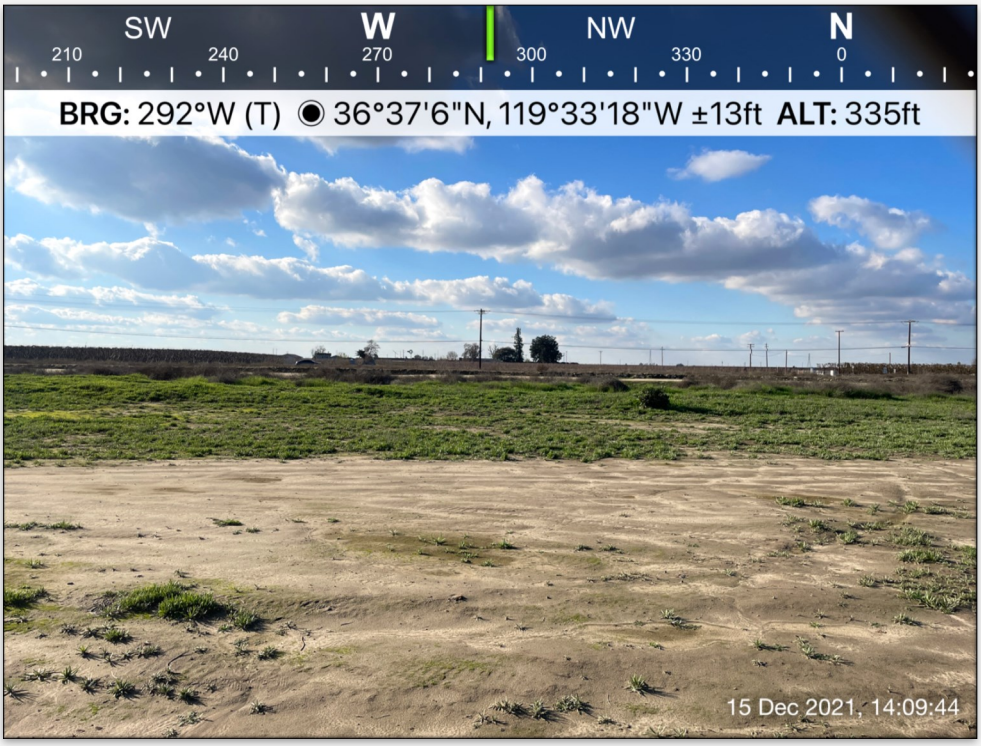
Photograph 20

Example of surrounding land past Veterans Park Basin, outside the APE.



Photograph 21

Existing Foothill Storm-water Basin which will be converted into a groundwa-ter recharge basin.



Photograph 22

Overview of location for new Foothill Basin Pipeline which will connect to CID Kingsburg Branch Canal.

Photograph 23

Example of surrounding land past Foothill Basin, outside the APE.

Photograph 24

Another example of surrounding land past Foothill Basin, outside the APE.

Photograph 25

Existing Milton Stormwater Basin which will be converted into a groundwater recharge basin.

Photograph 26

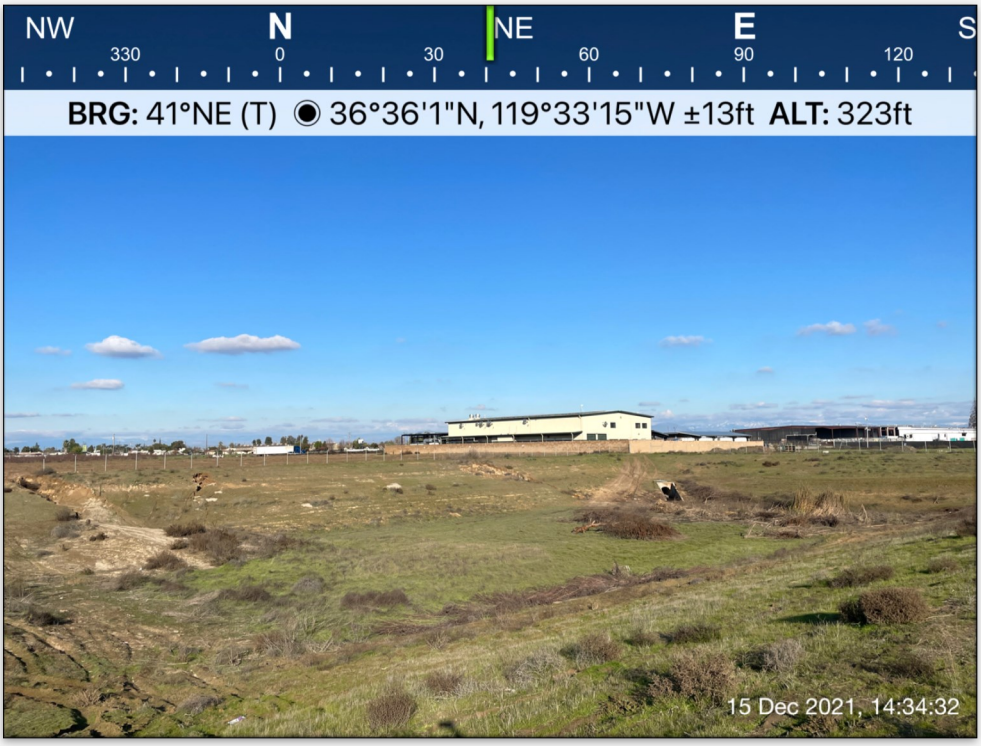
Another photo of existing Milton Stormwater Basin, showing riparian vegetation.

Photograph 27

Overview of location for new Milton Basin Pipeline which will connect to CID Kingsburg Branch Canal.

Photograph 28

Example of surrounding land past Milton Basin, outside the APE.



Photograph 29

Existing Industrial Stormwater Basin which will be converted into a groundwater recharge basin.

Photograph 30

Another photo of the existing Industrial Stormwater Basin, showing riparian vegetation.

Photograph 31

Overview of location for new Industrial Basin Pipeline which will connect to CID Kingsburg Branch Canal.

Photograph 32

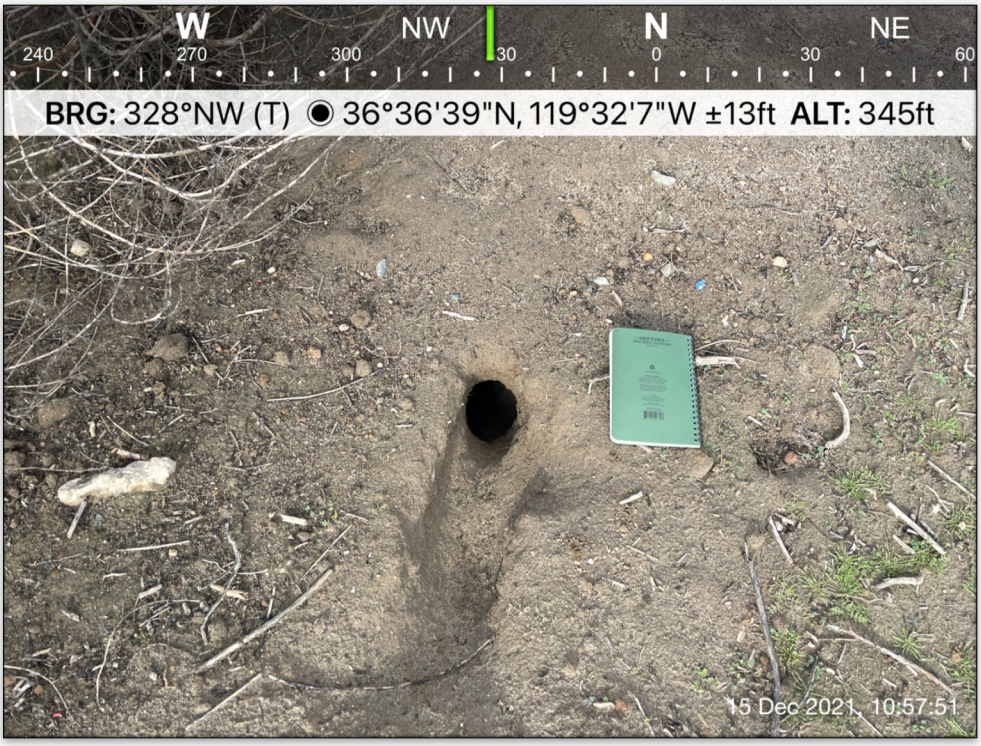
Overview of location where new Industrial Basin Pipeline will connect to Kingsburg Branch Canal.

Photograph 33

Photograph of surrounding land past Industrial Basin, outside the APE.

Photograph 34

Photograph of surrounding land past Industrial Basin, outside the APE.



Photograph 35

Example of mammal burrows seen in basins.

Photograph 36

Large den found within Industrial Basin. Tracks indicate coyotes are present at this basin.

Appendix B: CNDDB Quad Search

COUNCIL FOR WATERSHED HEALTH

CITY OF PARLIER FLOOD CONTROL AND GROUNDWATER BANKING PROJECT

Selected Elements by Common Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Selma (3611955) OR Malaga (3611966) OR Sanger (3611965) OR Wahtoke (3611964) OR Reedley (3611954) OR Traver (3611944) OR Burris Park (3611945) OR Laton (3611946) OR Conejo (3611956))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
alkali-sink goldfields *Lasthenia chrysantha*	PDAST5L030	None	None	G2	S2	1B.1
Antioch efferian robberfly *Efferia antiochi*	IIDIP07010	None	None	G1G2	S1S2	
bristly sedge *Carex comosa*	PMCYP032Y0	None	None	G5	S2	2B.1
brittlescale *Atriplex depressa*	PDCHE042L0	None	None	G2	S2	1B.2
burrowing owl *Athene cunicularia*	ABNSB10010	None	None	G4	S3	SSC
California alkali grass *Puccinellia simplex*	PMPOA53110	None	None	G3	S2	1B.2
California glossy snake *Arizona elegans occidentalis*	ARADB01017	None	None	G5T2	S2	SSC
California jewelflower *Caulanthus californicus*	PDBRA31010	Endangered	Endangered	G1	S1	1B.1
California linderiella *Linderiella occidentalis*	ICBRA06010	None	None	G2G3	S2S3	
California satintail *Imperata brevifolia*	PMPOA3D020	None	None	G4	S3	2B.1
California tiger salamander - central California DPS *Ambystoma californiense pop. 1*	AAAAA01181	Threatened	Threatened	G2G3	S3	WL
coast horned lizard *Phrynosoma blainvillii*	ARACF12100	None	None	G3G4	S3S4	SSC
Crotch bumble bee *Bombus crotchii*	IIHYM24480	None	None	G3G4	S1S2	
Earlimart orache *Atriplex cordulata var. erecticaulis*	PDCHE042V0	None	None	G3T1	S1	1B.2
foothill yellow-legged frog *Rana boylii*	AAABH01050	None	Endangered	G3	S3	SSC
Great Valley Mixed Riparian Forest *Great Valley Mixed Riparian Forest*	CTT61420CA	None	None	G2	S2.2	
Greene's tuctoria *Tuctoria greenei*	PMPOA6N010	Endangered	Rare	G1	S1	1B.1
hoary bat *Lasiurus cinereus*	AMACC05030	None	None	G3G4	S4	
Hurd's metapogon robberfly *Metapogon hurdi*	IIDIP08010	None	None	G1G2	S1S2	

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
lesser saltscale *Atriplex minuscula*	PDCHE042M0	None	None	G2	S2	1B.1
loggerhead shrike *Lanius ludovicianus*	ABPBR01030	None	None	G4	S4	SSC
Madera leptosiphon *Leptosiphon serrulatus*	PDPLM09130	None	None	G3	S3	1B.2
molestan blister beetle *Lytta molesta*	IICOL4C030	None	None	G2	S2	
Morrison bumble bee *Bombus morrisoni*	IIHYM24460	None	None	G4G5	S1S2	
Northern California legless lizard *Anniella pulchra*	ARACC01020	None	None	G3	S3	SSC
Northern Claypan Vernal Pool *Northern Claypan Vernal Pool*	CTT44120CA	None	None	G1	S1.1	
pallid bat *Antrozous pallidus*	AMACC10010	None	None	G4	S3	SSC
San Joaquin adobe sunburst *Pseudobahia peirsonii*	PDAST7P030	Threatened	Endangered	G1	S1	1B.1
San Joaquin kit fox *Vulpes macrotis mutica*	AMAJA03041	Endangered	Threatened	G4T2	S2	
San Joaquin Valley Orcutt grass *Orcuttia inaequalis*	PMPOA4G060	Threatened	Endangered	G1	S1	1B.1
Sanford's arrowhead *Sagittaria sanfordii*	PMALI040Q0	None	None	G3	S3	1B.2
spiny-sepaled button-celery *Eryngium spinosepalum*	PDAPI0Z0Y0	None	None	G2	S2	1B.2
Swainson's hawk *Buteo swainsoni*	ABNKC19070	None	Threatened	G5	S3	
valley elderberry longhorn beetle *Desmocerus californicus dimorphus*	IICOL48011	Threatened	None	G3T2	S3	
Valley Sacaton Grassland *Valley Sacaton Grassland*	CTT42120CA	None	None	G1	S1.1	
vernal pool fairy shrimp *Branchinecta lynchi*	ICBRA03030	Threatened	None	G3	S3	
vernal pool tadpole shrimp *Lepidurus packardi*	ICBRA10010	Endangered	None	G4	S3S4	
western mastiff bat *Eumops perotis californicus*	AMACD02011	None	None	G4G5T4	S3S4	SSC
western pond turtle *Emys marmorata*	ARAAD02030	None	None	G3G4	S3	SSC
western spadefoot *Spea hammondii*	AAABF02020	None	None	G2G3	S3	SSC

Selected Elements by Common Name

California Department of Fish and Wildlife

California Natural Diversity Database

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
western yellow-billed cuckoo *Coccyzus americanus occidentalis*	ABNRB02022	Threatened	Endangered	G5T2T3	S1	
Winter's sunflower *Helianthus winteri*	PDAST4N260	None	None	G2?	S2?	1B.2

Record Count: 42

Appendix C: IPaC Search

COUNCIL FOR WATERSHED HEALTH

CITY OF PARLIER FLOOD CONTROL AND GROUNDWATER BANKING PROJECT

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: December 14, 2021
Consultation Code: 08ESMF00-2022-SLI-0592
Event Code: 08ESMF00-2022-E-01748
Project Name: Parlier Groundwater Banking Project

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

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, 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: 08ESMF00-2022-SLI-0592
Event Code: Some(08ESMF00-2022-E-01748)
Project Name: Parlier Groundwater Banking Project
Project Type: WATER SUPPLY / DELIVERY
Project Description: The proposed City of Parlier (City) Groundwater Banking Project is a capital improvement project that proposed to design and construct the conversion of the seven (7) existing stormwater retention basins listed below into groundwater recharge basins and connecting these basins and an additional basin – eight basins total - to Consolidated Irrigation District (CID) facilities (open canals and buried pipelines) with approximately 7,800 linear feet (lf) of buried 48” diameter pipelines, associated turnouts, pump stations, and metering facilities.

The following is a list of all the basins with their approximate acreages and connecting CID facility:
1. Foothill Basin - 3.8 acres – Kingsburg Branch
2. Veterans Park Basin - 2.24 acres – Santa Fe Canal
3. Milton Basin - 3.34 acres – Kingsburg Branch
4. Industrial Basin - 3.1 acres – Kingsburg Branch
5. Tuolumne Basin - 3.99 acres – Santa Fe Canal
6. Avila Basin - 1.42 acres – Harp Ditch
7. Manning Basin - 1.51 acres – Harp Ditch

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@36.61263905,-119.53172072847579,14z

Counties: Fresno County, California

Endangered Species Act Species

There is a total of 9 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
Fresno Kangaroo Rat *Dipodomys nitratoides exilis* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/5150	Endangered
San Joaquin Kit Fox *Vulpes macrotis mutica* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2873	Endangered

Reptiles

NAME	STATUS
Blunt-nosed Leopard Lizard *Gambelia silus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/625	Endangered
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. The location of the critical habitat is not available.
Species profile: https://ecos.fws.gov/ecp/species/2891

California Tiger Salamander *Ambystoma californiense*	Threatened

Population: U.S.A. (Central CA DPS)
There is **final** critical habitat for this species. The location of the critical habitat is not available.
Species profile: https://ecos.fws.gov/ecp/species/2076

Fishes

NAME	STATUS
Delta Smelt *Hypomesus transpacificus*	Threatened

There is **final** critical habitat for this species. The location of the critical habitat is not available.
Species profile: https://ecos.fws.gov/ecp/species/321

Insects

NAME	STATUS
Monarch Butterfly *Danaus plexippus*	Candidate

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/9743

Crustaceans

NAME	STATUS
Vernal Pool Fairy Shrimp *Branchinecta lynchi*	Threatened

There is **final** critical habitat for this species. The location of the critical habitat is not available.
Species profile: https://ecos.fws.gov/ecp/species/498

Critical habitats

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

Appendix D: NRCS Soils Report

COUNCIL FOR WATERSHED HEALTH

CITY OF PARLIER FLOOD CONTROL AND GROUNDWATER BANKING PROJECT

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 Eastern Fresno Area, California

Parlier Groundwater Banking Project

December 14, 2021

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

alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

Contents

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.

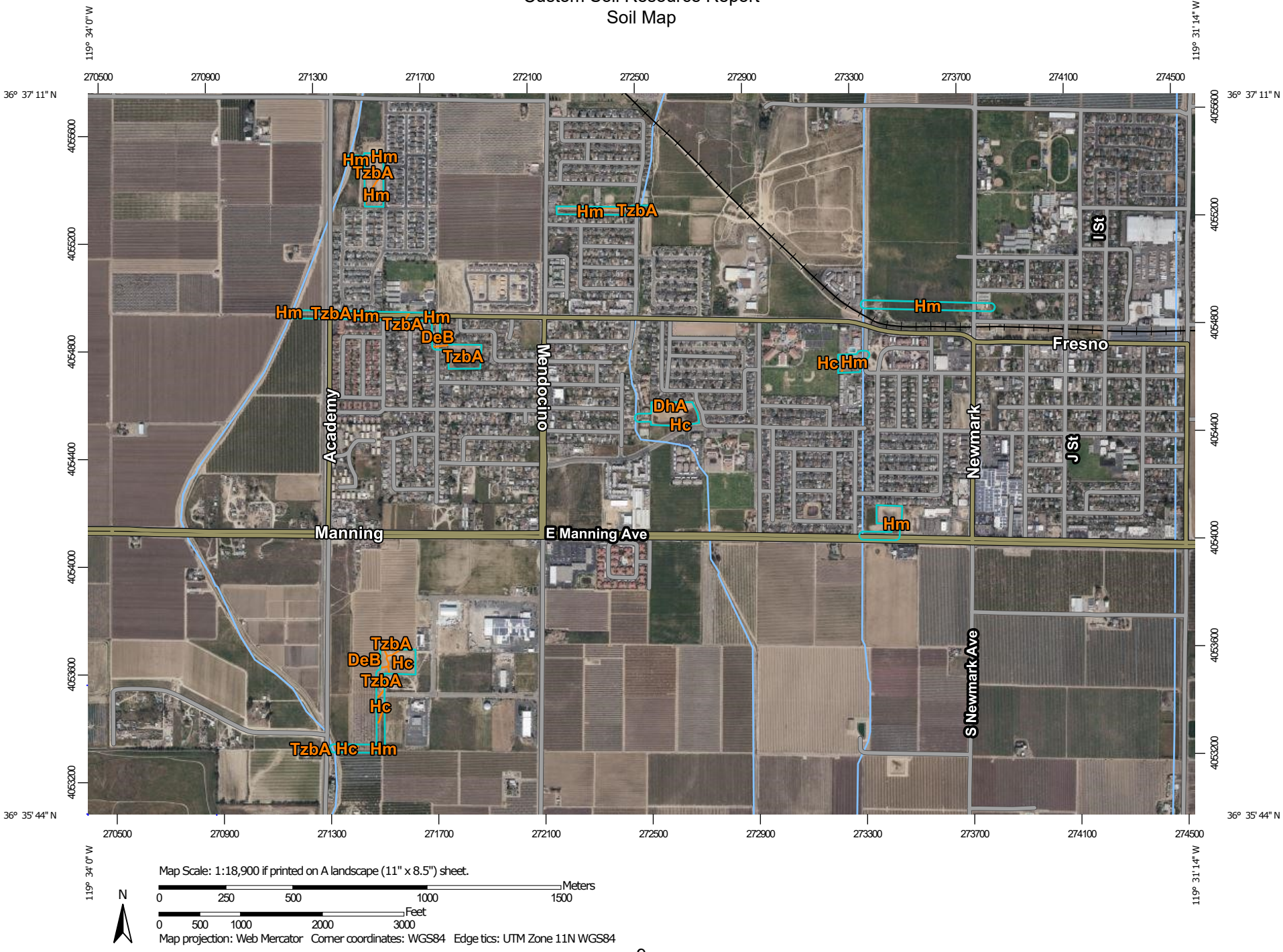
After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

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 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.

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: Eastern Fresno Area, California
Survey Area Data: Version 14, Sep 3, 2021

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

Date(s) aerial images were photographed: Feb 28, 2020—Mar 5, 2020

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
DeB	Delhi sand, 3 to 9 percent slopes	1.2	3.6%
DhA	Delhi loamy sand, 0 to 3 percent slopes, MLRA 17	3.9	11.8%
Hc	Hanford sandy loam	3.8	11.5%
Hm	Hanford fine sandy loam	15.7	47.2%
TzbA	Tujunga loamy sand, 0 to 3 percent slopes	8.6	25.9%
Totals for Area of Interest		**33.3**	**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.

Eastern Fresno Area, California

DeB—Delhi sand, 3 to 9 percent slopes

Map Unit Setting

National map unit symbol: hl3f
Elevation: 230 to 400 feet
Mean annual precipitation: 9 to 12 inches
Mean annual air temperature: 61 to 63 degrees F
Frost-free period: 225 to 250 days
Farmland classification: Not prime farmland

Map Unit Composition

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

Description of Delhi

Setting

Landform: Dunes on fan remnants
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear, concave
Across-slope shape: Linear
Parent material: Eolian deposits derived from alluvium derived from granite

Typical profile

A - 0 to 7 inches: sand
C1 - 7 to 25 inches: sand
C2 - 25 to 60 inches: sand

Properties and qualities

Slope: 3 to 9 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 4.7 inches)

Interpretive groups

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

Minor Components

Unnamed, steeper slopes

Percent of map unit: 15 percent
Landform: Dunes on fan remnants
Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Side slope
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: No

DhA—Delhi loamy sand, 0 to 3 percent slopes, MLRA 17

Map Unit Setting

National map unit symbol: 2ss8r
Elevation: 30 to 430 feet
Mean annual precipitation: 9 to 16 inches
Mean annual air temperature: 59 to 64 degrees F
Frost-free period: 225 to 310 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

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

Description of Delhi

Setting

Landform: Dunes on fan remnants
Landform position (two-dimensional): Shoulder, toeslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Eolian deposits derived from sandy alluvium derived from granite

Typical profile

A - 0 to 7 inches: loamy sand
C1 - 7 to 25 inches: loamy sand
C2 - 25 to 60 inches: loamy sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.0 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 4.2 inches)

Interpretive groups

Land capability classification (irrigated): 3s
Land capability classification (nonirrigated): 4e

Hydrologic Soil Group: A
Hydric soil rating: No

Minor Components

Hanford
Percent of map unit: 6 percent
Landform: Depressions on fan remnants
Hydric soil rating: No

Dello
Percent of map unit: 6 percent
Landform: Depressions on fan remnants
Hydric soil rating: Yes

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

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

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

Hc—Hanford sandy loam

Map Unit Setting
National map unit symbol: hl5f
Elevation: 200 to 500 feet
Mean annual precipitation: 8 to 15 inches
Mean annual air temperature: 61 to 63 degrees F
Frost-free period: 250 to 275 days
Farmland classification: Prime farmland if irrigated

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

Description of Hanford

Setting
Landform: Flood plains, alluvial fans
Landform position (two-dimensional): Toeslope, footslope
Landform position (three-dimensional): Base slope, rise
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from granite

Typical profile

Ap - 0 to 16 inches: sandy loam
C - 16 to 72 inches: sandy loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 7.8 inches)

Interpretive groups

Land capability classification (irrigated): 2s
Land capability classification (nonirrigated): 4s
Hydrologic Soil Group: A
Ecological site: R017XY904CA - Subirrigated Deep Alluvial Fans
Hydric soil rating: No

Minor Components

Unnamed

Percent of map unit: 10 percent
Landform: Flood plains, alluvial fans
Hydric soil rating: No

Unnamed, channeled

Percent of map unit: 5 percent
Landform: Channels on alluvial fans
Hydric soil rating: No

Hm—Hanford fine sandy loam

Map Unit Setting

National map unit symbol: hl5p
Elevation: 200 to 500 feet
Mean annual precipitation: 8 to 15 inches
Mean annual air temperature: 61 to 63 degrees F
Frost-free period: 250 to 275 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

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

Description of Hanford

Setting

Landform: Flood plains, alluvial fans
Landform position (two-dimensional): Toeslope, footslope
Landform position (three-dimensional): Base slope, rise
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from granite

Typical profile

A - 0 to 16 inches: fine sandy loam
C - 16 to 72 inches: fine sandy loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 7.8 inches)

Interpretive groups

Land capability classification (irrigated): 1
Land capability classification (nonirrigated): 4c
Hydrologic Soil Group: A
Ecological site: R017XY904CA - Subirrigated Deep Alluvial Fans
Hydric soil rating: No

Minor Components

Unnamed, loam

Percent of map unit: 10 percent
Landform: Flood plains
Hydric soil rating: No

Unnamed, steeper slopes

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

Unnamed

Percent of map unit: 1 percent
Landform: Drainageways on flood plains
Hydric soil rating: Yes

TzbA—Tujunga loamy sand, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: hlc1
Elevation: 180 to 400 feet
Mean annual precipitation: 8 to 12 inches
Mean annual air temperature: 62 to 64 degrees F
Frost-free period: 225 to 275 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

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

Description of Tujunga

Setting

Landform: Alluvial fans, flood plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from granite

Typical profile

A - 0 to 4 inches: loamy sand
C - 4 to 60 inches: stratified sand to loamy sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: NoneOccasional
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 4.2 inches)

Interpretive groups

Land capability classification (irrigated): 4s
Land capability classification (nonirrigated): 4s
Hydrologic Soil Group: A
Ecological site: R017XY906CA - Non-Alkali San Joaquin Valley Desert
Hydric soil rating: No

Minor Components

Unnamed, loamy coarse sand

Percent of map unit: 12 percent
Landform: Flood plains, alluvial fans
Hydric soil rating: No

Unnamed, compact substratum

Percent of map unit: 2 percent
Landform: Flood plains, alluvial fans
Hydric soil rating: No

Unnamed, flooded

Percent of map unit: 1 percent
Landform: Flood plains
Hydric soil rating: Yes

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Appendix C: Cultural Resources Class III Inventory/Phase I Survey

CLASS III INVENTORY/PHASE I SURVEY, PARLIER GROUNDWATER BANKING PROJECT, FRESNO COUNTY, CALIFORNIA

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MANAGEMENT SUMMARY

An intensive Class III cultural resources inventory/Phase I survey was conducted for the City of Parlier Groundwater Banking Project (Project), Fresno County, California. ASM Affiliates, Inc., conducted this study, with David S. Whitley, Ph.D., RPA, serving as principal investigator. The study was undertaken to assist with compliance with Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, and the California Environmental Protection Act (CEQA).

A records search of site files and maps was obtained from the Southern San Joaquin Valley Archaeological Information Center, California State University, Bakersfield. These investigations determined that five studies had covered portions of the Project area of potential effect (APE), and that three cultural resources had been recorded within it. These are the Kingsburg – Centerville Canal, Santa Fe Canal and Burlington Northern Santa Fe railroad grade.

The Class III inventory/Phase I survey fieldwork was conducted in January 2022 with parallel transects spaced at 15-meter intervals walked along the approximately 21.2-acre APE. No historical resources or properties were discovered within the project area. Two of the three previously recorded resources, the Santa Fe Canal and Burlington Northern Santa Fe railroad grade, are no longer present within the City of Parlier and thus the Project APE. Three segments of the Kingsburg – Centerville Canal were documented during the survey. This cultural resource was recommended as not eligible to the National Register of Historic Places in 2001. We concur with that recommendation due to this resource's lack of integrity of materials, workmanship, design, setting and feel, and also recommend it as not eligible for the California Register of Historical Places. No additional cultural resources of any kind were identified within the Project APE.

Based on these results, the City of Parlier Groundwater Banking Project does not have the potential to result in significant impacts or adverse effects to historical resources or historic properties.

1. INTRODUCTION AND REGULATORY CONTEXT

ASM Affiliates, Inc., was retained by the Provost and Pritchard Consulting Group to conduct an intensive Class III inventory/Phase I cultural resources survey for the Parlier Groundwater Banking Project. This is located in the City of Parlier, Fresno County, California (Figure 1). The study was undertaken to assist with compliance with NHPA Section 106 and CEQA. The investigation was conducted, specifically, to ensure that significant impacts or adverse effects to historical resources or historic properties do not occur as a result of project construction.

This current study included:

- A background records search and literature review to determine if any known cultural resources were present in the project zone and/or whether the area had been previously and systematically studied by archaeologists;
- An on-foot, intensive inventory of the area of potential effect (APE) to identify and record previously undiscovered cultural resources and to examine known sites; and
- A preliminary assessment of any such resources found within the subject property.

David S. Whitley, Ph.D., RPA, served as principal investigator and Robert Azpitarte, B.A., ASM Associate Archaeologist, conducted the fieldwork.

This document constitutes a report on the Class III inventory/Phase I survey. Subsequent chapters provide background to the investigation, including historic context studies; the findings of the archival records search; Native American consultation; a summary of the field surveying techniques employed; and the results of the fieldwork. We conclude with management recommendations for the study area.

1.1 PROJECT LOCATION

The Project will involve nine separate APEs within and surrounding the City of Parlier, California. Parlier is approximately 4 miles (mi) west of Reedley and 2-mi northeast of Selma. The Kings River runs north-south through Reedley and is thus also about 4-mi east of the Project.

1.2 PROJECT DESCRIPTION AND APE

The proposed Project is a capital improvement project to design and construct the conversion of the seven existing stormwater retention basins listed below into groundwater recharge basins. It will include connecting these basins and an additional basin to Consolidated Irrigation District (CID) facilities (open canals and buried pipelines) with approximately 7,800 linear feet (lf) of buried 48” diameter pipelines, with associated turnouts, pump stations, and metering facilities.

The following is a list of all of the basins within the APE, their approximate acreages, and their connection to a CID facility:

- Foothill Basin - 3.8 acres (ac) – Kingsburg Branch

- Veterans Park Basin - 2.24-ac – Santa Fe Canal
- Milton Basin - 3.34-ac – Kingsburg Branch
- Industrial Basin - 3.1-ac – Kingsburg Branch
- Tuolumne Basin - 3.99-ac – Santa Fe Canal
- Avila Basin - 1.42-ac – Harp Ditch
- Manning Basin - 1.51-ac – Harp Ditch

The Richard Flores Basin is being improved as a separate project funded by the Proposition 68 Urban Flood Protection Grant Program; however, a new pipe connection to the CID Harp Ditch will be designed and constructed as part of this Project.

This Project intends to improve and recharge the groundwater under the City to help mitigate the City's pumping for municipal water uses. It is likely that implementation of the Project will be phased, depending on available funding.

The APE for the project is defined as the area of potential ground surface disturbance resulting from project construction and use. It includes construction/grading, lay-down and work areas. The horizontal APE is 21.2-ac. The vertical APE, consisting of the maximum depth of potential grading and earth disturbance, is 10-ft, the proposed maximum excavation depth for the pipelines.

1.3 REGULATORY CONTEXT

1.3.1 CEQA

CEQA is applicable to discretionary actions by state or local lead agencies. Under CEQA, lead agencies must analyze impacts to cultural resources. Significant impacts under CEQA occur when "historically significant" or "unique" cultural resources are adversely affected, which occurs when such resources could be altered or destroyed through project implementation. Historically significant cultural resources are defined by eligibility for or by listing in the California Register of Historical Resources (CRHR). In practice, the federal NRHP criteria (below) for significance applied under Section 106 are generally (although not entirely) consistent with CRHR criteria (see PRC § 5024.1, Title 14 CCR, Section 4852 and § 15064.5(a)(3)).

Significant cultural resources are those archaeological resources and historical properties that:

(A) Are associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

(B) Are associated with the lives of persons important in our past;

(C) Embody the distinctive characteristics of a type, period, region, or method of construction, or represent the work of an important creative individual, or possess high artistic values; or

(D) Have yielded, or may be likely to yield, information important in prehistory or history.

Unique resources under CEQA, in slight contrast, are those that represent:

> An archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:
>
> (1) Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.
>
> (2) Has a special and particular quality such as being the oldest of its type or the best available example of its type.
>
> (3) Is directly associated with a scientifically recognized important prehistoric or historic event or person (PRC § 21083.2(g)).

Preservation in place is the preferred approach under CEQA to mitigating adverse impacts to significant or unique cultural resources.

1.3.2 NHPA Section 106

NHPA Section 106 is applicable to federal undertakings, including projects financed or permitted by federal agencies regardless of whether the activities occur on federally managed or privately-owned land. Its purpose is to determine whether adverse effects will occur to significant cultural resources, defined as "historical properties" that are listed in or determined eligible for listing in the National Register of Historic Places (NRHP). The criteria for NRHP eligibility are defined at 36 CFR § 60.4 as follows:

> The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and that:
>
> (A) are associated with events that have made a significant contribution to the broad patterns of our history; or
>
> (B) are associated with the lives of persons significant in our past; or
>
> (C) embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
>
> (D) have yielded or may be likely to yield, information important in prehistory or history.

There are, however, restrictions on the kinds of historical properties that can be NRHP listed. These have been identified by the Advisory Council on Historic Preservation (ACHP), as follows:

> Ordinarily cemeteries, birthplaces, or graves of historical figures, properties owned by religious institutions or used for religious purposes, structures that have been moved from their original locations, reconstructed historic buildings, properties primarily commemorative in nature, and properties that have achieved significance within the past

50 years shall not be considered eligible for the National Register. However, such properties will qualify if they are integral parts of districts that do meet the criteria or if they fall within the following categories:

(a) A religious property deriving primary significance from architectural or artistic distinction or historical importance; or

(b) A building or structure removed from its original location but which is significant primarily for architectural value, or which is the surviving structure most importantly associated with a historic person or event; or

(c) A birthplace or grave of a historical figure of outstanding importance if there is no appropriate site or building directly associated with his productive life.

(d) A cemetery which derives its primary significance from graves of persons of transcendent importance, from age, from distinctive design features, or from association with historic events; or

(e) A reconstructed building when accurately executed in a suitable environment and presented in a dignified manner as part of a restoration master plan, and when no other building or structure with the same association has survived; or

(f) A property primarily commemorative in intent if design, age, tradition, or symbolic value has invested it with its own exceptional significance; or

(g) A property achieving significance within the past 50 years if it is of exceptional importance. (http://www.achp.gov/nrcriteria.html)

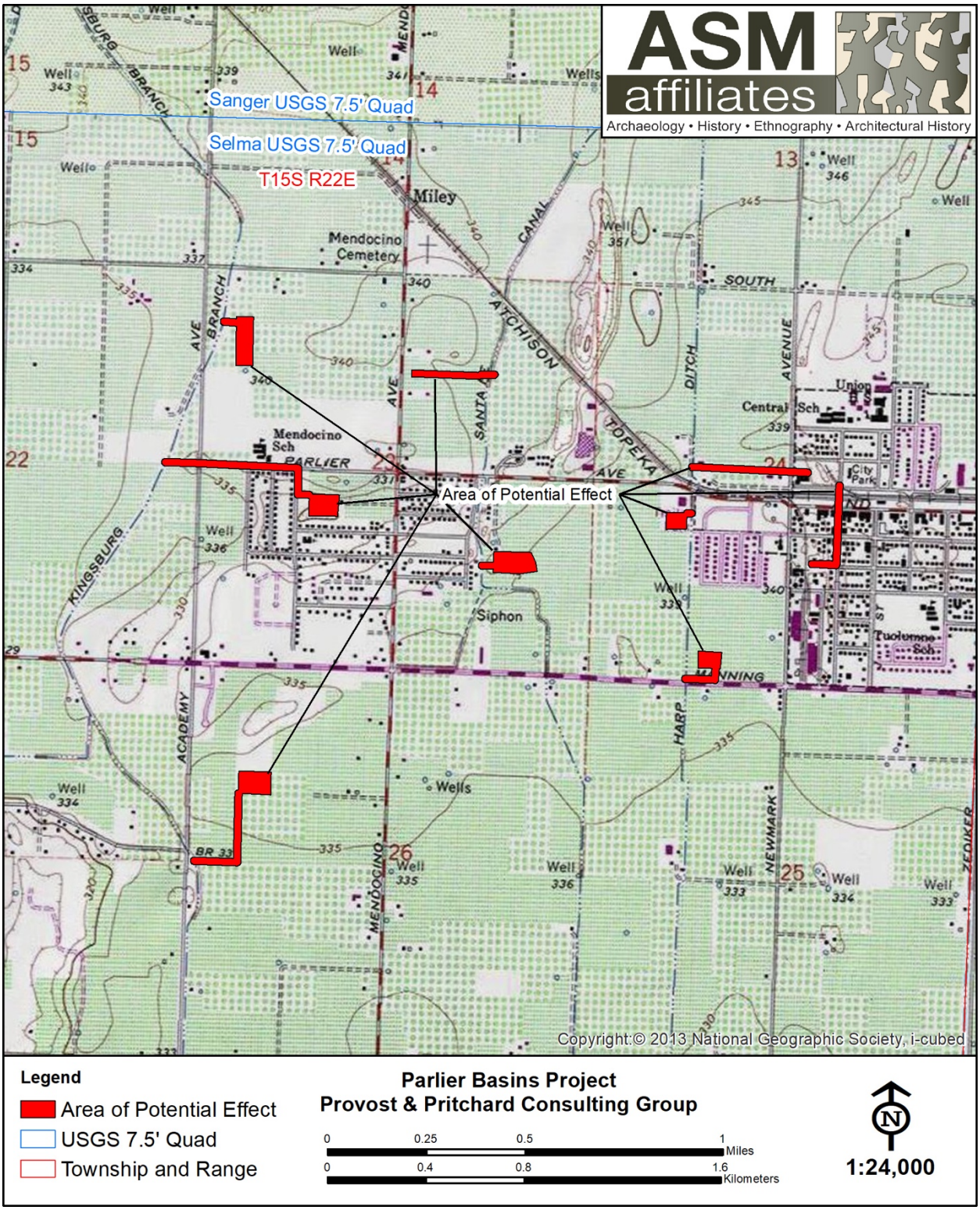

Figure 1. Location of the Parlier Groundwater Banking Project, Fresno County, California.

2. ENVIRONMENTAL AND CULTURAL BACKGROUND

2.1 ENVIRONMENTAL BACKGROUND AND GEOARCHAEOLOGICAL SENSITIVITY

The APE includes seven basins and three pipeline routes located on the open flats of the San Joaquin Valley between 335 and 340 feet (ft) above mean sea level (amsl). More specifically, the APEs are located on the Kings River Fan, created by the Kings River (to the east). This is a perennial stream that is the biggest source of water and alluvium for Tulare Lake. The fan itself falls at the rate of 4-ft/mile and is thus has the gentlest slope of the alluvial fans created by the streams draining the western Sierra in the San Joaquin Valley (Preston 1981).

Prior to the appearance of agriculture, starting in the nineteenth century, this location would have been prairie grasslands, grading into riparian environments and marshlands further west toward the north bank of Tulare Lake (ibid). The study area and immediate surroundings have been urbanized and/or farmed, grazed and developed for many years and no native vegetation is present. Perennial bunchgrasses such as purple needlegrass and nodding needlegrass most likely would have been the dominant plant cover in the study area prior to cultivation. Currently, the APEs consist of existing basins and pipeline routes in a suburban setting.

According to the geoarchaeological model developed by Meyer et al. (2010), the study area has a moderate potential for buried archaeological deposits. However, the seven existing basins will be modified to serve as recharge basins. They have thus already been excavated and are in heavily disturbed locations. The likelihood for intact buried archaeological deposits is therefore considered very low for this Project.

2.2 ETHNOGRAPHIC BACKGROUND

Penutian-speaking Yokuts tribal groups occupied the southern San Joaquin Valley region and much of the nearby Sierra Nevada. Ethnographic information about the Yokuts was collected primarily by Powers (1971, 1976 [originally 1877]), Kroeber (1925), Gayton (1930, 1948), Driver (1937), Latta (1977), and Harrington (n.d.). For a variety of historical reasons, existing research information emphasizes the central Yokuts tribes who occupied both the valley and particularly the foothills of the Sierra. The northernmost tribes suffered from the influx of Euro-Americans during the Gold Rush and their populations were in substantial decline by the time ethnographic studies began in the early twentieth century. In contrast, the southernmost tribes were partially removed by the Spanish to missions and eventually absorbed into multi-tribal communities on the Sebastian Indian Reservation (on Tejon Ranch), and later the Tule River Reservation and Santa Rosa Rancheria to the north, as well as other reservations in the foothills and Sierras. The result is an unfortunate scarcity of ethnographic detail on valley tribes, especially in relation to the rich information collected from the central foothills tribes where native speakers of the Yokuts dialects are still found. Regardless, the general details of indigenous life-ways were similar across the

broad expanse of Yokuts territory, particularly in terms of environmentally influenced subsistence and adaptation and with regard to religion and belief, which were similar everywhere.

Following Kroeber (1925: Plate 47), the study area most likely lies in *Wechihit* (*Wechikit* in Latta [1977:163]) Yokuts territory. The closest village for this group was *Weweyo*, across the Kings River and thus more than 4-mi east of the study APE.

Most Yokuts groups, regardless of specific tribal affiliation, were organized as a recognized and distinct tribelet; a circumstance that almost certainly pertained to the tribal groups noted above. Tribelets were land-owning groups organized around a central village and linked by shared territory and descent from a common ancestor. The population of most tribelets ranged from about 150 to 500 peoples (Kroeber 1925).

Each tribelet was headed by a chief who was assisted by a variety of assistants, the most important of whom was the *winatum*, a herald or messenger and assistant chief. A shaman also served as religious officer. While shamans did not have any direct political authority, as Gayton (1930) has illustrated, they maintained substantial influence within their tribelet.

Shamanism is a religious system common to most Native American tribes. It involves a direct and personal relationship between the individual and the supernatural world enacted by entering a trance or hallucinatory state (usually based on the ingestion of psychotropic plants, such as jimsonweed or more typically native tobacco). Shamans were considered individuals with an unusual degree of supernatural power, serving as healers or curers, diviners, and controllers of natural phenomena (such as rain or thunder). Shamans also produced the rock art of this region, depicting the visions they experienced in vision quests believed to represent their spirit helpers and events in the supernatural realm (Whitley 1992, 2000).

The centrality of shamanism to the religious and spiritual life of the Yokuts was demonstrated by the role of shamans in the yearly ceremonial round. The ritual round, performed the same each year, started in the spring with the jimsonweed ceremony, followed by rattlesnake dance and (where appropriate) first salmon ceremony. After returning from seed camps, fall rituals began in the late summer with the mourning ceremony, followed by first seed and acorn rites and then bear dance (Gayton 1930:379). In each case, shamans served as ceremonial officials responsible for specific dances involving a display of their supernatural powers (Kroeber 1925).

Subsistence practices varied from tribelet to tribelet based on the environment of residence. Throughout Native California, and Yokuts territory in general, the acorn was a primary dietary component, along with a variety of gathered seeds. Valley tribes augmented this resource with lacustrine and riverine foods, especially fish and wildfowl. As with many Native California tribes, the settlement and subsistence rounds included the winter aggregation into a few large villages, where stored resources (like acorns) served as staples, followed by dispersal into smaller camps, often occupied by extended families, where seasonally available resources would be gathered and consumed.

Although population estimates vary and population size was greatly affected by the introduction of Euro-American diseases and social disruption, the Yokuts were one of the largest, most

successful groups in Native California. Cook (1978) estimates that the Yokuts region contained 27 percent of the aboriginal population in the state at the time of contact; other estimates are even higher. Many Yokut descendants continue to live in Fresno County, either on tribal reservations, or in local towns and communities.

2.3 PRE-CONTACT ARCHAEOLOGICAL BACKGROUND

The southern San Joaquin Valley region has received minimal archaeological attention compared to other areas of the state. In part, this is because the majority of California archaeological work has concentrated in the Sacramento Delta, Santa Barbara Channel, and central Mojave Desert areas (see Moratto 1984). Although knowledge of the region's prehistory is limited, enough is known to determine that the archaeological record is broadly similar to south-central California as a whole (see Gifford and Schenk 1926; Hewes 1941; Wedel 1941; Fenenga 1952; Elsasser 1962; Fredrickson and Grossman 1977; Schiffman and Garfinkel 1981). Based on these sources, the general prehistory of the region can be outlined as follows.

Initial occupation of the region occurred at least as early as the *Paleoindian Period*, or prior to about 10,000 years before present (YBP). Evidence of early use of the region is indicated by characteristic fluted and stemmed points found around the margin of Tulare Lake, in the foothills of the Sierra, and in the Mojave Desert proper.

Both fluted and stemmed points are particularly common around lake margins, suggesting a terminal Pleistocene/early Holocene lakeshore adaptation similar to that found throughout the far west at the same time; little else is known about these earliest peoples. Over 250 fluted points have been recovered from the Witt Site (CA-KIN-32), located along the western shoreline of ancient Tulare Lake north of the study area, demonstrating the importance of this early occupation in the San Joaquin Valley specifically (see Fenenga 1993). An additional find consists of a Clovis-like projectile point discovered in a flash-flood cut-bank near White Oak Lodge in 1953 on Tejon Ranch (Glennan 1987a, 1987b). More recently, a similar fluted point was found near Bakersfield (Zimmerman et al. 1989), and a number are known from the Edwards Air Force Base and Boron area of the western Mojave Desert. Although human occupation of the state is well-established during the Late Pleistocene, relatively little can be inferred about the nature and distribution of this occupation with a few exceptions. First, little evidence exists to support the idea that people at that time were big-game hunters, similar to those found on the Great Plains. Second, the western Mojave Desert evidence suggests small, very mobile populations that left a minimal archaeological signature. The evidence from the ancient Tulare Lake shore, in contrast, suggests much more substantial population and settlements which, instead of relying on big game hunting, were tied to the lacustrine lake edge. Variability in subsistence and settlement patterns is thus apparent in California, in contrast to the Great Plains.

Substantial evidence for human occupation across California, however, first occurs during the middle Holocene, roughly 7,500 to 4,000 YBP. This period is known as the *Early Horizon*, or alternatively as the Early Millingstone along the Santa Barbara Channel. In the south, populations concentrated along the coast with minimal visible use of inland areas. Adaptation emphasized hard seeds and nuts with tool-kits dominated by mullers and grindstones (manos and metates). Additionally, little evidence for Early Horizon occupation exists in most inland portions of the

state, partly due to a severe cold and dry paleoclimatic period occurring at this time, although a site deposit dating to this age has been identified along the ancient Buena Vista shoreline in Kern County to the south (Rosenthal et al. 2007). Regardless of specifics, Early Horizon population density was low with a subsistence adaptation more likely tied to plant food gathering than hunting.

Environmental conditions improved dramatically after about 4,000 YBP during the *Middle Horizon* (or Intermediate Period). This period is known climatically as the Holocene Maximum (circa 3,800 YBP) and was characterized by significantly warmer and wetter conditions than previously experienced. It was marked archaeologically by large population increase and radiation into new environments along coastal and interior south-central California and the Mojave Desert (Whitley 2000). In the Delta region to the north, this same period of favorable environmental conditions was characterized by the appearance of the Windmiller culture which exhibited a high degree of ritual elaboration (especially in burial practices) and perhaps even a rudimentary mound-building tradition (Meighan, personal communication, 1985). Along with ritual elaboration, Middle Horizon times experienced increasing subsistence specialization, perhaps correlating with the appearance of acorn processing technology. Penutian speaking peoples (including the Yokuts) are also posited to have entered the state roughly at the beginning of this period and, perhaps to have brought this technology with them (cf. Moratto 1984). Likewise, it appears the so-called "Shoshonean Wedge" in southern California, the Takic speaking groups that include the Gabrielino/Fernandeño, Tataviam and Kitanemuk, may have moved into the region at that time (Sutton 2009), rather than at about 1500 YBP as first suggested by Kroeber (1925).

Evidence for Middle Horizon occupation of interior south-central California is substantial. For example, in northern Los Angeles County along the upper Santa Clara River, to the south of the San Joaquin Valley, the Agua Dulce village complex indicates occupation extending back to the Intermediate Period, when the population of the village may have been 50 or more people (King et al n.d.). Similarly, inhabitation of the Hathaway Ranch region near Lake Piru, and the Newhall Ranch near Valencia, appears to date to the Intermediate Period (W & S Consultants 1994). To the west, little or no evidence exists for pre-Middle Horizon occupation in the upper Sisquoc and Cuyama River drainages; populations first appear there at roughly 3,500 YBP (Horne 1981). The Carrizo Plain, the valley immediately west of the San Joaquin, experienced a major population expansion during the Middle Horizon (W & S Consultants 2004; Whitley et al. 2007), and recently collected data indicates the Tehachapi Mountains region was first significantly occupied during the Middle Horizon (W & S Consultants 2006). A parallel can be drawn to the inland Ventura County region where a similar pattern has been identified (Whitley and Beaudry 1991), as well as the western Mojave Desert (Sutton 1988a, 1988b), the southern Sierra Nevada (W & S Consultants 1999), and the Coso Range region (Whitley et al. 1988). In all of these areas a major expansion in settlement, the establishment of large site complexes and an increase in the range of environments exploited appear to have occurred sometime roughly around 4,000 years ago. Although most efforts to explain this expansion have focused on local circumstances and events, it is increasingly apparent this was a major southern California-wide occurrence and any explanation must be sought at a larger level of analysis (Whitley 2000). Additionally, evidence from the Carrizo Plain suggests the origins of the tribelet level of political organization developed during this period (W & S Consultants 2004; Whitley et al. 2007). Whether this same demographic process holds for the southern San Joaquin Valley, including the study area, is yet to be determined.

The beginning of the *Late Horizon* is set variously at 1,500 and 800 YBP, with a growing archaeological consensus for the shorter chronology. Increasing evidence suggests the importance of the Middle-Late Horizons transition (A.D. 800 to 1200) in the understanding of south-central California prehistory. This corresponds to the so-called Medieval Climatic Anomaly, followed by the Little Ice Age, and this general period of climatic instability extended to about A.D. 1860. It included major droughts matched by intermittent "mega-floods," and resulted in demographic disturbances across much of the west (Jones et al. 1999). It is believed to have resulted in major population decline and abandonments across south-central California, involving as much as 90% of the interior populations in some regions, including the Carrizo Plain (Whitley et al. 2007). It is not clear whether site abandonment was accompanied by a true reduction in population or an agglomeration of the same numbers of peoples into fewer but larger villages in more favorable locations. Population along the Santa Barbara coast appears to have spiked at about the same time that it collapsed on the Carrizo Plain (ibid). Along Buena Vista Lake, in Kern County, population appears to have been increasingly concentrated towards the later end of the Medieval Climatic Anomaly (Culleton 2006), and population intensification also appears to have occurred in the well-watered Tehachapi Mountains during this same period (W & S Consultants 2006).

What is then clear is that Middle Period villages and settlements were widely dispersed across the south-central California landscape, including in the Sierras and the Mojave Desert. Many of these sites are found at locations that lack existing or known historical fresh water sources. Late Horizon sites, in contrast, are typically concentrated in areas where fresh water was available during the historical period, if not currently.

One extensively studied site that shows evidence of intensive occupation during the Middle-Late Horizons transition (~1,500 – 500 YBP) is the Redtfeldt Mound (CA-KIN-66/H), located northwest of the current study area, near the north shore of ancient Tulare Lake. There, Siefkin (1999) reported on human burials and a host of artifacts and ecofacts excavated from a modest-sized mound. He found that both Middle Horizon and Middle-Late Horizons transition occupations were more intensive than Late Horizon occupations, which were sporadic and less intensive (Siefkin 1999:110-111).

The Late Horizon can then be understood as a period of recovery from a major demographic collapse. One result is the development of regional archaeological cultures as the precursors to ethnographic Native California; suggesting that ethnographic life-ways recorded by anthropologists extend roughly 800 years into the past.

The position of southern San Joaquin Valley prehistory relative to patterns seen in surrounding areas is still somewhat unknown. The presence of large lake systems in the valley bottoms appears to have mediated some of the desiccation seen elsewhere. But, as the reconstruction of Soda Lake in the nearby Carrizo Plain demonstrates (see Whitley et al. 2007) environmental perturbations had serious impacts on lake systems too. Identifying certain of the prehistoric demographic trends for the southern San Joaquin Valley, and determining how these trends (if present) correlate with those seen elsewhere, is a current important research objective.

2.4 HISTORICAL BACKGROUND

Spanish explorers first visited the San Joaquin Valley in 1772, but its lengthy distance from the missions and presidios along the Pacific Coast delayed permanent settlement for many years, including during the Mexican period of control over the Californian region. In the 1840s, Mexican rancho owners along the Pacific Coast allowed their cattle to wander and graze in the San Joaquin Valley. The Mexican government granted the first ranchos in the southern part of the San Joaquin Valley in the early 1840s, but these did not result in permanent settlement. It was not until the annexation of California in 1848 that the exploitation of the southern San Joaquin Valley began (Pacific Legacy 2006).

The discovery of gold in northern California in 1848 resulted in a dramatic increase of population, consisting in good part of fortune seekers and gold miners, who began to scour other parts of the state. After 1851, when gold was discovered in the Sierra Nevada Mountains in eastern Kern County, the population of the area grew rapidly. Some new immigrants began ranching in the San Joaquin Valley to supply the miners and mining towns. Ranchers grazed cattle and sheep, and farmers dry-farmed or used limited irrigation to grow grain crops, leading to the creation of small agricultural communities throughout the valley (Caltrans 2007).

After the American annexation of California, the southern San Joaquin Valley became significant as a center of food production for this new influx of people in California. The expansive unfenced and principally public foothill spaces were well suited for grazing both sheep and cattle (Boyd 1997). As the Sierra Nevada gold rush presented extensive financial opportunities, ranchers introduced new breeds of livestock, consisting of cattle, sheep and pig (Boyd 1997).

With the increase of ranching in the southern San Joaquin came the dramatic change in the landscape, as non-native grasses more beneficial for grazing and pasture replaced native flora (Preston 1981). After the passing of the Arkansas Act in 1850, efforts were made to reclaim small tracts of land in order to create more usable spaces for ranching. Eventually, as farming supplanted ranching as a more profitable enterprise, large tracts of land began to be reclaimed for agricultural use, aided in part by the extension of the railroad in the 1870s (Pacific Legacy 2006).

Following the passage of state wide ‘No-Fence’ laws in 1874, ranching practices began to decline, while farming expanded in the San Joaquin Valley in both large land holdings and smaller, subdivided properties. As the farming population grew, so did the demand for irrigation. Settlers began reclamation of swampland in 1866, and built small dams across the Kern River to divert water into the fields. By 1880, 86 different groups were taking water from the Kern River. Ten years later, 15 major canals provided water to thousands of acres in Kern County.

Grants were initially given to individuals who had both the resources and the finances to undertake the reclamation of unproductive lands in the southern San Joaquin Valley. Three competing partnerships developed during this period which had a great impact on control of water, land reclamation and ultimately agricultural development in the San Joaquin Valley: Livermore and Chester, Haggin and Carr, and Miller and Lux, perhaps the most famous of the enterprises. Livermore and Chester were responsible, among other things, for developing the large Hollister plow (three feet wide by two feet deep), pulled by a 40-mule team, which was

used for ditch digging. Haggin and Carr were largely responsible for reclaiming the beds of the Buena Vista and Kern lakes, and for creating the Calloway Canal, which drained through Bakersfield to Goose Lake (Morgan 1914). Miller and Lux ultimately became one of the biggest private property holders in the country, controlling the rights to over 22,000 square miles. Miller and Lux's impact extended beyond Kern County, however. They recognized early-on that control of water would have important economic implications, and they played a major role in the water development of the farming industry (http://www.mariposaresearch.net/santaclararesearch/SCBIOS/hmiller.html).

The first agricultural diversions of the Kings River occurred in the 1860s with the Mussel Sloughs district, at the Kings River Delta on the north side of Tulare Lake, particularly early to develop. By 1879, 61,200-ac had been irrigated on the Kings River, though most of this was near the lake. By 1886, however, most the Kings River fan was almost fully irrigated, with irrigation spotty elsewhere in the valley (Preston 1981).

The San Joaquin Valley was dominated by agricultural pursuits until the oil boom of the early 1900s, which saw a shift in the region, as some reclaimed lands previously used for farming were leased to oil companies. Nonetheless, the shift of the San Joaquin Valley towards oil production did not halt the continued growth of agriculture (Pacific Legacy 2006). The Great Depression of the 1930s brought with it the arrival of great number of migrants from the drought-affected Dust Bowl region, looking for agricultural labor. These migrants established temporary camps in the valley, staying on long past the end of the drought and the Great Depression, eventually settling in towns such as Bakersfield and Fresno where their descendants live today (Boyd 1997).

The city of Fresno (originally "Fresno Station"), located approximately north of the study area and the county seat for Fresno County, was founded in 1872 and incorporated in 1885. It was initially developed as a railway station along the Central Pacific Railroad, but quickly expanded with the development of irrigation in the region. Farmers saw success with the cultivation of wheat, grapes, and cattle. Eventually, Fresno County became one of the most agriculturally-rich counties in the United States (https://www.fresno.gov/darm/historic-preservation/history-of-fresno/).

The City of Parlier's origins lie in the 1876 migration of I.N. Parlier from Springfield, Illinois to California. The Parliers opened a general store, trading post and post office which quickly became the center of the local agricultural community. This initially consisted of small, family-owned wheat farms, though these diversified into grapes and tree fruits before long. The arrival of the railroad in the 1870s was a major impetus for growth. The city was incorporated in 1921 and, for many years, remained primarily an agricultural settlement. Recent growth, however, has included its development as a bedroom suburb of Fresno, approximately 20-mi northwest (https://parlier.ca.us/history/).

The CID, centered in Selma to the west, was organized at the about the same, also in 1921, partly through the acquisition of the assets of the Consolidated Canal Company (CCC), including the Kingsville – Centerville Canal. The Kingsburg - Centerville Canal was first constructed in 1877 – 1878 by an organization of farmers living between Selma and Kingsburg, partly using an existing drainage. It was subsequently purchased by the CCC before being obtained by the CID (JRP Consulting 2000). The canal was described at the turn of the century as follows:

> "The main canal has irregular dimensions, its bed width being generally about 30 to 35 feet. It has been allowed to cut deep into the friable surface soils in the upper sections of its course, where but little attempt has been made to reduce its gradient below that of the natural surface of the ground. The length of main canal is about 18 miles. The length of its three principal branches is reported at about 26 miles.
>
> "The diversion from the river is effected by means of a brush-and-cobblestone dam, in which a small gate serves as waste way and sand sluice. The canal regulator is close to the river and is of a type very common on Kings River canals. Three rows of posts rising from a plank floor extend across the canal from one bulkhead wall to the other. They support a platform loaded with cobbles and gravel to give stability to the structure. The spaces between upper posts are closed by means of vertically sliding gates, each of which has a stem extending above the platform, to which power is applied when the gate is to be opened or closed. The cost of the regulator was about $1,000. The first cost of the canal was about $35,000" (Grunsky 1898:51-52).

As Grunsky (ibid) noted at that time, early use of the canal was restricted by litigation over water rights, which was a common occurrence during that period. CID consolidated the water rights to the canal and other elements of its system. The CID currently covers 144,000-ac, or 225 square miles, with 350-mi of pipelines and canals.

Two other water conveyance structures are present in the vicinity of the Project APEs: the Santa Fe Canal and the Harp Ditch, both now components of the CID system. The Santa Fe Canal was constructed between 1898 and 1924 while the Harp Ditch was constructed sometime after 1924, based on historical USGS maps.

2.5 RESEARCH DESIGN

2.5.1 Pre-Contact Archaeology

Previous research and the nature of the pre-contact archaeological record suggest two significant NRHP themes, both of which fall under the general Pre-Contact Archaeology area of significance. These are the Expansion of Pre-Contact Populations and Their Adaptation to New Environments; and Adaptation to Changing Environmental Conditions.

The Expansion of Pre-Contact Populations and Their Adaptation to New Environments theme primarily concerns the Middle Horizon/Holocene Maximum. Its period of significance runs from about 4,000 to 1,500 YBP. It involves a period during which the prehistoric population appears to have expanded into a variety of new regions, developing new adaptive strategies in the process.

The Adaptation to Changing Environmental Conditions theme is partly related to the Holocene Maximum, but especially to the Medieval Climatic Anomaly. The period of significance for this theme, accordingly, extends from about 4,000 to 800 YBP. This theme involves the apparent collapse of many inland populations, presumably with population movements to better environments such as the coast. It is not yet known whether the southern San Joaquin Valley, with

its system of lakes, sloughs and swamps, experienced population decline or, more likely, population increase due to the relatively favorable conditions of this region during this period of environmental stress.

The range of site types that are present in this region include:

- Villages, primarily located on or near permanent water sources, occupied by large groups during the winter aggregation season;
- Seasonal camps, again typically located at water sources, occupied during other parts of the year tied to locally and seasonally available food sources;
- Special activity areas, especially plant processing locations containing bedrock mortars (BRMs), commonly (though not exclusively) near existing oak woodlands, and invariably at bedrock outcrops or exposed boulders;
- Stone quarries and tool workshops, occurring in two general contexts: at or below naturally occurring chert exposures on the eastern front of the Temblor Range; and at quartzite cobble exposures, often on hills or ridges;
- Ritual sites, most commonly pictographs (rock art) found at rockshelters or large exposed boulders, and cemeteries, both commonly associated with villages; and
- A variety of small lithic scatters (low density surface scatters of stone tools).

The first requisites in any research design are the definition of site age/chronology and site function. The ability to determine either of these basic kinds of information may vary between survey and test excavation projects, and due to the nature of the sites themselves. BRM sites without associated artifacts, for example, may not be datable beyond the assumption that they post-date the Early Horizon and are thus less than roughly 4,000 years old.

A second fundamental issue involves the place of site in the settlement system, especially with respect to water sources. Because the locations of the water sources have sometimes changed over time, villages and camps are not exclusively associated with existing (or known historical) water sources (W&S Consultants 2006). The size and locations of the region's lakes, sloughs and delta channels, to cite the most obvious example, changed significantly during the last 12,000 years due to major paleoclimatic shifts. This altered the area's hydrology and thus prehistoric settlement patterns. The western shoreline of Tulare Lake was relatively stable, because it abutted the Kettleman Hills. But the northern, southern and eastern shorelines comprised the near-flat valley floor. Relatively minor fluctuations up or down in the lake level resulted in very significant changes in the areal expression of the lake on these three sides, and therefore the locations of villages and camps. Although perhaps not as systematic, similar changes occurred with respect to stream channels and sloughs, and potential site locations associated with them. This circumstance has implications for predicting site locations and archaeological sensitivity. Site sensitivity is then hardest to predict in the open valley floor, where changes in stream courses and lake levels occurred on numerous occasions.

Nonetheless, the position of southern San Joaquin Valley prehistory relative to the changing settlement and demographic patterns seen in surrounding areas is still somewhat unknown (cf. Siefkin 1999), including to the two NRHP themes identified above. The presence of large lake systems in the valley bottoms can be expected to have mediated some of the effects of desiccation

seen elsewhere. But, as the reconstruction of Soda Lake in the nearby Carrizo Plain demonstrates (see Whitley et al. 2007), environmental perturbations had serious impacts on lake systems too. Identifying certain of the prehistoric demographic trends for the southern San Joaquin Valley, and determining how these trends (if present) correlate with those seen elsewhere, is another primary regional research objective.

Archaeological sites would primarily be evaluated for NRHP eligibility under Criterion D, research potential.

2.5.2 Historical Archaeology: Native American

Less research has been conducted on the regional historical archaeological record, both Native American and Euro-American. For Native American historical sites, the ethnographic and ethnohistoric periods in the southern San Joaquin Valley extended from first Euro-American contact, in AD 1772, to circa 1900, when tribal populations were first consolidated on reservations. The major significant historic NRHP themes during this period of significance involve the related topics of Historic-Aboriginal Archaeology, and Native American Ethnic Heritage. More specifically, these concern the Adaptation of the Indigenous Population to Euro-American Encroachment and Settlement, and their Acculturation to Western Society. These processes included the impact of missionization on the San Joaquin Valley (circa 1800 to about 1845); the introduction of the horse and the development of a San Joaquin Valley "horse culture," including raiding onto the coast and Los Angeles Basin (after about 1810); the use of the region as a refuge for mission neophyte escapees (after 1820); responses to epidemics from introduced diseases (especially in the 1830s); armed resistance to Euro-American encroachment (in the 1840s and early 1850s); the origins of the reservation system and the development of new tribal organizations and ethnic identities; and, ultimately, the adoption of the Euro-American society's economic system and subsistence practices, and acculturation into that society.

Site types that have been identified in the region dating to the ethnographic/ethnohistoric period of significance primarily include villages and habitations, some of which contain cemeteries and rock art (including pictographs and cupules). Dispersed farmsteads, dating specifically from the reservation period or post-1853, would also be expected. The different social processes associated with this historical theme may be manifest in the material cultural record in terms of changing settlement patterns and village organization (from traditional nucleated villages to single family dispersed farmsteads); the breakdown of traditional trading networks with their replacement by new economic relationships; changing subsistence practices, especially the introduction of agriculture initially via escaped mission neophytes; the use of Euro-American artifacts and materials rather than traditional tools and materials; and, possibly, changing mortuary practices.

Inasmuch as culture change is a primary intellectual interest in archaeology, ethnographic villages and habitations may be NRHP eligible under Criterion D, research potential. Rock art sites, especially pictographs, may be eligible under Criterion C as examples of artistic mastery. They may also be eligible under Criterion A, association with events contributing to broad patterns of history. Ethnographic sites, further, may be NRHP eligible as Traditional Cultural Properties due to potential continued connections to tribal descendants, and their resulting importance in

traditional practices and beliefs, including their significance for historical memory, tribal- and self-identity formation, and tribal education.

For Criteria A, C and D, eligibility requires site integrity (including the ability to convey historical association for Criterion A). These may include intact archaeological deposits for Criterion D, as well as setting and feel for Criteria C and A. Historical properties may lack physical integrity, as normally understood in heritage management, but still retain their significance to Native American tribes as Traditional Cultural Properties if they retain their tribal associations and uses.

2.5.3 Historical Archaeology: Euro-American

Approaches to historical Euro-American archaeological research relevant to the region have been summarized by Caltrans (1999, 2000, 2007, 2008). These concern the general topics of historical landscapes, agriculture and farming, irrigation (water conveyance systems), and mining. Caltrans has also identified an evaluation matrix aiding determinations of eligibility. The identified research issues include site structure and land-use (lay-out, land use, feature function); economics (self-sufficiency, consumer behavior, wealth indicators); technology and science (innovations, methods); ethnicity and cultural diversity (religion, race); household composition and lifeways (gender, children); and labor relations. Principles useful for determining the research potential of an individual site or feature are conceptualized in terms of the mnemonic AIMS-R, as follows:

1. *Association* refers to the ability to link an assemblage of artifacts, ecofacts, and other cultural remains with an individual household, an ethnic or socioeconomic group, or a specific activity or property use.

2. *Integrit*y addresses the physical condition of the deposit, referring to the intact nature of the archaeological remains. In order for a feature to be most useful, it should be in much the same state as when it was deposited. However, even disturbed deposits can yield important information (e.g., a tightly dated deposit with an unequivocal association).

3. *Materials* refers to the number and variety of artifacts present. Large assemblages provide more secure interpretations as there are more datable items to determine when the deposit was made, and the collection will be more representative of the household, or activity. Likewise, the interpretive potential of a deposit is generally increased with the diversity of its contents, although the lack of diversity in certain assemblages also may signal important behavioral or consumer patterns.

4. *Stratigraphy* refers to the vertically or horizontally discrete depositional units that are distinguishable. Remains from an archaeological feature with a complex stratigraphic sequence representative of several events over time can have the added advantage of providing an independent chronological check on artifact diagnosis and the interpretation of the sequence of environmental or sociocultural events.

5. *Rarity* refers to remains linked to household types or activities that are uncommon. Because they are scarce, they may have importance even in cases where they otherwise fail to meet other thresholds of importance (Caltrans 2007:209).

For agricultural sites, Caltrans (2007) has identified six themes to guide research: Site Structure and Land Use Pattern; Economic Strategies; Ethnicity and Cultural Adaptation; Agricultural Technology and Science; Household Composition and Lifeways; and Labor History. Expected site types would include farm and ranch homesteads and facilities, line camps, and refuse dumps. In general terms, historical Euro-American archaeological sites would be evaluated for NRHP eligibility under Criterion D, research potential. However, they also potentially could be eligible under Criteria A and B for their associate values with major historical trends or individuals. Historical landscapes might also be considered.

Historical structures, which are most likely to be pertinent to the current study area, are typically evaluated for NRHP eligibility under Criteria A and/or B, for their associative values with major historical trends or individuals, and C for potential design or engineering importance. Water conveyance systems, specifically, are typically evaluated for NRHP eligibility under Criteria A and/or B, for their associative values with major historical trends or individuals, and C for potential design or engineering importance. As outlined elsewhere (ASM Affiliates 2016), water conveyance systems would most likely be evaluated under the themes of the Development of Irrigated Agriculture in the San Joaquin Valley, and Technological Innovation in Irrigated Agriculture, both with a period of significance from 1852 to 1964. Associated property types for these themes would be water conveyance system features, including canals, ditches, laterals and associated control structures.

3. ARCHIVAL RECORDS SEARCH

3.1 ARCHIVAL RECORDS SEARCH

In order to determine whether the study area had been previously surveyed for cultural resources, and/or whether any such resources were known to exist on any of them, an archival records search was conducted by the staff of the Southern San Joaquin Valley Information Center (IC) on 20 December 2021. The records search was completed to determine: (i) if prehistoric or historical archaeological sites had previously been recorded within the study areas; (ii) if the project area had been systematically surveyed by archaeologists prior to the initiation of this field study; and/or (iii) whether the region of the field project was known to contain archaeological sites and to thereby be archaeologically sensitive. Records examined included archaeological site files and maps, the NRHP, Historic Property Data File, California Inventory of Historic Resources, and the California Points of Historic Interest. The Native American Heritage Commission (NAHC) Sacred Lands files were also searched to determine whether tribal cultural resources are present.

According to the IC records search (Confidential Appendix A), five previous studies had been completed within the APE (Table 1) covering some but not all of the study area. Three cultural resources had been identified as a result of these previous studies. These are all historical linear resources: Segments of the Kingsburg – Centerville Canal, Santa Fe Canal and Burlington Northern Santa Fe railroad grade.

Table 1. Survey Reports within the APEs

IC # FR-	Date	Author	Title
2278	2006	Basin Research	Cultural Resource Assessment, 13075 E. South Ave., Parlier, Fresno County, CA
2398	2009	Peak & Assoc.	Determination of Eligibility & Effect, 14100 E. Parlier Ave., Parlier, Fesno County, CA
2626	2007	J&R Environmental Services	Phase I Archaeological Survey for the Proposed City of Parlier Industrial Park Improvements Project, Parlier, Fresno County, California
2787	2016	EBI Consulting	Cultural Resources Survey Parlier CA/411135 South Whitener Avenue, Parlier, Fresno County, California
2865	2016	Environmental Assessment Services	Cultural Resources Records Search and Site Visit Results for T-Mobile West, LLC Candidate SC10412A (Whitner Parlier), 7988 South Whitner Avenue, Parlier, Fresno County, California

Table 2. Cultural Resources within Project APEs

Resource Number	Name	NRHP/CRHR Eligibility Status
P-10-4675	Burlington Northern Santa Fe Rail Road	Not Eligible, Lack of Integrity, 2001
P-10-005812/CA-FRE-3572H	Centerville-Kingsburg Canal	Not Eligible, Lack of Integrity, 2001
P-10-006240/CA-FRE-3655H	Santa Fe Canal	Not Eligible, Lack of Integrity, 2001

Fifteen additional surveys had been completed within a 0.5-mi radius of the Project APEs (Appendix A). This resulted in the recording of one additional cultural resource, P-10-004427, the Iseki Labor camp.

A record search of the Native American Heritage Commission (NAHC) Sacred Lands Files was also requested on 6 December 2021 (Appendix A). Repeated follow-up requests and inquiries did not result in a response or information. It is therefore assumed that the NAHC files have no information on sacred sites or tribal cultural resources within or in the vicinity of the Project APEs. Outreach letters were sent on 5 January 2022 to tribal organizations on an NAHC Fresno County contact list received for a nearby previous project, with follow-up emails after 30 days. This resulted in one response, from the Dumna Wo-Wah Tribal Government. They requested that a tribal monitor be present during grading activities.

Historical topographical quadrangles and air photographs (at Google Earth and historicaerials.com) were examined to determine whether there were historical structures within the APE. The seven basins that will be modified to serve as recharge basins were constructed between 1998 and 2005. They and the proposed Project pipelines are primarily concentrated in the western portions of the City of Parlier which is an area of recent suburban expansion, resulting in surroundings generally consisting of modern/contemporary residential neighborhoods.

The three previously recorded cultural resources within the APE are present on early maps and air photos. The Santa Fe Canal was heavily altered after 1946 while the alignment of the Kingsburg – Centerville Canal has not been changed in the vicinity of Parlier. The Burlington Northern Santa Fe (BNSF) rail road has been dismantled down to its grade through town and no longer exists as a cultural resource at this location. A possible fourth linear cultural resource, the Harp Canal, was also identified on sources after 1954. This resource too was heavily altered with the construction of the existing basins and now primarily consists of an underground pipeline through Parlier.

Based on the records search results, the study area appeared to have low archaeological sensitivity.

4. METHODS AND RESULTS

4.1 FIELD METHODS

An intensive Class III inventory/Phase I survey of the Project APEs was conducted by Robert Azpitarte, B.A., ASM Associate Archaeologist, on 19 January 2021. The field methods employed included intensive pedestrian examination of the ground surface for evidence of archaeological sites in the form of artifacts, surface features (such as bedrock mortars, historical mining equipment), and archaeological indicators (e.g., organically enriched midden soil, burnt animal bone); the identification and location of any discovered sites, should they be present; tabulation and recording of surface diagnostic artifacts; site sketch mapping; preliminary evaluation of site integrity; and site recording, following the California Office of Historic Preservation Instructions for Recording Historic Resources, using DPR 523 forms. Parallel survey transects spaced at 15-m apart were employed for the inventory. Pipeline routes were surveyed with two 15-m wide transects.

4.2 SURVEY RESULTS

The study area containing the dispersed APEs primarily consists of the newer, western sections of the City of Parlier, with transitional rural – suburban areas on the west and south. The APEs then consisted of previously excavated/existing basins in recently constructed/contemporary residential neighborhoods, and pipeline routes running through these same neighborhoods. Field conditions varied across the survey area, from excavated basins, to open dirt fields, to paved roads to existing lawns. Transect spacing was reduced where surface visibility was limited, with special attention paid to any open areas in such circumstances.

Three linear historical cultural resources had been previously recorded that intersected the APEs. The recorded locations of each of these were identified during the survey. Circumstances and contexts for the each of these are as follows:

P-10-005812/Kingsburg – Centerville Canal

This canal runs in its original alignment along the current western limit of the suburban development of Parlier, though the canal is still bordered primarily by farm fields/orchards with a mixture of industrial properties also present. Dirt roads run long the top of the berms on both sides of the canal. The canal is still an open-air, dirt-lined ditch. Concrete rip-rap along portions of the canal walls, a road overpass, pipeline connections and concrete control structures have been added to the original construction, with no early control features still evident in this portion of the canal.

Three segments of the canal were recorded (Confidential Appendix B), at locations where pipeline connections to the recharge basins will be employed:

Foothill Basin Segment: The pipeline will tie-in to the canal in a still rural area at the western side of Parlier (Figure 2). The canal is an open-air, flat-bottomed earthen ditch in this segment, with dirt roads running along the berms. Concrete rip-rap lines the west side of the canal.

Figure 2. P-10-005812 at location of Foothill Basin pipeline tie-in.

Milton Basin Segment – The Milton Basin pipeline will tie-in to the canal in an area that is also still rural (Figure 3), where an existing concrete pipeline tie-in is already in place on the west side of the structure. Portions of the west canal wall at this location have also been covered with concrete and then concrete rubble, as rip-rap. Dirt farm roads run along both sides of the canal in this segment.

Industrial Basin Segment – The Industrial Basin pipeline intersects the canal a short distance south of an existing concrete road overpass (Academy Avenue). This segment is bordered by farm fields and an industrial complex.

Portions of this cultural resource were originally recorded in 1991 (JRP Consulting) with additional segments recorded and updated in 1995 (William Self Associates); 2001 (PAR Environmental Services); 2009 (JRP Consulting); 2011 (R. Windmiller); and 2018 (ASM Affiliates). The canal segments recorded during the current study are generally similar in construction to the descriptions provided by previous recorders.

This cultural resource was recommended as not NRHP eligible in 2001 due to lack of integrity.

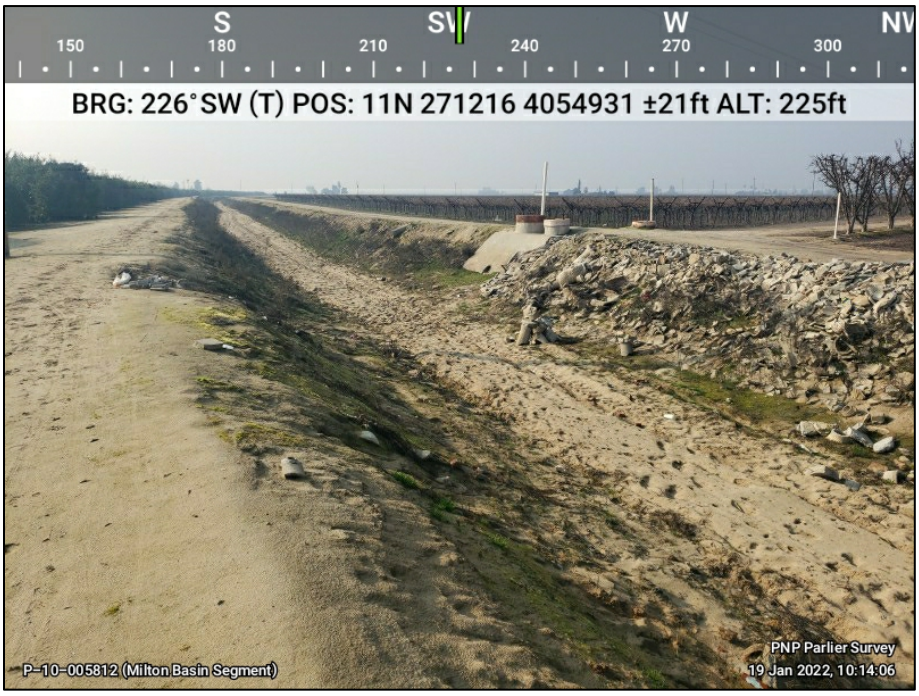

Figure 3. P-10-005812 at location of Milton Basin pipeline tie-in.

Figure 4. P-10-005812 at location of Industrial Basin pipeline tie-in.

P-10-004675/BNSF Railroad Grade

The APE comprising the route of the northeastern pipeline crosses the recorded BNSF railroad grade. This resource had been entirely demolished, with all of its features removed (Figure 5) within Parlier. This resource was recommended not NRHP eligible in 2001, and it is no longer present within the Project APE.

Figure 5. Former location of P-10-004675 within the northeast pipeline APE.

P-10-006240/Santa Fe Canal

Pipelines from the Veterans Park and Tuolomne basins will intersect the previously recorded Santa Fe Canal, which was recommended as not NRHP eligible in 2001. This canal had been placed underground within Parlier by 2004 and it no longer exists in or near the Project APEs (Figure 6).

Figure 6. Former location of P-10-006240 near the Veterans Park Basin.

Harp Ditch

Although not previously recorded as cultural resource, the Harp Ditch was identified as a potential cultural resource during the records search, due to its construction prior to 1924. Segments of the ditch appear to still exist in the general area, based on an examination of maps, but it apparently was primarily transferred to an underground pipe, with a small, concrete open-air channel, within the confines of Parlier, sometime in the last two decades. It does not exist as a cultural resource within or adjacent to the Project APEs, and it was not recorded.

Additional Cultural Resources

No additional cultural resources were identified during the Project survey.

5. SUMMARY AND RECOMMENDATIONS

An intensive Class III archaeological inventory/Phase I survey was conducted for the Parlier Groundwater Banking Project, City of Parlier, Fresno County, California. A records search was obtained from the Southern San Joaquin Valley Archaeological Information Center, California State University, Bakersfield. This indicated that five previous studies had covered portions of the Project APE and that three cultural resources had been recorded within the APEs.

The Phase I survey fieldwork was conducted in January 2022, with parallel transects spaced at 15-meter intervals walked across the recharge basin and pipeline route locations, totaling approximately 21.2-ac. The locations of three previously recorded resources were re-located within the APEs and assessed: the Kingsburg – Centerville Canal, the Santa Fe Canal, and the BNSF Railroad grade. The Santa Fe Canal and the BNSF Railroad grade are no longer present within the City of Parlier, having been placed in an underground pipeline through town, and entirely demolished and removed, respectively. Neither of these two previous recorded cultural resources still exist as such.

No additional cultural of any kind were identified within the Project APEs.

5.1 RECOMMENDATIONS

One historical cultural resource is present with the Project study area, the Kingsburg – Centerville Canal (P-10-005612). This canal was constructed in 1877 – 1878 and it is exemplary or the early development of irrigation agriculture in this portion of California. It is therefore potentially NRHP/CRHR eligible under Criterion A/1, for its association with an important historical event. It has no known association with a significant historical individual and it is thus not eligible under Criterion B/2. It is a common property type that is not notable for its design, materials or other features and is not eligible under Criterion C/3. It has no research value not better obtained by archival resources and is not eligible under Criterion D.

Although the canal follows its original alignment in the area of the recorded segments and thus retains integrity of location, it lacks all original control features with these replaced with concrete gates, stand-pipes and tie-ins. Its sides in some areas have been covered with concrete and/or concrete rip-rap while concrete bridges have been placed over it in other locations and industrial properties are now adjacent to its sides. It thus lacks integrity of setting, association and feel, as well as workmanship, materials and design. The Kingsburg – Centerville Canal was previously recommended as not NRHP eligible in 2001. We concur with that recommendation for the segments recorded during the current study, due to their lack of integrity and further recommend it as not CRHR eligible for the same reason.

The Project therefore does not have the potential to result in adverse impacts or effects to significant historical resources or historic properties. A finding of No Significant Impact/No Affect is recommended. In the unlikely event that cultural resources are encountered during project construction or use, however, it is recommended that an archaeologist be contacted to assess the discovery.

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CONFIDENTIAL APPENDICES