MITIGATED NEGATIVE DECLARATION

Parlier 1, 2, 3 - TCP Removal Treatment Systems

March 2019

PREPARED FOR:

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

PREPARED BY:

Crawford & Bowen Planning, Inc.
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Initial Study/Mitigated Negative Declaration

Parlier 1, 2, 3 – TCP Removal Treatment Systems

Prepared for:

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1100 E. Parlier Avenue
Parlier, CA 93648

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TABLE OF CONTENTS

Chapter 1

INTRODUCTION

INTRODUCTION

1.1 Project Summary

This document is the Initial Study/Mitigated Negative Declaration describing the potential environmental effects of implementing a series of improvements to the City of Parlier's well and water system to remove 1, 2, 3 – Trichloropropane (TCP) from the City's water. The proposed Project is more fully described in Chapter Two – Project Description.

The City of Parlier will act as the Lead Agency for this project pursuant to the *California Environmental Quality Act (CEQA)* and the *CEQA Guidelines.*

The Project is expected to be funded through the Drinking Water State Revolving Fund (DWSRF). The DWSRF is a state and federal partnership that helps ensure safe drinking water. It is administered by the State of California and partially funded by the United States Environmental Protection Agency. Consequently, the project must not only meet environmental documentation and review requirements under the California Environmental Quality Act (CEQA), but must meet such requirements with respect to certain federal laws and regulations as well. The state and federal review process is known an CEQA-Plus.

1.2 Document Format

This IS/MND contains five chapters, and appendices. Section 1, Introduction, provides an overview of the project and the CEQA environmental documentation process. Chapter 2, Project Description, provides a detailed description of project objectives and components. Chapter 3, Initial Study Checklist, presents the CEQA checklist and environmental analysis for all impact areas, mandatory findings of significance, and feasible mitigation measures. If the proposed 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 4, Mitigation Monitoring and Reporting Program, provides the proposed mitigation measures, completion timeline, and person/agency responsible for implementation and Chapter 5, List of Preparers, provides a list of key personnel involved in the preparation of the IS/MND.

Environmental impacts are separated into the following categories:

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 After 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 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.)

Regardless of the type of CEQA document that must be prepared, the basic purpose of the CEQA process as set forth in the CEQA Guidelines Section 15002(a) is to:

(1) Inform governmental decision makers and the public about the potential, significant environmental effects of proposed activities.
(2) Identify ways that environmental damage can be avoided or significantly reduced.
(3) Prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible.
(4) Disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved.

According to Section 15070(b), a Mitigated Negative Declaration is appropriate if it is determined that:

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

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

The Initial Study contained in Section Three of this document has determined that with mitigation measures and features incorporated into the project design and operation, the environmental impacts are less than significant and therefore a Mitigated Negative Declaration will be adopted.

Chapter 2

PROJECT DESCRIPTION

Project Description

2.1 Location

The City of Parlier (City) lies in the San Joaquin Valley's central region, approximately 11 miles southeast of the City of Fresno in Fresno County. The City is generally adjacent to and north of Manning Avenue and is approximately 3 miles west of the City of Reedley. The proposed Project contains three components, all within the Parlier City Limits (see Figure 1).

Location 1: This component extends from east of the intersection of South Whitner Avenue and Young Avenue south to Tuolumne Street, then west along Tuolumne Street, and south along South Milton Avenue, including adjacent to the Milton Lift Station, to the intersection with East Manning Avenue (see Figure 2).

Location 2: This component is on the south side of Industrial Drive, 0.1 miles west of South Mendocino Avenue (See Figure 3).

Location 3: This component is on the northeast corner of East Parlier Avenue and South Zediker Avenue (See Figure 4).

2.2 Setting and Surrounding Land Use

The proposed Project site is located in the central-eastern portion of the San Joaquin Valley of California. The valley is a large, nearly flat alluvial plain bordered by the Sierra Nevada to the east, the Tehachapi Mountains to the south, the California coast ranges to the west, and the Sacramento-San Joaquin Delta to the north.

Like most of California, the central/southern San Joaquin Valley experiences a Mediterranean climate. Warm dry summers are followed by cool moist winters. Summer temperatures commonly exceed 90 degrees Fahrenheit, and the relative humidity is generally very low. Winter temperatures rarely exceed 70 degrees Fahrenheit, with daytime highs often below 60 degrees Fahrenheit. According to the Western Regional Climate Center, annual precipitation in the vicinity of the project sites is about 10.9 inches, about 85% of which falls between the months of October and March. Nearly all precipitation falls in the form of rain. The principal drainage of the Project vicinity is the Kings River, which passes within five miles of the City.

Land use in the proposed Project area is residential and industrial. Habitats are urban and ruderal. The well sites are surrounded by chain link fence and underlain by hardpan or concrete. The proposed pipeline between Well #2A and Well #4A follows paved roadways with the southernmost 250 feet of the proposed pipeline following a compacted dirt road. The proposed centralized TCP treatment facility near Well #2A is in a vacant lot with ruderal vegetation. The Well #9A treatment facility is in a disturbed field with ruderal vegetation while Well #5A is in a developed and fenced lot.

2.3 Project Background

1,2,3-Trichloropropane (TCP) is a chlorinated hydrocarbon with high chemical stability. It has been used as a cleaning and degreasing solvent and also is associated with pesticide products. In 1992, TCP was added to the list of chemicals known to the state to cause cancer, pursuant to California's Safe Drinking Water and Toxic Enforcement Act (Proposition 65). In 2017, the State Water Resources Control Board (SWRCB) Division of Drinking Water (DDW) established a drinking water Maximum Contaminant Level (MCL) for TCP of 0.005µg/l. The MCL is at the same concentration as the analytical reporting limit.

The City of Parlier's (City) sole source of water supply is the underlying groundwater. The City currently extracts groundwater from four active wells: Well Nos. 2A, 6, 7 and 9A. Well Nos. 4A, 5 and 8 are standby sources. Three out of four of the City's active wells contain TCP concentrations above MCL and two out of three of the City's standby wells contain TCP above MCL. Once the State Water Resource Control Board (SWRCB) Division of Drinking Water (DDW) prepares a Compliance Order, the City will have a period of three years to comply with the new TCP MCL.

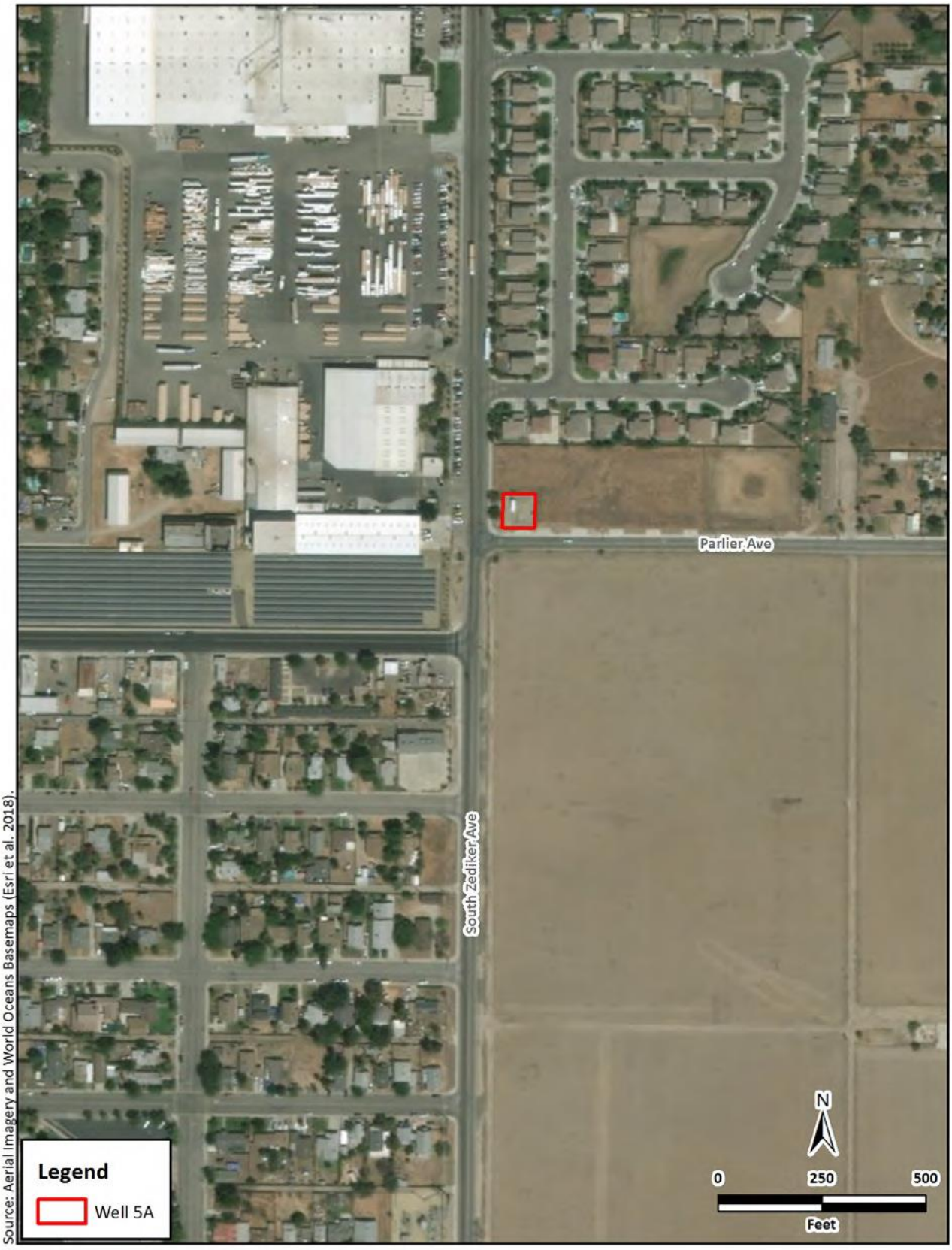
The City will obtain financing for this water quality improvement project (Project) from the Drinking Water State Revolving Fund (DWSRF). The DWSRF is administered by the State Water Resources Control Board and partially funded by a capitalization grant from the United States Environmental Protection Agency (EPA). Due to this federal nexus, issuing funds from the DWSRF constitutes a federal action, one that requires the EPA to determine whether the proposed action may affect federally protected resources. The Project must therefore comply with requirements of the California Environmental Quality Act (CEQA) and certain federal environmental laws and regulations as well. This state and federal review process is known as CEQA-Plus.

Figure 1 – Regional Location Map

Figure 2 – First Component Location

Figure 3 – Second Component Location

Figure 4 – Third Component Location



2.4 Project Description

The proposed Project includes three components designed to address compliance with the TCP MCL, as described below.

Component 1:

Component 1 will centralize TCP treatment for Well #2A and Well #4A, next to the existing Milton Lift Station site. The project will include approximately 340 linear feet (LF) of 10" pipeline between Well #2A and the proposed centralized treatment site, and approximately 3,370 LF of 10" pipeline between Well #4A and the proposed centralized treatment site. The new centralized treatment plant will include a six "train" TCP treatment system capable of handling the combined flow of Well #2A and Well #4A. Each treatment "train" consists of an individual 12 foot granular activated carbon (GAC) vessel and related equipment. The vertical turbine pump at each well site will also be improved to produce the additional pressure required to go through the treatment process. The pipeline alignment is provided in Figure 2 while Figure 5 depicts the wells and treatment components.

Component 2:

The second component includes the construction of a new TCP treatment system at Well #9A. The TCP treatment system will include three train in parallel, as seen in Figure 6.

Component 3:

The last component includes the rehabilitation of the existing Well #5 to convert it from a standby source into an active water source. This well will replace water from other wells that are out of compliance.

Construction

Construction is expected to start in 2019 and will take approximately 12 months to complete. All construction staging of equipment and materials will be within City right of way.

Figure 5 – Component 1 Details

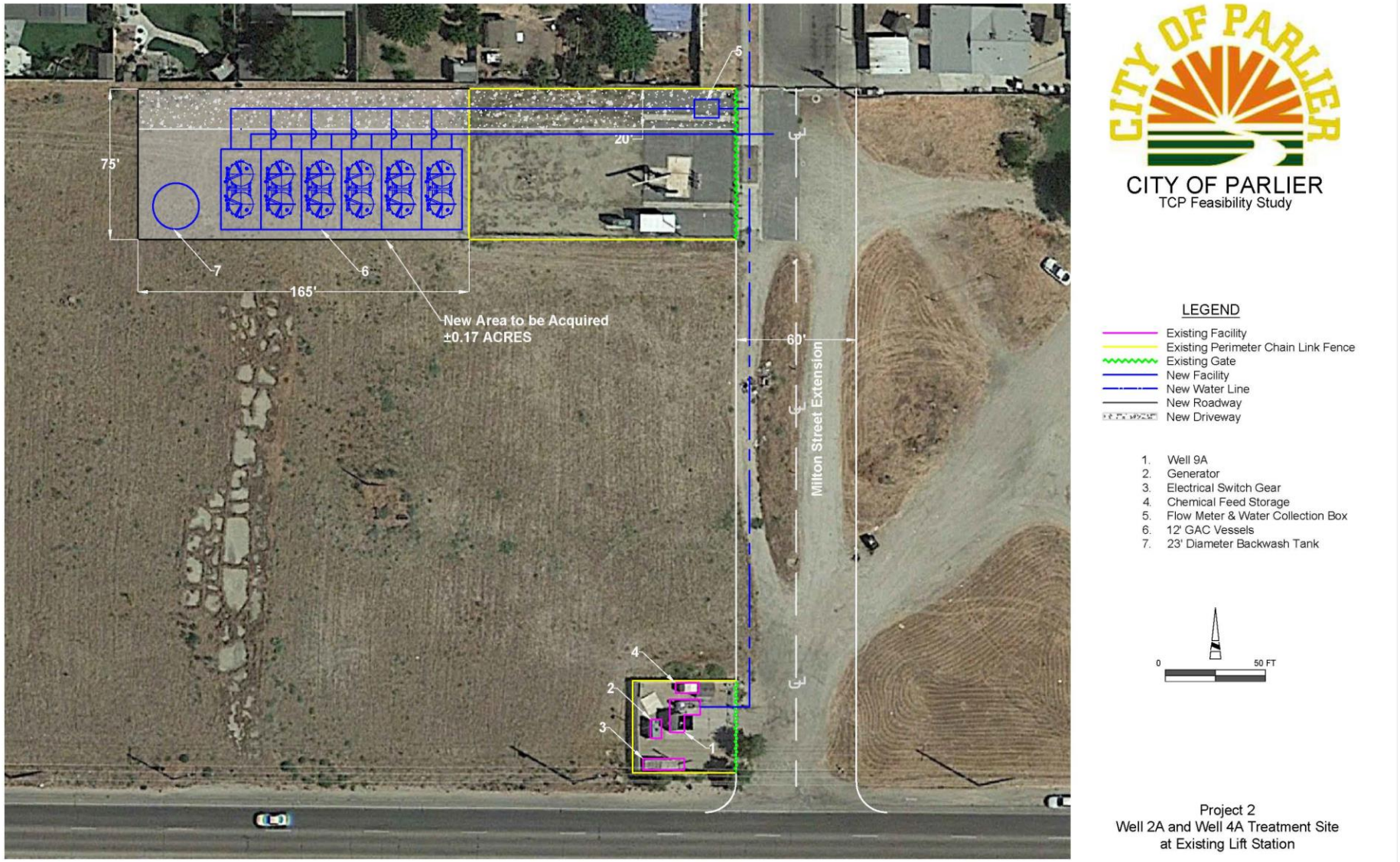


Figure 6 – Component 2 Details

2.5 Objectives

The primary objectives of the proposed project are as follows:

- The City's primary objective is to provide clean drinking water while maintaining existing levels of regulatory compliance for the protection of water quality and public health.
- The City seeks to operate the improved water system with the most cost-effective methods available that meet the City's overall system performance and regulatory compliance requirements.

2.6 Other Required Approvals

The proposed Project will include, but not be limited to, the following regulatory requirements:

- The adoption of a Mitigated Negative Declaration by the City of Parlier.
- State Water Resources Control Board approval
- Regional Water Quality Control Board approval
- Rules and Regulations of the San Joaquin Valley Air Pollution Control District

Chapter 3

IMPACT ANALYSIS

Initial Study Checklist

3.1 Environmental Checklist Form

Project title:

Parlier 1, 2, 3 – TCP Removal Treatment Systems

Lead agency name and address:

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

Contact person and phone number:

Antonio Gastelum, City Manager: 559.646.3545
Alfonso Manrique, PE: 559.473.1371

Project location:

See Section 2.1

Project sponsor's name/address:

City of Parlier

General plan designation:

Numerous GP designations consisting of residential, public land, roadways

Zoning:

Numerous ZO designations consisting of residential, public land, roadways

Description of project:

See Section 2.3

Surrounding land uses/setting:

See Section 2.2

Other public agencies whose approval or consultation is required (e.g., permits, financing approval, participation agreements):

See Section 2.5

3.2 Environmental Factors Potentially Affected

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

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

3.3 Determination

Based on this initial evaluation:

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

☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the

project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

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

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

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

_____ _____

Antonio Gastelum, City Manager Date

City of Parlier

I. AESTHETICS

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

SETTING

Environmental

The City of Parlier (City) lies in the San Joaquin Valley's central-eastern region, west of the Kings River and the City of Reedley in Fresno County. The City is adjacent to E. Manning Avenue and is approximately 11 miles southeast of the Fresno City limits.

The City is relatively flat with an average elevation of 325 feet and is located in an area dominated by agriculture. The proposed Project sites are in the vicinity of residential development on land already developed with water infrastructure.

There are no scenic resources or scenic vistas in the area. The nearest major highway is Highway 99, located approximately 3.25 miles west of the City.

California Scenic Highway Program

The California Department of Transportation (Caltrans) administers the California Scenic Highway Program, which is the only official program in Fresno County designed to protect and enhance scenic/visual resources. Its purpose is to protect and enhance the natural scenic beauty of California highways and adjacent corridors, through special conservation treatment. The state laws governing the Scenic Highway Program are found in the Streets and Highways Code, Sections 260 through 263. Other regulations that assist in minimizing impacts from urban land uses, to some extent, include County and City zoning and development standards and regulations.

RESPONSES

a. Have a substantial adverse effect on a scenic vista?
b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

Less than Significant Impact. The proposed Project involves installing approximately 3,710 linear feet of pipeline and constructing two water treatment facilities, one at the existing Well #9A site, and the other immediately west of the Milton Lift Station site. The project also includes improvements to the existing Well #5 site.

The City of Parlier and Fresno County General Plans do not identify any scenic vistas within the Project area; however, the Sierra Nevada Mountains to the east could be considered scenic. A scenic vista is generally considered a view of an area that has remarkable scenery or a resource that is indigenous to the area. The Project will not impede any views of the mountains, as the Project components aren't tall enough to impede views from existing residential developments.

Construction activities will occur as necessary for approximately 12 months and will be visible from the adjacent roadsides; however, the construction activities will be temporary in nature and will not affect a scenic vista, as none exist in the Project area.

There are no state designated scenic highways within the immediate proximity to the Project site. California Department of Transportation Scenic Highway Mapping System identifies SR 180 east of SR 63 a County Scenic Highway. This is the closest scenic highway, located approximately 16 miles northeast of the Project site; however, the Project site is both physically and visually separated from SR 180 by

intervening land uses. In addition, no scenic highways or roadways are listed within the Project area in the City of Parlier's General Plan or Fresno County's General Plan. The proposed Project would not damage any trees, rock outcroppings or historic buildings within a State scenic highway corridor. Any impacts would be considered ***less than significant***.

Mitigation Measures: None are required.

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

Less than Significant Impact. The proposed Project involves the construction of new water treatment facilities, improvements to an existing well, and the installation of pipeline. The water infrastructure improvements will take place in or adjacent to locations that already have water facilities on site. The pipeline will be installed underground. The proposed Project site will be similar in visual character to the existing landscape, as public facilities are found throughout both rural and urban parts of the Central Valley. As such, the proposed Project will not substantially degrade the existing visual character or quality of the area or its surroundings.

The impact will be ***less than significant***.

Mitigation Measures: None are required.

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

Less Than Significant Impact. Currently the sources of light in the Project area are from street lights, the vehicles traveling along surrounding roads, and any security lights at the existing water facilities. The proposed Project may include a minimal amount of additional security lighting; however, any additional lighting would not be expected to appreciably change any existing glare or lighting conditions because the security lighting will be shielded and directed downward to prevent light-spill onto adjacent properties. Accordingly, the proposed Project would not create substantial new sources of light or glare. Potential impacts are ***less than significant***.

Mitigation Measures: None are required.

II. AGRICULTURE AND FOREST RESOURCES

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	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?	☐	☐	☐	☒

SETTING

Environmental

The three project areas are located within the City Limits and are within or near residential neighborhoods in sites that have been developed with water treatment or distribution facilities. The sites are located in an area of the City considered urban, built up land by the State Farmland Mapping and Monitoring Program (FMMP).

RESPONSES

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?

No Impact. The Project does not include conversion of farmland to non-farmland. The new water infrastructure and pipeline will be located in areas of the City considered urban, built up land by the FMMP. The proposed Project does not have the potential to result in the conversion of farmland to non-agricultural uses or forestland uses to non-forestland.

The proposed Project sites are not under a Williamson Act contract and as described above, the sites are not zoned for agricultural purposes. The proposed Project is not zoned for forestland and does not propose any zone changes related to forest or timberland. No conversion of forestland, as defined under Public Resource Code or General Code, as referenced above, would occur as a result of the proposed Project.

No land conversion from Farmland would occur as a result of the proposed Project. Surrounding land uses include agricultural, vacant land, and scattered rural residences; as such, the proposed Project does not have the potential to result in the conversion of Farmland to non-agricultural uses or forestland uses to non-forestland.

There is ***no impact***.

Mitigation Measures: None are required.

III. AIR QUALITY

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	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 or adversely affecting a substantial number of people)?	☐	☐	☐	☒

SETTING

Environmental

The climate of the San Joaquin Valley is characterized by long, hot summers and stagnant, foggy, winters. Precipitation is low and temperature inversions are common. These characteristics are conducive to the formation and retention of air pollutants and are in part influenced by the surrounding mountains which intercept precipitation and act as a barrier to the passage of cold air and air pollutants. The proposed Project lies within the San Joaquin Valley Air Basin (Air Basin), which is managed by the San Joaquin Valley Air Pollution Control District (SJVAPCD or Air District). National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) have been established for the following criteria pollutants: carbon monoxide (CO), ozone (O_3), sulfur dioxide (SO_2), nitrogen dioxide (NO_2), particulate matter (PM_{10} and $PM_{2.5}$), and lead (Pb). The CAAQS also set standards for sulfates, hydrogen sulfide, and visibility.

Air quality plans or attainment plans are used to bring the applicable air basin into attainment with all state and federal ambient air quality standards designed to protect the health and safety of residents within that air basin. Areas are classified under the Federal Clean Air Act as either "attainment", "non-

attainment", or "extreme non-attainment" areas for each criteria pollutant based on whether the NAAQS have been achieved or not. Attainment relative to the State standards is determined by the California Air Resources Board (CARB). The San Joaquin Valley is designated as a State and Federal extreme non-attainment area for O_3, a State and Federal non-attainment area for $PM_{2.5}$, a State non-attainment area for PM_{10}, and Federal and State attainment area for CO, SO_2, NO_2, and Pb.

Clean Air Act

The federal Clean Air Act of 1970 (as amended in 1990) required the U.S. Environmental Protection Agency (EPA) to develop standards for pollutants considered harmful to public health or the environment. Two types of National Ambient Air Quality Standards (NAAQS) were established. Primary standards protect public health, while secondary standards protect public welfare, by including protection against decreased visibility, and damage to animals, crops, landscaping and vegetation, or buildings. NAAQS have been established for six "criteria" pollutants: carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), ozone (O_3), particulate matter (PM_{10} and $PM_{2.5}$), and lead (Pb).

California Air Resources Board

The California Air Resources Board (CARB) is the state agency responsible for implementing the federal and state Clean Air Acts. CARB has established California Ambient Air Quality Standards (CAAQS), which include all criteria pollutants established by the NAAQS, but with additional regulations for Visibility Reducing Particles, sulfates, hydrogen sulfide (H_2S), and vinyl chloride.

The proposed Project is located within the Air Basin, which includes San Joaquin, Stanislaus, Merced, Madera, Fresno, Kings, Tulare, and parts of Kern counties and is managed by the SJVAPCD.

Air basins are classified as attainment, nonattainment, or unclassified. Attainment is achieved when monitored ambient air quality data is in compliance with the standards for a specified pollutant. Non-compliance with an established standard will result in a nonattainment designation and an unclassified designation indicates insufficient data is available to determine compliance for that pollutant.

Additional State regulations include:

CARB Portable Equipment Registration Program – This program was designed to allow owners and operators of portable engines and other common construction or farming equipment to register their equipment under a statewide program so they may operate it statewide without the need to obtain a permit from the local air district.

U.S. EPA/CARB Off-Road Mobile Sources Emission Reduction Program – The California Clean Air Act (CCAA) requires CARB to achieve a maximum degree of emissions reductions from off-road mobile sources to attain State Ambient Air Quality Standards (SAAQS); off- road mobile sources include most construction equipment. Tier 1 standards for large compression-ignition engines used in off-road mobile sources went into effect in California in 1996. These standards, along with ongoing rulemaking, address emissions of nitrogen oxides (NOx) and toxic particulate matter from diesel engines. CARB is currently developing a control measure to reduce diesel PM and NOx emissions from existing off-road diesel equipment throughout the state.

California Global Warming Solutions Act – Established in 2006, Assembly Bill 32 (AB 32) requires that California's GHG emissions be reduced to 1990 levels by the year 2020. This will be implemented through a statewide cap on GHG emissions, which will be phased in beginning in 2012. AB 32 requires CARB to develop regulations and a mandatory reporting system to monitor global warming emissions levels.

San Joaquin Valley Air Pollution Control District

The San Joaquin Valley Air Pollution Control District (SJVAPCD) is the local agency charged with preparing, adopting, and implementing mobile, stationary, and area air emission control measures and standards. The SJVAPCD has rules and regulations that may apply to the Project, including, but not limited to:

Rules 4101 (Visible Emissions) and 4102 (Nuisance) – These rules apply to any source of air contaminants and prohibits the visible emissions of air contaminants or any activity which creates a public nuisance.

Rule 4702 (Internal Combustion Engine) – This rule applies to any internal combustion engine rated at 25 brake horsepower or greater.

Regulation VIII (Fugitive PM_{10} Prohibitions) – This regulation, a series of eight regulations, is designed to reduce PM_{10} emissions by reducing fugitive dust. Regulation VIII requires implementation of control measures to ensure that visible dust emissions are substantially reduced. The control measures are summarized in Table 1.

Table 1
San Joaquin Valley Air Pollution Control District
Regulation VIII Control Measures for Construction Related Emissions of PM_{10}

The following are required to be implemented at all construction sites:
All disturbed areas, including storage piles, which are not actively utilized for construction purposes, shall be effectively stabilized of dust emissions using water, chemical stabilizers/suppressants, covered with a tarp or other similar cover, or vegetative ground cover.

All on-site unpaved roads and off-site unpaved access roads shall be effectively stabilized of dust emissions during construction using water or chemical stabilizer suppressant.
All land clearing, grubbing, scraping, excavation, land leveling, grading cut and fill, and demolition activities during construction shall be effectively controlled of fugitive dust emissions utilizing application of water or pre-soaking.
When materials are transported off-site, all material shall be covered, or effectively wetted to limit visible dust emissions, and at least six inches of freeboard space from top of container shall be maintained.
All operations shall limit, or expeditiously remove the accumulation of mud or dirt from adjacent public streets at the end of each workday. The use of dry rotary brushes is expressly prohibited except where preceded or accompanied by sufficient wetting to limit the visible dust emissions. Use of blower devices is expressly forbidden.
Following the addition of materials to, or the removal of materials from, the surface of outdoor storage piles, said piles shall be effectively stabilized of fugitive dust emissions utilizing sufficient water or chemical stabilizer/suppressant.
Within urban areas, trackout shall be immediately removed when it extends 50 or more feet from the site at the end of each workday.
Any site with 150 or more vehicle trips per day shall prevent carryout and trackout.

RESPONSES:

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?

Less than Significant Impact. The San Joaquin Valley Air Basin (SJVAB) is designated nonattainment of state and federal health based air quality standards for ozone and $PM_{2.5}$. The SJVAB is designated nonattainment of state PM_{10}. To meet Federal Clean Air Act (CAA) requirements, the SJVAPCD has multiple air quality attainment plan (AQAP) documents.

Because of the region's non-attainment status for ozone, $PM_{2.5}$, and PM_{10}, if the project-generated emissions of either of the ozone precursor pollutants (ROG or NOx), PM_{10}, or $PM_{2.5}$ were to exceed the SJVAPCD's significance thresholds, then the project uses would be considered to conflict with the attainment plans. In addition, if the project uses were to result in a change in land use and corresponding increases in vehicle miles traveled, they may result in an increase in vehicle miles traveled that is unaccounted for in regional emissions inventories contained in regional air quality control plans.

As discussed in Impact c), below, predicted construction and operational emissions would not exceed the SJVAPCD's significance thresholds for ROG, NOx, PM_{10}, and $PM_{2.5}$. As a result, the Project uses would not conflict with emissions inventories contained in regional air quality attainment plans, and would not result in a significant contribution to the region's air quality non-attainment status. Additionally, the Project would comply with all applicable rules and regulations.

Because ozone is a regional pollutant[1], the pollutants of concern for localized impacts are CO and fugitive PM_{10} dust from construction. Ozone and PM_{10} exhaust impacts are addressed under Impact c), below. The proposed Project would not result in localized CO hotspots or PM_{10} impacts, as discussed below. Therefore, the proposed Project would not violate an air quality standard or contribute to a violation of an air quality standard in the proposed Project area.

Localized PM_{10}

Localized PM_{10} would be generated by proposed Project construction activities, which would include earth-disturbing activities. The SJVAPCD indicates that all control measures in Regulation VIII are required for all construction sites by regulation. The SJVAPCD's Guide for Assessing and Mitigating Air Quality Impacts[2] (GAMAQI) lists additional measures that may be required of very large projects or projects close to sensitive receptors. If all appropriate "enhanced control measures" in the GAMAQI are not implemented for very large projects or those close to sensitive receptors, then construction impacts would be considered significant (unless the Lead Agency provides a satisfactory detailed explanation as to why a specific measure is unnecessary). The GAMAQI also lists additional control measures (Optional Measures) that may be implemented if further emission reductions are deemed necessary by the Lead Agency. The SJVAPCD's Regulation VIII (Fugitive PM_{10} Prohibitions) has been updated and expanded since the GAMAQI guidance was written in 2002. Regulation VIII now includes the "enhanced control measures" contained in the GAMAQI.

The proposed Project would comply with the SJVAPCD's Regulation VIII dust control requirements during any proposed construction (including Rules 8011, 8031, 8041, and 8071). Compliance with this regulation would reduce the potential for significant localized PM_{10} impacts to ***less than significant*** levels.

CO Hotspot

[1] San Joaquin Valley Air Pollution Control District. Air Quality Plans. Ozone Plans, 8-hour ozone standard. https://www.valleyair.org/Air_Quality_Plans/Ozone_Plans.htm. Accessed September 2018.
[2] San Joaquin Valley Air Pollution Control District. March 19, 2015. Guide for Assessing and Mitigating Air Quality Impacts. http://www.valleyair.org/transportation/GAMAQI_3-19-15.pdf. Accessed September 2018.

Localized high levels of CO are associated with traffic congestion and idling or slow-moving vehicles. The SJVAPCD provides screening criteria to determine when to quantify local CO concentrations based on impacts to the level of service (LOS) of roadways in the Project vicinity.

As further discussed in the Transportation/Traffic checklist evaluation, the Project would not generate, or substantially contribute to, additional traffic that would reduce the level of surface on local roadways. Therefore, the Project would not significantly contribute to an exceedance that would exceed state or federal CO standards.

The nonattainment pollutants for the SJVAPCD are ozone, PM_{10} and $PM_{2.5}$. Therefore, the pollutants of concern for this impact are ozone precursors, regional PM_{10}, and $PM_{2.5}$. Ozone is a regional pollutant formed by chemical reaction in the atmosphere, and the Project's incremental increase in ozone precursor generation is used to determine the potential air quality impacts, as set forth in the GAMAQI.

The annual significance thresholds to be used for the Project emissions are as follows[3]:

Table 2
Annual Significance Thresholds

Pollutant/ Precursor	Construction Emissions (tpy)	Operational Emissions (permitted) (tpy)	Operational Emissions (non-permitted) (tpy)
CO	100	100	100
NOx	10	10	10
ROG	10	10	10
SOx	27	27	27
PM_{10}	15	15	15
$PM_{2.5}$	15	15	15

The estimated annual construction and operational emissions are shown below. The California Emissions Estimator (CalEEMod), Version 2016.3.2, was used to estimate construction of the water treatment plants and operational (vehicle trips) emissions. The water treatment plants will run off electrical power so there will be no on-site emissions generated by plant operations. The Sacramento Metropolitan Air Quality Management District's Road Construction Emissions Model, Version 8.1.0 was utilized to estimate emissions generated from installing the approximately 3,710 linear feet of pipeline. Modeling

[3] San Joaquin Valley Air Pollution Control District. March 19, 2015. Guide for Assessing and Mitigating Air Quality Impacts. http://www.valleyair.org/transportation/GAMAQI_3-19-15.pdf. Page 80. Accessed September 2018.

results are provided in Table 3 and the CalEEMod and Road Construction Emissions Model output files are provided in Appendix A.

Table 3
Proposed Project Construction and Operation Emissions*

	ROG (tons/year)	NO_x (tons/year)	PM10 (tons/year)	CO2e (tons/year)
Total Project Construction Emissions	0.0930	0.5787	0.0391	65.0221
Total Project Operation and Area	0.0359	0.1389	0.0399	69.4889
Threshold of Significance	10	10	15	--

* Appendix A includes projected emissions from ozone, carbon monoxide, lead, particulate matter (less than 2.5 microns in diameter), but are not included in this table because there is no established threshold of significance for these emissions.

Sensitive receptors are those segments of the population most susceptible to poor air quality (i.e., children, the elderly, and those with pre-existing serious health problems affected by air quality). Land uses where sensitive individuals are most likely to spend time include schools and school yards, parks and playgrounds, daycare centers, nursing homes, hospitals, and residential communities are also considered sensitive receptors[4]. The nearest sensitive receptors to the proposed Project site are residential houses located immediately adjacent to the pipeline alignment and the well sites.

Construction would take place within the vicinity of sensitive receptors, however, construction emissions would be well below SJVAPCD thresholds. In addition, the proposed construction period would be brief and would occur as-needed to achieve full buildout. Therefore, the small amount of emissions generated and the short duration of the construction period would not expose sensitive receptors to substantial pollutant concentrations. Operational emissions would be limited to infrequent maintenance vehicle trips at to the site of the treatment plants.

Therefore, this impact is ***less than significant.***

Mitigation Measures: None are required.

Refer to Section VII – *Greenhouse Gas Emissions* for the analysis of project-related greenhouse gas emission.

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

[4] San Joaquin Valley Air Pollution Control District. March 19, 2015. Guide for Assessing and Mitigating Air Quality Impacts. http://www.valleyair.org/transportation/GAMAQI_3-19-15.pdf. Page 44. Accessed September 2018.

No Impact. If the proposed Project were to result in a sensitive odor receptor being located in the vicinity of an undesirable odor generator, the impact would be considered significant. The SJVAPCD regulates odor sources through its nuisance rule, Rule 4102, but has no quantitative standards for odors. The SJVAPCD presents a list of project screening trigger levels for potential odor sources in its GAMAQI, which is displayed in Table 4. If the project were to result in sensitive receptors being located closer to an odor generator in the list in Table 4 than the recommended distances, a more detailed analysis including a review of SJVAPCD odor complaint records is recommended.

Table 4
Screening Levels for Potential Odor Sources[5]

Odor Generator	Distance (Miles)
Wastewater Treatment Facilities	2
Sanitary Landfill	1
Transfer Station	1
Composting Facility	1
Petroleum Refinery	2
Asphalt Batch Plant	1
Chemical Manufacturing	1
Fiberglass Manufacturing	1
Painting/Coating Operations (e.g., auto body shop)	1
Food Processing Facility	1
Feed Lot/Dairy	1
Rendering Plant	1

Significant odor problems are defined as more than one confirmed complaint per year averaged over a three-year period or three unconfirmed complaints per year averaged over a three-year period.

The water treatment plants, improvements to Well #5 and associated pipeline would not be sources of objectionable odors and as a result, any impacts would be considered to have ***no impact.***

Mitigation Measures: None are required.

[5] San Joaquin Valley Air Pollution Control District. March 19, 2015. Guide for Assessing and Mitigating Air Quality Impacts. http://www.valleyair.org/transportation/GAMAQI_3-19-15.pdf. Page 103. Accessed September 2018.

IV. BIOLOGICAL RESOURCES

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☐	☒
c. Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☒	☐	☐

IV. BIOLOGICAL RESOURCES

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
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?	☐	☐	☐	☒

SETTING

Environmental

Colibri Ecological Consulting, LLC was retained to conduct a reconnaissance survey to describe the biotic resources of the proposed Project site and to evaluate potential impacts to those resources that could result from proposed Project development. The results of their report are summarized herein and the full report is included in Appendix B – Biological Assessment (May 2018).

Colibri scientists Graham Biddy, Howard Clark, and Ryan Slezak conducted a field reconnaissance survey of the Project site on 27 April 2018. The Project site and a 50-foot buffer surrounding the Project site were walked and thoroughly inspected to evaluate and document the potential for the site to support federally or state-protected resources. The survey area also included a 0.5- mile buffer around the Project site to evaluate the potential occurrence of nesting special-status raptors. All plants except those under cultivation in agricultural fields or planted in residential or commercial areas and all animals (vertebrate wildlife species) observed within the survey area were identified and documented. The survey area was

evaluated for the presence of regulated habitats, including lakes, streams, and other waters using methods described in the *Wetlands Delineation Manual* and regional supplement.[6,7]

Two biotic habitat/land use types were observed on the proposed Project site during the April 2018 field survey: urban and ruderal (See Figures 7 through 11 of Appendix B). No potentially regulated habitats of any kind were found on or within 50 feet of the Project site. The nearest river, the Kings River, is about four miles east of the Project site. According to the Wild and Scenic Rivers Act, the designated wild and scenic reach of the Kings River begins at the headwaters of the Middle Fork and South Fork and ends at the confluence of the main stem and Spring Creek, approximately 35 miles northeast of the Project site.

No marine or estuarine fishery resources or migratory routes to and from anadromous fish spawning grounds were present in the survey area. In addition, no EFH, defined by the Magnuson-Stevens Act as those resources necessary for fish spawning, breeding, feeding, or growth to maturity, were present in the survey area.

A list of the animal and plant species observed within the Project area is provided in Appendix B.

Special Status Plants and Animals

The official species list for the Project site (see Appendix A of Appendix B) included eight species listed as threatened or endangered under the Federal Endangered Species Act. Those species include the threatened vernal pool fairy shrimp (*Branchinecta lynchi*), the threatened Delta smelt (*Hypomesus transpacificus*), the threatened California red-legged frog (*Rana draytonii*), the threatened California tiger salamander (*Ambystoma californiense*), the endangered blunt-nosed leopard lizard (*Gambelia sila*), the threatened giant garter snake (*Thamnophis gigas*), the endangered Fresno kangaroo rat (*Dipodomys nitratoides exilis*), and the endangered San Joaquin kit fox (*Vulpes macrotis mutica*). As identified in the official species list, the Project site does not occur in designated or proposed critical habitat.

Searching the California Natural Diversity Database (CNDDB) for records of special-status species from within the Selma 7.5-minute USGS topographic quad and the eight surrounding quads produced 104 records of 38 species (see Table 1 of Appendix B). Of those species, five are known from within five miles of the Project site. The non-federally listed species known from within five miles of the Project site include: California satintail (*Imperata brevifolia*), a plant with a CNPS Rare Plant Rank of 2B.1, pallid bat (*Antrozous pallidus*), a State Species of Special Concern (SSSC), Swainson's hawk (*Buteo swainsoni*), a

[6] United Sates Army Corps of Engineers. 198. Corps of Engineers Wetlands Delineation Manual. Wetland Research Program Technical Report Y-87-1.

[7] United States Army Corps of Engineers. 2008. Regional Supplements to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0). ERDC/EL TR-08-28. https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb1046489.pdf. Assessed September 2018.

species state-listed as threatened. The CNDDB search revealed three occurrences of the valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*), a federally threatened species, and one occurrence of the western yellow-billed cuckoo (*Coccyzus americanus occidentalis*), a state-listed as endangered and federally listed as threatened species.

RESPONSES:

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

Less than Significant Impact with Mitigation. One special-status species, the state-listed as threatened Swainson's hawk (*Buteo swainsoni*), could occur near the proposed Project site. Swainson's hawks use open areas, mainly grasslands and some agricultural fields, for foraging and prey largely on small mammals during the breeding season. In the non-breeding season, they rely greatly on insects. Breeding sites for Swainson's hawks include areas with scattered trees near agricultural areas and grasslands or along streams. Trees favored for nesting include willows, oaks, junipers, aspens, cottonwoods, and conifers (Bechard et al. 2010). Potential nest trees were observed within 0.5 miles of all Project areas.

The proposed Project is not expected to impact any other special-status species due to the lack of habitat for those species in the survey area.

Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings or otherwise lead to nest abandonment, which would constitute a significant impact. To reduce potential impacts Swainson's hawk to ***less than significant***, Mitigation Measure BIO-1 shall be implemented.

Mitigation Measures:

> ***Mitigation Measure BIO-1.*** If work will occur during the Swainson's hawk nesting season (15 March – 15 August), a qualified biologist shall conduct a survey for active Swainson's hawk nests within 0.5 miles of the Project site no more than 14 days prior to the start of construction. If an active nest is found within 0.5 miles and the activity would disrupt nesting, a buffer or limited operating period should be implemented in consultation with the CDFW.

Implementation of the above measures will reduce potential Project impacts to the Swainson's hawk to a less than significant level under CEQA and will ensure that the Project is in compliance with state and federal laws protecting these species.

b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

c. Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

No Impact. As described in the biological study and in the setting section above, the proposed Project area contains ruderal and urban habitat types. Riparian habitat and other sensitive natural communities are absent from the Project area. In addition, there are no wetlands on or near the Project sites. There is ***no impact***.

Mitigation Measures: None are required.

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

Less than Significant Impact with Mitigation. The Project has the potential to impede the use of nursery sites for native birds protected under the Migratory Bird Treaty Act and California Fish and Game Code. Migratory birds have the potential to nest on or near the Project site. Such species include, but are not limited to, red-tailed hawk (*Buteo jamaicensis*), Swainson's hawk (*Buteo swainsoni*), western kingbird (*Tyrannus verticalis*), common raven (*Corvus corax*), California scrub-jay (*Aphelocoma californica*), and house finch (*Carpodacus mexicanus*). Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings or otherwise lead to nest abandonment. Disturbance that causes nest abandonment or loss of reproductive effort is considered take by the CDFW. Loss of fertile eggs or nestlings, or any activities resulting in nest abandonment, could constitute a significant impact if the species is particularly rare in the region. Construction activities such trenching and grading that disturb a rare nesting bird on the site or immediately adjacent to the construction zone could constitute a significant impact. Implementation of mitigation measure BIO-2 will reduce the potential impact to a ***less than significant*** level.

Mitigation measures.

Mitigation Measure BIO-2. To the extent practicable, construction shall be scheduled to avoid the nesting season, which extends from February through August. If it is not possible to schedule construction between September and January, preconstruction surveys for nesting birds shall be conducted by a qualified biologist to ensure that no active nests will be disturbed during Project implementation. A pre-construction survey shall be conducted no more than 14 days prior to the initiation of construction activities. During this survey, the qualified biologist shall inspect all potential nest substrates in and immediately adjacent to the impact areas for nests. If an active nest is found close enough to the construction area to be disturbed by these activities, the qualified biologist shall determine the extent of a construction-free buffer to be established around the nest. If work cannot proceed without disturbing the nesting birds, work may need to be halted or redirected to other areas until nesting and fledging are completed or the nest has otherwise failed for non-construction related reasons.

Implementation of the above measures will reduce potential Project impacts to protected migratory birds to a less than significant level under CEQA and will ensure that the Project is in compliance with state and federal laws protecting this species.

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?

No Impact. There are no applicable biological ordinances or Habitat Conservation Plans. The Project will be consistent with the goals and policies of the Parlier General Plan and the Fresno County General Plan. There is ***no impact***.

Mitigation Measures: None are required.

V. CULTURAL RESOURCES

Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a. Cause a substantial adverse change in the significance of a historical resource pursuant to §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 formal cemeteries?	☐	☒	☐	☐

SETTING

Environmental

Archaeological resources are places where human activity has measurably altered the earth or left deposits of physical remains. Archaeological resources may be either prehistoric (before the introduction of writing in a particular area) or historic (after the introduction of writing). The majority of such places in this region are associated with either Native American or Euroamerican occupation of the area. The most frequently encountered prehistoric and early historic Native American archaeological sites are village settlements with residential areas and sometimes cemeteries; temporary camps where food and raw materials were collected; smaller, briefly occupied sites where tools were manufactured or repaired; and special-use areas like caves, rock shelters, and sites of rock art. Historic archaeological sites may include foundations or features such as privies, corrals, and trash dumps.

The study area was occupied by the Wet-chi-kit Yokuts, one of the many autonomous tribes that made up the Northern Valley Yokuts. The Northern Valley Yokuts inhabited the marshy regions of the upper half of the San Joaquin Valley (Wallace 1978b). The Yokuts language belongs to the broader Penutian family, which includes a relatively diverse group of languages including Miwok, Costanoan, Maiduan,

and Wintuan (Silverstein 1978). Their linguistically related brethren, the Southern Valley Yokuts, lived to the south, and the Miwok occupied areas to the north and east.[8]

The San Joaquin River and its tributaries provided food (fish and waterfowl), riparian plants for building and basket making, and avenues of travel for small watercraft. Not surprisingly, Yokuts villages were situated near major waterways and built on low mounds to prevent spring flooding. Ethnographic evidence indicates that these villages were occupied for the majority of the year and abandoned for short periods as the residents left to engage in seasonal resource gathering (McCarthy 1995). The Northern Valley Yokuts were defined by individual autonomous villages (Latta 1949:3) composed of single-family structures (Moratto 1988:174; Wallace 1978b:451). The structures were small and usually built from woven tule mats. Other structures included sweathouses and ceremonial chambers. Most stone artifacts were fashioned from cherts, although obsidian was imported from other locations (Wallace 1978a:465). Mortars and pestles were the dominant ground stone tools; bone was used to manufacture awls for making coiled baskets. Apparently the Northern Valley Yokuts did not manufacture ceramic items, although given the presence of ceramics in the nearby hills and reportedly at some San Joaquin Valley sites, it is likely that ceramics were brought to the region via trade.[9]

Area-Specific History

The City of Parlier's history extends back to the late 1800s. The town is named after the I. N. Parlier family who moved from Springfield, Illinois, to Modesto in 1873 and eventually made their way to present day Parlier by means of horse and wagon. The family homesteaded about 1,000 feet north of the present Santa Fe railroad track at the end of L Street and began dry-farming several acres. As other families settled nearby, Mr. Parlier established a general store, trading post, and post office near his home (City of Parlier 2017; Nickel 1961:62). Parlier was officially incorporated in 1921, and by 1930 had a population of 564 (California Department of Finance 2012; City of Parlier 2017). Parlier continued to grow throughout the twentieth century and the population has increased to 12,167 residents today (City of Parlier 2017). The community was founded on an economy dominated by wheat production that later diversified to include grapes, fruit, and other crops (City of Parlier 2017). Parlier lies northwest of Reedley on the Santa Fe rail line, which was integral in the shipment of produce and goods out of town.[10]

The first Japanese arrived in Fresno County in the 1880s and 1890s; most came to work in the fields (Temple 1986). By the turn of the century, thousands had immigrated to Fresno attracted to the

[8] Applied Earthworks. Cultural Resource Inventory for the City of Parlier 1,2,3-TCP Mitigation Projects, Fresno County, California. August 2018. Appendix C.
[9] Ibid.
[10] Ibid.

agriculture and work opportunities. Many settled in smaller communities in rural Fresno County, particularly in the areas in and around Parlier, Selma, and Reedley. A labor camp was established at the J. H. Eymann ranch located west of what is now West Avenue in Reedley. A man named Yasui was the labor camp boss and figured prominently in securing jobs for many of the Japanese workers on farms in Reedley (Nickel 1961). The Japanese, like other labor groups, came for seasonal work; however, those who made their homes in the area had a hand in planting and played a role in diversifying the types of crops and the style of farming used to grow these crops. The Japanese farmers contributed greatly to the production of berries and different types of vegetables in the San Joaquin Valley (Nickel 1961).[11]

Methodology

To meet State and federal requirements, the City retained Applied EarthWorks, Inc. (Æ) to conduct background research, complete a records search, request a search of the Native American Heritage Commission's Sacred Lands File and reach out to appropriate Native American contacts, conduct a cultural resources survey, and prepare a technical report, dated August 2018 (see Appendix C). The results of the Report are summarized herein and were used to support the determinations made in this CEQA document.

Native American Outreach

See Section XVII Tribal Cultural Resources for information pertaining to Native American Outreach.

Records Search and Site-Specific Research

On May 8, 2018, Æ requested a Project area search of the CHRIS from the SSJVIC at California State University, Bakersfield. SSJVIC staff examined site record files, maps, and other materials to identify previously recorded resources and prior surveys undertaken within the Project APE as well as within a 0.5-mile radius of the Project APE. Sources included the Office of Historic Preservation's Historic Property Directory, the California Inventory of Historic Resources (1976), and the Archaeological Determinations of Eligibility (Appendix C of Appendix C).

In addition to the records search, Æ consulted various online sources, primarily to ascertain the general chronology of land use in the Project area. These included the listings of the National Register of Historic Places, the California Register of Historical Resources, California Historical Landmarks, and California Points of Historical Interest as well as historical USGS maps, Fresno County property atlases available from the Online Archive of California, and aerial photographs in the collection of the Henry Madden

[11] Applied Earthworks. Cultural Resource Inventory for the City of Parlier 1,2,3-TCP Mitigation Projects, Fresno County, California. August 2018. Appendix C.

Library at California State University, Fresno, accessed using the Map and Aerial Locator Tool (MALT). Additionally, Æ reviewed its in-house library and files and conducted a geologic review of the Project area to identify the potential for buried cultural resources.

Pedestrian Survey

Æ Staff Archaeologists Kathleen Jernigan and Eric Kowalski performed a pedestrian survey of the Project area on June 13, 2018. Jernigan and Kowalski surveyed the APE using parallel and meandering transects spaced 10–15 meters apart. The pedestrian survey area of Components 1 and 3 extended beyond the Project boundaries, resulting in an additional 1.9 acres of survey coverage. The surveyors took photographs of the project areas using an Olympus TG-860 digital camera and recorded observations on a Survey Field Record. All field records and photographs are archived at Æ's office in Fresno, California.

Findings and Results

Records Search

The SSJVIC responded to Æ's records search request on May 21, 2018, with an inventory of previous studies conducted within the project APE as well as a 0.5-mile search radius (Records Search File No. 18-219). The SSJVIC reported that no previous investigations have been conducted within the project APE, although there have been 17 studies within a 0.5-mile radius of the APE (see Appendix C). There are no previously recorded resources listed within the project APE. Two historical built environment resources—the Centerville-Kingsburg Canal (P10-005812) and the Iseki Labor Camp (P-10-004427)—are recorded within a 0.5-mile radius of the projects.

Pedestrian Survey

Ground visibility within unpaved portions of the project area ranged from excellent (95 percent) to poor (less than 20 percent). Grasses, weeds, and ornamental landscaping were the primary factors limiting surface visibility in these areas. Soils within the APE are a light brown sandy alluvium.

No resources were identified within the proposed centralized treatment facility boundaries; however, three historic-era features were observed approximately 10–15 feet south of the proposed facility. The features include a water pump, wood utility pole, and the remains of a concrete/asphalt slab. The resources were not formally recorded as they exist outside of the project APE. The staff examined most of the proposed Project 1 pipeline route (8.57 acres) from a vehicle because more than 95 percent of the corridor is paved with asphalt or concrete.

Ground visibility was excellent at the treatment facility proposed at the Well 9A site, south of Manning Avenue—only 5 percent of the ground surface was obscured by weeds and seasonal grasses. No cultural resources were observed at this location.

Well 5A was fenced and inaccessible at the time of survey. Æ archaeologists made observations of the Component 3 well facility from outside the cyclone fence and intensively surveyed 0.12 acres around the well site. Ground visibility at the perimeter of the wells site was moderate to poor, and no cultural resources were identified.

REGULATORY SETTING

The Project is subject to the California Environmental Act (CEQA), which holds municipal and state agencies accountable for impacts to the cultural environment. If a project has the potential to cause substantial adverse change in the characteristics of an important cultural resource, known as a "historical resource" under CEQA—either through demolition, destruction, relocation, alteration, or other means—then the project is judged to have a significant impact on the environment (CEQA Guidelines, Section 15064.5[b]). Section 15064.5(a) of the CEQA Guidelines (as amended) defines a historical resource as one that: (1) is listed or determined eligible for listing in the California Register of Historical Resources (California Public Resources Code [PRC] Section 5024.1; Title 14, California Code of Regulations [CCR], Section 4852); (2) is included in a local register of historical resources (pursuant to Section 5020.1[k]) of the PRC) or identified as significant in a historical resources survey per the California Register eligibility criteria (PRC 5024.1[c]); or (3) is considered eligible by a lead agency under PRC 5020.1(j) or 5024.1. The definition subsumes a variety of resources, including prehistoric and historical archaeological sites, as well as built-environment resources, such as buildings, structures, and objects (CEQA Guidelines Section 15064.5[a][3] and Section 15064.5[c]). Given that the Project will involve ground-disturbing activities and demolition, it has the potential to impact historical resources, if present, within the Project area.

In addition, because the proposed Project will be funded through the Drinking Water State Revolving Fund, a joint federal-state program, it is federal undertaking per Title 36, Code of Federal Regulations, Section 800.16(y) subject to Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended (Title 54, U.S. Code, Section 306108). As such, the lead federal agency must consider whether a project will have an adverse effect on historic properties (i.e., resources that are eligible for inclusion on the National Register of Historic Places) within the Project Area of Potential Effects (APE).

Human Remains

Section 7050.5 of the California Health and Safety Code states that in the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains

until the coroner of the county in which the remains are discovered has determined whether or not the remains are subject to the coroner's authority. If the human remains are of Native American origin, the coroner must notify the Native American Heritage Commission within 24 hours of this identification. The Native American Heritage Commission will identify a Native American Most Likely Descendant (MLD) to inspect the site and provide recommendations for the proper and dignified treatment of the remains and associated grave artifacts.

Paleontological Resources

Paleontological resources are the fossilized remains of plants and animals and associated deposits. The Society of Vertebrate Paleontology has identified vertebrate fossils, their taphonomic and associated environmental indicators, and fossiliferous deposits as significant nonrenewable paleontological resources. Botanical and invertebrate fossils and assemblages may also be considered significant resources.

CEQA requires that a determination be made as to whether a project would directly or indirectly destroy a unique paleontological resource or site or unique geological feature (CEQA Appendix G(v)(c)). If an impact is significant, CEQA requires feasible measures to minimize the impact (CCR Title 14(3) §15126.4 (a)(1)). California Public Resources Code §5097.5 (see above) also applies to paleontological resources.

RESPONSES

a. Cause a substantial adverse change in the significance of a historical resource pursuant to §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 formal cemeteries?

Less than Significant Impact with Mitigation. As described herein, Æ performed a cultural resource inventory of the Project area to determine potential for impacts to historical resources. The inventory included a records search at the SSJVIC at California State University, Bakersfield to identify previously recorded cultural resources and prior studies in the Project area, historical research, a search of the NAHC Sacred Lands File and communication with Native American tribes and individuals from the area, and a pedestrian survey of the Project APE.

The SSJVIC records search revealed that no previous investigations have been conducted within the project APE, and there are no previously recorded sites within the APE. The search identified 17 previous cultural studies and two previously recorded resources—the Centerville-Kingsburg Canal (P-10-005812)

and the Iseki Labor Camp (P-10-004427). No other cultural resources were identified in the APE as a result of the NAHC Sacred Lands File search, Native American outreach, or archival research.

Æ did not identify any prehistoric or historic-era sites, isolates, or features in the APE as part of this inventory. The surveyors noted a historic-era water pump, wood utility pole, and the remains of a large asphalt pad just south of Well 2A; however, because the items were outside the APE, they were not documented as part of this project.

Finally, Æ's geoarchaeological assessment of the vertical APE for buried archaeological deposits yielded information to suggest that there is a low potential to encounter buried cultural resources within the project APE. Although much of the floodplain and upper river terraces of the Kings River has a moderate to high potential to contain buried archaeological remains, the project APE are just outside the area of high sensitivity. Although the APE contains young to modern soils which typically have a moderate potential for buried resources, much of the "natural" vertical APE has been disturbed by extensive agricultural practices and urban development. The potential to encounter buried soils with extensive in situ cultural deposits within the APE is low. As such, additional archaeological subsurface testing or the presence of an archaeological monitor during construction is not recommended.

While this study found no significant cultural resources within the Project area, there is always the potential for encountering prehistoric or historic-era materials during construction. If cultural materials are encountered during ground-disturbing work, it is recommended that all work in the immediate vicinity is halted until a Registered Professional Archaeologist can evaluate the finds and make recommendations.

Because unidentified cultural resources could be uncovered during proposed Project construction which could result in a potentially significant impact, the City will implement Mitigation Measure CUL-1 to help ensure that significant impacts remain ***less than significant with mitigation incorporation.***

Mitigation Measures:

> ***Mitigation Measure CUL-1:*** 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 should be halted until a qualified archaeologist can assess the discovery and take appropriate actions as necessary.

Although unlikely given the highly disturbed nature of the site and the fact that the records search did not indicate the presence of such resources, subsurface construction activities associated with the proposed Project could potentially disturb previously undiscovered human burial sites. Accordingly, this is a potentially significant impact. The California Health and Safety Code Section 7050.5 states that

if human remains are discovered on-site, no further disturbance shall occur until the Fresno County Coroner has made a determination of origin and disposition. If the Coroner determines that the remains are not subject to his or her authority and if the Coroner recognizes the human remains to be those of a Native American, or has reason to believe that they are those of a Native American, he or she shall contact, by telephone within 24 hours, the NAHC. The NAHC shall identify the person or persons it believes to be the "most likely descendant" (MLD) of the deceased Native American. The MLD may make recommendations to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in Public Resource Code Section 5097.98.

Although considered unlikely, subsurface construction activities could cause a potentially significant impact to previously undiscovered human burial sites; however, compliance with regulations would reduce this impact to ***less than significant***.

VI. ENERGY

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	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?	☐	☐	☒	☐

Responses:

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?

Less Than Significant Impact. The proposed Project involves improvements to the existing water treatment system.

During construction, the Project would consume energy in two general forms: (1) the fuel energy consumed by construction vehicles and equipment; and (2) bound energy in construction materials, such as asphalt, steel, concrete, pipes, and manufactured or processed materials such as lumber and glass. Title 24 Building Energy Efficiency Standards would provide guidance on construction techniques for the plant house to maximize energy conservation and it is expected that contractors and the City have a strong financial incentive to use recycled materials and products originating from nearby sources in order to reduce materials costs. As such, it is anticipated that materials used in construction and construction vehicle fuel energy would not involve the wasteful, inefficient, or unnecessary consumption of energy.

Operational Project energy consumption would occur for multiple purposes, including but not limited to the new components in the water treatment plant and various pumps used to get water to and from the treatment systems and general water distribution system. Operational energy would also be consumed during each vehicle trip associated with the proposed use.

As discussed in Impact XVIII – Transportation/Traffic, the proposed Project would generate approximately two additional daily vehicle trips. The length of these trips and the individual vehicle fuel efficiencies are not known; therefore, the resulting energy consumption cannot be accurately calculated. Adopted federal vehicle fuel standards have continually improved since their original adoption in 1975 and assists in avoiding the inefficient, wasteful, and unnecessary use of energy by vehicles.

As discussed previously, the proposed Project would be required to implement and be consistent with existing energy design standards at the local and state level, such as Title 24. The Project would also be subject to energy conservation requirements in the California Energy Code and CALGreen for the new plant house. Adherence to state code requirements would ensure that the Project would not result in wasteful and inefficient use of non-renewable resources due to building operation.

Therefore, any impacts are ***less than significant***.

Mitigation Measures: None are required.

VII. GEOLOGY AND SOILS

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	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 most recently	☐	☐	☒	☐

VII. GEOLOGY AND SOILS

Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
adopted Uniform Building Code creating substantial direct or indirect risks to life or property?				
e. Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒
f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☒	☐

SETTING

Environmental

The Project area is on the eastern periphery of the San Joaquin Valley near the base of the Sierra Nevada foothills, approximately 6 miles west of the Kings River. The San Joaquin Valley is the southern half of an elongated trough called the Great Valley, a 50-mile-wide lowland that extends approximately 500 miles south from the Cascade Range to the Tehachapi Mountains (Norris and Webb 1990:412). The San Joaquin Valley parallels the 400-mile stretch of the Sierra Nevada geomorphic province, which encompasses a 40- to 100-mile-wide area ranging in elevation from 400 feet above mean sea level (amsl) along the western boundary to more than 14,000 feet amsl in the east (Norris and Webb 1990:63).

No active faults are mapped within the City or in the vicinity of the Project. The City is not zoned within a currently delineated Alquist-Priolo Earthquake Fault Zone (CGS 2014). The closest active fault is the Nunez Fault, near Coalinga, approximately 55 miles southwest of the City.

International Building Code

The California Code of Regulations (CCR) Title 24 is assigned to the California Building Standards Commission, which, by law, is responsible for coordinating all building standards. The California Building Standards Code incorporates by reference the International Building Code with necessary California amendments. The International Building Code is a widely adopted model building code in the United States published by the International Code Council. About one-third of the text within the California Building Code has been tailored for California earthquake conditions. Parlier also incorporates by reference the County Building Code, with certain exceptions.

RESPONSES:

a-i. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving 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.

a-ii. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking?

a-iii. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction?

a-iv. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving landslides?

Less Than Significant Impact. No active faults are mapped within the City and the City is not zoned within a currently delineated Alquist-Priolo Earthquake Fault Zone.[12] The closest active fault is the Nunez Fault, near Coalinga, approximately 55 miles southwest of the City. The San Andreas Fault Zone passes about 70 miles southwest of the City. Compliance with the seismic requirements of the California Building Code would reduce hazards from strong ground shaking to a less than significant level.

Additionally, prior to the issuance of building permits, the City will be required to demonstrate that the proposed development complies with all required regulations and standards pertaining to seismic hazards. There are no significant constraints to development related to seismic hazards within the City

[12] USGS. Earthquake Hazards Program. Alquist – Priolo Faults. https://earthquake.usgs.gov/learn/topics/geologicmaps/apfaults.php. Accessed September 2018.

of Parlier that cannot be reduced through implementation of applicable regulations and codes and standard engineering practices. Implementation of applicable California Building Code and local permitting requirements would minimize the potential for adverse effects on people and property due to seismic activity.

Fresno County has extremely low seismic activity levels, although shaking may be felt from earthquakes whose epicenter lie to the south and west. Due to the relatively flat topography of the proposed Project area, impacts associated with liquefaction, slope instability or landslides are not anticipated.

Any impacts would be l***ess than Significant.***

Mitigation Measures: None are required.

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

Less than Significant Impact. The proposed Project site has a generally flat topography and does not include any Project features that would result in soil erosion or loss of topsoil. The Project would be required to comply with the General Construction Permit and implementation of a Storm Water Pollution Prevention Plan to prevent sediment risk from construction activities to receiving waters and specifying best management practices that would be used by the Project to minimize pollution of stormwater. Therefore, the impact is ***less than significant***.

Mitigation Measures: None are required.

c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in 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 most recently adopted Uniform Building Code creating substantial risks to life or property?

Less Than Significant Impact. See responses a. and b. above. The site is not at significant risk from ground shaking, liquefaction, lateral spreading, or landslide and is otherwise considered geologically stable. Expansive soils are soils that expand when water is added and shrink when they dry out. Soils in and around the City include San Joaquin soil series, which a sandy loam characterized as moderately well drained. These soils have no limitations for load supporting capacity and as such, would not be classified as expansive. Any impacts would be ***less than significant.***

Mitigation Measures: None are required.

e. Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

No Impact. The proposed Project would not contribute to use of septic tanks or alternative wastewater disposal systems, as the Project includes the installation of water treatment plants, well improvements and pipeline installation. Therefore, there would be no ***impact.***

Mitigation Measures: None are required.

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

Less Than Significant Impact. As identified in the cultural studies performed for the project site, there are no known paleontological resources on or near the site. (See Section V. and Appendix C for more details). Mitigation measures have been added that will protect unknown (buried) resources during construction, including paleontological resources. In addition, the site is substantially disturbed and graded and there are no unique geological features on site or in the area. Therefore, there is a ***less than significant impact.***

Mitigation Measures: None are required.

VIII. GREENHOUSE GAS EMISSIONS

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	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?	☐	☐	☒	☐

SETTING

Environmental

Various gases in the earth's atmosphere play an important role in moderating the earth's surface temperature. Solar radiation enters earth's atmosphere from space and a portion of the radiation is absorbed by the earth's surface. The earth emits this radiation back toward space, but the properties of the radiation change from high-frequency solar radiation to lower-frequency infrared radiation. GHGs are transparent to solar radiation, but are effective in absorbing infrared radiation. Consequently, radiation that would otherwise escape back into space is retained, resulting in a warming of the earth's atmosphere. This phenomenon is known as the greenhouse effect. Scientific research to date indicates that some of the observed climate change is a result of increased GHG emissions associated with human activity. Among the GHGs contributing to the greenhouse effect are water vapor, carbon dioxide (CO_2), methane (CH_4), ozone, Nitrous Oxide (NO_x), and chlorofluorocarbons. Human-caused emissions of these GHGs in excess of natural ambient concentrations are considered responsible for enhancing the greenhouse effect. GHG emissions contributing to global climate change are attributable, in large part, to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors. In California, the transportation sector is the largest emitter of GHGs, followed by electricity generation. Global climate change is, indeed, a global issue. GHGs are global pollutants, unlike criteria pollutants and toxic air contaminants (which are pollutants of regional and/or local concern). Global climate change, if it occurs, could potentially affect water resources in California. Rising temperatures could be anticipated to result in sea-level rise (as polar ice caps melt) and possibly change the timing and amount of precipitation, which could alter water quality. According to some research, climate change could result in more extreme weather patterns; both heavier precipitation that could lead

to flooding, as well as more extended drought periods. There is uncertainty regarding the timing, magnitude, and nature of the potential changes to water resources as a result of climate change; however, several trends are evident.

Snowpack and snowmelt may also be affected by climate change. Much of California's precipitation falls as snow in the Sierra Nevada and southern Cascades, and snowpack represents approximately 35 percent of the state's useable annual water supply. The snowmelt typically occurs from April through July; it provides natural water flow to streams and reservoirs after the annual rainy season has ended. As air temperatures increase due to climate change, the water stored in California's snowpack could be affected by increasing temperatures resulting in: (1) decreased snowfall, and (2) earlier snowmelt.

RESPONSES:

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

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

Less Than Significant Impact. The proposed Project involves upgrades to the City's water treatment and distribution system. As shown in Table 3, Project construction is estimated to produce 65.0221 tons per year of CO_{2e} while annual operation emissions are estimated to be 69.4889 tons per year of CO_{2e}. Both construction and operational emissions are less than one percent of the reporting threshold set by the USEPA. As such, the proposed Project would not generate significant greenhouse gas emissions, conflict with an applicable plan, policy or regulation adopted for the purpose of reducing greenhouse gas emissions or result in significant global climate change impacts. Impacts would be ***less than significant.***

Mitigation Measures: None are required.

IX. HAZARDS AND HAZARDOUS MATERIALS

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	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	☐	☐	☒	☐

IX. HAZARDS AND HAZARDOUS MATERIALS

Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
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?	☐	☐	☐	☒

SETTING

Under Title 22 of the California Code of Regulations (CCR), the term hazardous substance refers to both hazardous materials and hazardous wastes and both are classified according to four properties: toxicity, ignitability, corrosiveness, and reactivity (CC R Title 22, Chapter 11, Article 3). A hazardous material is defined as a substance or combination of substances that may cause or significantly contribute to an increase in serious, irreversible, or incapacitating illness or may pose a substantial presence or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed. Hazardous wastes are hazardous substances that no longer have practical use, such as materials that have been discarded, discharged, spilled, or contaminated or are being stored until they can be disposed of properly.[13] Soil that is excavated from a site containing hazardous materials is a hazardous waste if it exceeds specific CCR Title 22 criteria. While hazardous substances are regulated by multiple agencies, cleanup requirements of hazardous wastes are determined on a case-by-case basis according to the agency with lead jurisdiction over the project. Public health is potentially at risk whenever hazardous materials are or will be used.

Potential hazards within City limits include asbestos containing materials, lead-based materials, septic systems, electrical facilities and electromagnetic fields, polychlorinated biphenyls (PCB) transformers, residual agricultural chemicals, flammable substances such as gasoline/petroleum, underground storage tanks, above ground storage tanks and mosquitoes as a disease vector.

US EPA

[13] CCR Title 22, Chapter 11, Article 2, Section 66261.10.

The primary federal agencies with responsibility for hazardous materials management include the EPA, U.S. Department of Labor Occupational Safety and Health Administration (OSHA), and the U.S. Department of Transportation (DOT). The Environmental Protection Agency (EPA) was created to protect human health and to safeguard the natural environment – air, water and land – and works closely with other federal agencies, and state and local governments to develop and enforce regulations under existing environmental laws. Where national standards are not met, EPA can issue sanctions and take other steps to assist the states in reaching the desired levels of environmental quality. EPA also works with industries and all levels of government in a wide variety of voluntary pollution prevention programs and energy conservation efforts.

State of California

The California Department of Industrial Relations, Division of Occupational Safety and Health is the administering agency designed to protect worker health and general facility safety. The California Department of Forestry and Fire Protection has designated the area that includes the proposed Project site as a Local Responsibility Area, defined as an area where the local fire jurisdiction is responsible for emergency fire response.

In addition, the proposed Project is being evaluated pursuant to CEQA.

Responses:

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?

Less than Significant Impact. While grading and construction activities may involve the limited transport, storage, use or disposal of hazardous materials, such as the fueling/servicing of construction equipment onsite, the activities would be short-term in nature and would be subject to federal, state, and local health and safety regulations. The construction contractor will be responsible for adherence to the applicable regulations.

Long-term operation of the proposed Project would involve transport, storage, use or disposal of hazardous materials. Water treatment chemicals would be utilized at the water treatment site. Small quantities of petroleum products, thinners, and paints would also likely be used on-site.

There are several federal, state and local requirements and regulations that are designed to minimize risks from accidental releases of hazardous materials and the proposed Project will be in compliance with all applicable requirements and regulations. Hazardous material storage and use areas at the water treatment plant will be built and operated in compliance with the minimum requirements of the Uniform Fire Code and the California Fire Code. Some of the requirements are secondary containment for liquids, fire water sprinklers over inside storage/use areas, and non-combustible building construction. Additionally, the water treatment plant building will be constructed in compliance with the California Building Code, which requires design features to resist forces generated by a major earthquake with limited architectural or structural damage and to provide adequate fire protection that precludes accidental releases of hazardous chemicals due to fire.

On-going operation will require small amounts of discharge of the backwash water from the backwash tank associated with the treatment system. While Granular Activated Carbon (GAC) vessels are sometimes called carbon filters they actually serve a different function than filters in a conventional surface water plant or even a coagulation, filtration plant for arsenic removal. In those systems the filter vessels are intended to remove solids and consequently they must be backwashed frequency to remove the solids from the filter. GAC treatment removes dissolved constituents from the water as they come into the contact with the carbon. GAC vessels are backwashed whenever new carbon is loaded but may also be required if head loss builds up over time either due to the well producing sand or biological growth on the carbon. The service life for carbon in TCP is typically too short for adequate bio-growth to inhibit flow and the wells where the treatment plants are being installed have not historically produced sand. It is likely that the vessels will only ever be backwashed is when new carbon is loaded, approximately once a year.

The vessels are backwashed with potable water from the distribution system and discharged into the City's storm drain system where it will either evaporate or percolate. During backwash some fine particles of the NSF-61 certified carbon will be flushed out of the bed and the carbon will dechlorinate the water but there should be little to no difference between the discharged wash water and the potable water supplied for backwash.

With implementation of the proposed Project, there are no reasonably foreseeable upset and accident conditions that would create a significant hazard to the public due to the release of hazardous materials. Impacts are considered ***less than significant***.

Mitigation Measures: None are required.

c. <u>Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?</u>

Less than Significant Impact. S. Ben Benavidez Elementary School is approximately 300 feet west of the existing Well #4A site, a terminal end of the new pipeline alignment. As described in Impact VIII (a) above, the proposed Project will be in compliance with all applicable hazardous and safety standards during both project construction and operation. Additionally, the Bella Vista Apartment Complex separates the location of the pipeline installation and the school. Pipeline installation will be temporary and once complete, the site will be returned to its current condition. As such, the impact is ***less than significant.***

Mitigation Measures: None are required.

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

No Impact. The proposed Project site is not located on a list of hazardous materials sites (California Department of Toxic Substance Control EnviroStor databased) compiled pursuant to Government Code Section 65962.5.[14] There are no hazardous materials sites that impact the Project. As such, ***no impacts*** would occur that would create a significant hazard to the public or the environment.

Mitigation Measures: None are required.

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

No Impact. The nearest airport is the Reedley Airport, approximately eight miles northeast of the City, while the Fresno-Yosemite International Airport is the closest regional airport, approximately 14 miles northwest. The Project will have ***no impact*** to airport operations.

Mitigation Measures: None are required.

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

[14] California Department of Toxic Substance Control. EnviroStor. http://www.envirostor.dtsc.ca.gov/public/ Accessed September 2018.

Less Than Significant Impact. The proposed Project consists of the construction and operation of water infrastructure and the installation of approximately 3,710 linear feet of pipeline along City roadways. Pipeline installation will be temporary in nature and will not cause any road closures that could interfere with any adopted emergency response or evacuation plan. The construction contractor will be required to work with the City (public works, police/fire, etc.) if and when roadway diversions are required to ensure that adequate access is maintained for residents and emergency vehicles. As such, any impacts will be ***less than significant***.

Mitigation Measures: None are required.

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

No Impact. As the proposed Project sites are within the City limits and are largely developed with or adjacent to water facilities, there are no wildlands on or near the Project site. There is ***no impact***.

Mitigation Measures: None are required.

X. HYDROLOGY AND WATER QUALITY

Would the project:

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

X. HYDROLOGY AND WATER QUALITY

Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
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?	☐	☐	☐	☒

SETTING

Environmental

Like most of California, the southern San Joaquin Valley experiences a Mediterranean climate. Warm dry summers are followed by cool moist winters. Summer temperatures commonly exceed 90 degrees Fahrenheit, and the relative humidity is generally very low. Winter temperatures rarely exceed 70 degrees Fahrenheit, with daytime highs often below 60 degrees Fahrenheit. According to the Western Regional Climate Center, annual precipitation in the vicinity of the Project sites is about 12 inches, about 85% of which falls between the months of October and March. Nearly all precipitation falls in the form of rain.

There are numerous canals located in the vicinity of the Project site, and the nearest body of water is the Kings River, located approximately five miles east of the City.

RESPONSES:

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

Less than Significant Impact. The proposed Project includes improvements to the existing community water system to remove 1,2,3-Trichloropropane (TCP). TCP is a chlorinated hydrocarbon with high chemical stability. It has been used as a cleaning and degreasing solvent and also is associated with pesticide products. In 1992, TCP was added to the list of chemicals known to the state to cause cancer,

pursuant to California's Safe Drinking Water and Toxic Enforcement Act (Proposition 65). In 2017, the State Water Resources Control Board (SWRCB) Division of Drinking Water (DDW) established a drinking water Maximum Contaminant Level (MCL) for TCP of 0.005µg/l. The MCL is at the same concentration as the analytical reporting limit.

Table 5 contains the most recent TCP concentrations in the groundwater produced by the City's wells and the number of times that those concentrations are above the current Maximum Contaminant Level (MCL) of 0.005 µg/l.

Table 5
Existing TCP Levels

Well No.	Date Sampled	TCP Concentration (µg/l)	Times the MCL
5A*	10/11/2017	< 0.00	-
6	10/11/2017	< 0.00	-
7	10/11/2017	0.007	1.4
8*	12/13/2005	< 0.5	98
2A	10/4/2017	0.02	4.0
4A*	10/18/2017	0.024	4.8
9A	10/25/2017	0.038	7.6

*Standby well

The TCP concentration at all the wells except for the standby Well No. 5A and active Well No. 6 are greater than the MCL. All of the City's water supply, except for Well Nos. 5A and 6, are expected to be out of compliance as early as the 2nd Qtr of 2018 and require immediate attention.

One of the City's active wells, Well #6 is already in compliance with the TCP MCL and will not require any treatment. The production capacity of Well #6 is approximately 1,100 gpm. Well #6 is not capable of meeting the City's MDD or PHD and several projects are required to increase the City's capacity to comply with the TCP MCL.

Construction and operation of a water treatment systems as described in Chapter Two – Project Description would reduce the levels of TCP in the water to acceptable levels. This includes installation of treatment vessels at the existing wells, installation of pipelines and related appurtenances. The State Water Resources Control Board will have ultimate review and approval of the upgraded system, thereby ensuring adequate water quality standards are met. Any impacts would be ***less than significant***.

Mitigation Measures: None are required.

Mitigation Measures: None are required.

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

Less Than Significant Impact. Construction of the water treatment plants will treat the water from Wells #2A, 4A and 9A for excessive TCP levels and will not expand current capacity of the existing wells. Additionally, the proposed Project will not significantly interfere with groundwater recharge as it will introduce minimal amounts of impermeable surfaces. As such, any impacts to groundwater supplies will be ***less than significant***.

Mitigation Measures: None are required.

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 offsite;

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

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

iv. impede or redirect flood flows?

Less than Significant Impact. The proposed improvements to the existing community water system will introduce two small areas of non-permeable surfaces. The water treatment plants will be installed on flat surfaces with minimal impact to local drainage patterns. All new paved areas will be designed for adequate stormwater flow. The pipeline will be installed within the existing road right-of-way and will not alter any existing drainage patterns. There are no waterways in the immediate vicinity of the proposed Project. Any impacts would be ***less than significant.***

Mitigation Measures: None are required.

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?

No Impact. The Project is not within a regulatory floodway or within a base floodplain (100 year) elevation. In addition, the Project does not include any housing or structures that would be subject to flooding either from a watercourse or from dam inundation. There are no bodies of water near the site that would create a potential risk of hazards from seiche, tsunami or mudflow. The project will not conflict with any water quality control plans or sustainable groundwater management plan (as the project is intended to remove potentially hazardous substances from the City's water system). Therefore, there are ***no impacts.***

Mitigation Measures: None are required.

XI. LAND USE AND PLANNING

Would the project:

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

SETTING

Land use in the proposed Project areas are largely residential and industrial. The existing well sites are surrounded by chain link fences and are underlain by hardpan or concrete. The proposed pipeline between Well #2A and #4A follows paved roadways. The proposed centralized treatment facility is in a vacant lot with ruderal vegetation while the proposed Well 9A treatment facility is in a disturbed field with ruderal vegetation. Well 5A is in a developed and fenced lot.

RESPONSES:

a. Physically divide an established community?

b. Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

No Impact. Construction and operation of the proposed Project would not cause any land use changes in the surrounding vicinity nor would it introduce barriers that would divide and established community. The proposed Project involves improvements to the existing water treatment system and does not conflict with any land use plans, policies or regulations. There are ***no impacts.***

Mitigation Measures: None are required.

XI. MINERAL RESOURCES

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	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?	☐	☐	☐	☒

Responses:

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?

No Impact. There are no known mineral resources in the Project area and none are identified in the City's General Plan near the proposed Project site. Therefore, there is ***no impact***.

Mitigation Measures: None are required.

XII. NOISE

Would the project:

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

SETTING

Environmental

The proposed Project sites are within the City of Parlier. The water treatment plants, water infrastructure and associated pipelines will be located in developed urban areas of the City. See Figures 2 through 4.

Federal Railway Administration

The Federal Railway Administration (FRA) and the Federal Transit Administration (FTA) have published guidance relative to vibration impacts. The FRA has determined that ground vibrations from

construction activities do not often reach the levels that can damage structures, but they can be within the audible and perceptible ranges in buildings very close to the site[15].

California Noise Control Act

The California Noise Control Act was enacted in 1973 (Health and Safety Code § 46010 et seq.), and states that the Office of Noise Control (ONC) should provide assistance to local communities in developing local noise control programs. It also indicates that ONC staff will work with the OPR to provide guidance for the preparation of the required noise elements in city and county General Plans, pursuant to Government Code § 65302(f). California Government Code § 65302(f) requires city and county general plans to include a noise element. The purpose of a noise element is to guide future development to enhance future land use compatibility.

In addition, this proposed Project is being evaluated pursuant to CEQA.

Fresno County

Measuring and reporting noise levels involves accounting for variations in sensitivity to noise during the daytime versus nighttime hours. Noise descriptors used for analysis need to factor in human sensitivity to nighttime noise when background noise levels are generally lower than in the daytime and outside noise intrusions are more noticeable. Common descriptors include the Community Noise Equivalent Level (CNEL) and the Day-Night Average Level (Ldn). Both reflect noise exposure over an average day with weighting to reflect the increased sensitivity to noise during the evening and night. The two descriptors are roughly equivalent. The CNEL descriptor is used in relation to major continuous noise sources, such as aircraft or traffic, and is the reference level for the Noise Element under State planning law.

City of Parlier

The City of Parlier has an adopted Noise Ordinance – Chapter 6.13 of the City's Code of Ordinances.

RESPONSES:

[15] U.S. Federal Railroad Administration. High Speed Ground Transportation Noise and Vibration Impact Assessment. Final Report No. DOT/FRA/ORD-12/15. September 2012. Page 10-11.

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

Less than Significant Impact. The nearest sensitive receptors to the proposed Project would be the residences along the pipeline alignment and the nearby water treatment facilities. Once constructed, noise levels generated during normal operation would not exceed applicable noise standards established in Chapter 6.13 of the City's Code of Ordinances or the Fresno County Ordinance Code. The electric motors for the water treatment plants will be enclosed and won't produce a significant sound outside of the enclosure. Therefore, operational noise impacts are not considered significant.

Neither the City of Parlier Municipal Code nor the Fresno County Ordinance Code identifies a short-term, construction-noise-level threshold. Activities involved in construction will generate maximum noise levels, as indicated in Table 6, ranging from 79 to 91 dBA at a distance of 50 feet, without feasible noise control (e.g., mufflers) and ranging from 75 to 80 dBA at a distance of 50 feet, with feasible noise controls.

Table 6
Typical Construction Noise Levels

Type of Equipment	dBA at 50 ft	
	Without Feasible Noise Control	With Feasible Noise Control
Dozer or Tractor	80	75
Excavator	88	80
Scraper	88	80
Front End Loader	79	75
Backhoe	85	75
Grader	85	75
Truck	91	75

The distinction between short-term construction noise impacts and long-term operational noise impacts is a typical one in both CEQA documents and local noise ordinances, which generally recognize the reality that short-term noise from construction is inevitable and cannot be mitigated beyond a certain level. Thus, local agencies frequently tolerate short-term noise at levels that they would not accept for permanent noise sources. A more severe approach would be impractical and might preclude the kind of construction activities that are to be expected from time to time in urban environments. Most residents of urban areas recognize this reality and expect to hear construction activities on occasion. As the construction period will be brief and periodic, and construction hours would be limited to those established in the City's Municipal Code, any impacts would be ***less than significant***.

Mitigation Measures: None are required.

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

Less than Significant Impact. Typical outdoor sources of perceptible ground borne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. Construction vibrations can be transient, random, or continuous. Construction associated with the proposed Project is earthmoving activities associated with installing pipelines and installing equipment.

The approximate threshold of vibration perception is 65 vibration velocity decibels (VdB), while 85 VdB is the vibration acceptable only if there are an infrequent number of events per day.[16] Table 6 describes the typical construction equipment vibration levels.

Table 6
Typical Construction Vibration Levels

Equipment	VdB at 25 ft
Small Bulldozer	58
Jackhammer	79

Vibration from construction activities will be temporary and not exceed the Federal Transit Authority threshold for the nearest residence which is located west of the Project site. The impact will be ***less than significant***.

Mitigation Measures: None are required.

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

No Impact. The proposed Project is not located in the vicinity of an airport or airstrip. There is ***no impact***.

Mitigation Measures: None are required.

[16] Transit Noise and Vibration Impact Assessment. Final Report No. FTA-VA-90-1003 prepared for the U.S. Federal Transit Administration by Harris Miller Miller & Hanson Inc., May 2006. Page 7-5. http://www.rtd-fastracks.com/media/uploads/nm/14_Section_38_NoiseandVibration_Part3.pdf. Accessed September 2018.

XIV. POPULATION AND HOUSING

Would the project:

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

SETTING

Environmental

According to the U.S. Census, as of July 1, 2015, the population of the City of Parlier was approximately 15,500.

RESPONSES:

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

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

No Impact. There are no new homes associated with the proposed Project, nor would Project implementation displace people or housing. The proposed Project is needed to improve existing water treatment facilities to meet statewide water quality standards.

The proposed Project includes the construction and operation of a water treatment system to lower TCP levels in the existing water supply and will not expand the current capacity of the existing community water system. The proposed Project will not require a significant number of new

employees as operation and maintenance will be handled by existing City staff. As such, the proposed Project would not directly or indirectly induce population growth.

The proposed Project will be constructed at or immediately adjacent to the location of the existing Well #2A, #4A #5A and #9A, and the existing Milton Lift Station and the pipeline will be installed within the existing right of way. It would not result in the displacement of housing or people, or cause replacement housing to be constructed elsewhere. ***No impact*** would occur.

Mitigation Measures: None are required.

XV. PUBLIC SERVICES

Would the project:

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

SETTING

Environmental

The City of Parlier is protected by the City of Parlier Police Department. Fire protection for the City is provided by the Fresno County Fire Protection District along with the City of Parlier Volunteer Firefighters (Station 71 in Parlier). Parlier Unified School District operates several elementary schools, two middle schools and one high school. In addition, there are numerous parks throughout the City which are maintained by City personnel.

California Fire Code and Building Code

The 2017 California Fire Code (Title 24, Part 9 of the California Code of Regulations) establishes regulations to safeguard against hazards of fire, explosion, or dangerous conditions in new and existing

buildings, structures, and premises. The Fire Code also establishes requirements intended to provide safety and assistance to fire fighters and emergency responders during emergency operations. The provision of the Fire Code includes regulations regarding fire-resistance rated construction, fire protection systems such as alarm and sprinkler systems, fire service features such as fire apparatus access roads, fire safety during construction and demolition, and wildland urban interface areas.

RESPONSES:

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

   Fire protection?

   Police Protection?

   Schools?

   Parks?

   Other public facilities?

Less Than Significant Impact. The proposed Project would improve the existing water treatment plant. The proposed Project would not directly or indirectly induce population growth and as such, will not increase demand for schools, parks, or other public facilities. The City of Parlier Police and Fire services will continue to maintain site safety. Any impacts would be ***less than significant.***

Mitigation Measures: None are required.

XVI. RECREATION

Would the project:

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

SETTING

There are several parks within the City of Parlier that are managed by the City. There are no parks impacted by the proposed Project.

Responses:

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

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

No Impact. The proposed Project does not include the construction of residential uses or recreational facilities and would not directly or indirectly induce population growth. Therefore, the proposed Project would not cause physical deterioration of existing recreational facilities from increased usage or result in the need for new or expanded recreational facilities. The Project would have ***no impact*** to existing parks.

Mitigation Measures: None are required.

XVII. TRANSPORTATION/ TRAFFIC

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

SETTING

Environmental

E. Manning Avenue is the main east-west roadway through the City and Mendocino Avenue is the main north-south roadway. The nearest major highway is Highway 99, located approximately three miles west of the City. There are no airports near the Project area.

RESPONSES:

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

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

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

d. Result in inadequate emergency access?

Less Than Significant Impact. The proposed Project includes the construction of a water treatment system. Once installed, the new water treatment facilities would not generate significant additional traffic trips per day (only for periodic maintenance as-needed). There are no components of the proposed Project that would conflict with circulation system programs or policies and would not increase hazards due to a geometric design feature.

Although the Project would not generate significant new vehicle trips, construction of the Project could result in temporary increase in traffic volumes and disruption of traffic flow during construction activities. The roads impacted by the proposed pipelines will not be closed during construction, but some temporary detouring may be necessary as the Project is built out in phases. Construction is expected to begin in Summer 2019. The City will develop a construction management plan that will reduce impacts to motor vehicle, bicycle, pedestrian and transit circulation.

During construction, access for emergency vehicles will be maintained. The City will consult with its police, fire and ambulance service providers who will be given specific construction schedules and pertinent Project information so that adequate access is maintained at all times.

The Project would not conflict with a program plan, ordinance, or policy addressing the circulation system and as such, impacts would be ***less than significant.***

Mitigation Measures: None are required.

XVIII. TRIBAL CULTURAL RESOURCES

Would the project:

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

RESPONSES:

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

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

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

Less Than Significant Impact. In accordance with Public Resources Code Section 21080.3.1 - Assembly Bill (AB) 52, potentially affected Tribes were formally notified of this Project and were given the opportunity to request consultation on the Project.

On May 8, 2018, the City's cultural resources consultant Applied Earthworks (Æ) sent a request to the Native American Heritage Commission (NAHC) for a search of the Sacred Lands File. The NAHC responded with its findings and attached a list of Native American tribes and individuals culturally affiliated with the Project area. Æ created and sent out a letter to each of the contacts identified by the NAHC and has kept a log of all responses. A record of all correspondence is included in Appendix B of Appendix C.

The NAHC responded on May 15, 2018 and described that a Search of the Sacred Lands File failed to indicate the presence of Native American cultural resources in the immediate Project area. The NAHC advised that the absence of specific site information in this file does not indicate the absence of cultural resources in the Project area. The NAHC suggested contacting other sources who might have specific knowledge regarding Native American use of the Project area and provided contact information for 12 Native American individuals, representing ten organizations (Appendix C).

On July 2, 2018, Æ sent a letter describing the Project and its location to each of the following contacts identified by the NAHC.

- Chairperson Elizabeth Kipp of the Big Sandy Rancheria of Western Mono Indians

- Chairperson Carol Bill of the Cold Springs Rancheria
- Chairperson Robert Ledger Sr. of the Dumna Wo-Wah Tribal Government
- Chairperson of the Dunlap Band of Mono Indians
- Stan Alec of the Choinumni Farm Tribe
- Chairperson Ron Goode of the North Fork Mono Tribe
- Chairperson Rueben Barrios Sr. of the Santa Rosa Indian Community of the Santa Rosa Rancheria
- Chairperson Leanne Walker-Grant of the Table Mountain Rancheria of California
- Cultural Resources Director of the Table Mountain Rancheria of California
- Chairperson David Alvarez of the Traditional Choinumni Tribe
- Rick Osborne of the Traditional Choinumni Tribe
- Chairperson Kenneth Woodrow of the Wuksache Indian Tribe/Eshom Valley Band

Follow up contact by telephone and email was completed on July 30, 2018. Stan Alec of the Choinumni Farm Tribe responded by telephone, stating that he has no information regarding special Native American resources within the project APE. No additional responses have been received to date.

Therefore, the City has complied with the provisions of Public Resources Code Section 21080.3.2. Any impacts to tribal resources would be ***less than significant.***

Mitigation Measures: None are required.

XIX. UTILITIES AND SERVICE SYSTEMS

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	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?	☐	☐	☒	☐

SETTING

Environmental

The City of Parlier has responsibility for providing water, stormwater and wastewater services for the community.

RESPONSES:

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

Less Than Significant Impact with Mitigation. The Project includes improvements to the City's existing water treatment system the results of which would not require the construction of wastewater treatment or storm water drainage, electric power, natural gas, or telecommunication facilities. The Project itself is the construction of improvements to the water treatment plant and any environmental impacts resulting from the improvements are discussed within this document.

Mitigation Measures: The Project will require multiple mitigation measures as identified throughout this document.

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

No Impact. The proposed Project includes improving the existing community water system by treating the water at Wells #2A, 4A and 9A for excessive TCP levels. No new water supplies would be required as a result of this Project. There is ***no impact.***

Mitigation Measures: None are required.

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

No Impact. The proposed Project includes improvements to the existing community water system by constructing water treatment plants adjacent to the existing Milton Lift Station site, at the existing Well

#9A site, rehabilitation Well #5, and installing approximately 3,710 linear feet of pipeline. No component of the proposed Project would generate wastewater. There is ***no impact.***

Mitigation Measures: None are required.

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

e. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

Less Than Significant Impact. Proposed Project construction and operation will generate minimal amounts of solid waste. The proposed new treatment system will be an unmanned facility and therefore won't generate waste on an on-going basis. The proposed Project will comply with all federal, state and local statutes and regulations related to solid waste. Any impacts will be ***less than significant.***

Mitigation Measures: None are required.

XX. WILDFIRE

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a. Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
b. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☒	☐
c. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☒	☐
d. Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☒	☐

Responses:

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

b. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

c. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

d. Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

Less Than Significant Impact. The proposed Project is located in a highly disturbed area (roads, active agriculture, water conveyance facilities, etc.) which precludes the risk of wildfire. The area is flat in nature which would limit the risk of downslope flooding and landslides, and limit any wildfire spread.

As such, any wildfire risk to the project structures or people would be ***less than significant.***

Mitigation Measures: None are required.

XXI. MANDATORY FINDINGS OF SIGNIFICANCE

Would the project:

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

Responses:

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

Less than Significant Impact With Mitigation. The analyses of environmental issues contained in this Initial Study indicate that the proposed Project is not expected to have substantial impact on the environment or on any resources identified in the Initial Study. Mitigation measures have been incorporated in the Project to reduce all potentially significant impacts to ***less than significant***.

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

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. Due to the nature of the Project and consistency with environmental policies, incremental contributions to impacts are considered less than cumulatively considerable. The proposed Project would not contribute substantially to adverse cumulative conditions, or create any substantial indirect impacts (i.e., increase in population could lead to an increase need for housing, increase in traffic, air pollutants, etc.). The impact is ***less than significant***.

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

Less than Significant Impact With Mitigation. The analyses of environmental issues contained in this Initial Study indicate that the project is not expected to have substantial impact on human beings, either directly or indirectly. Mitigation measures have been incorporated in the Project to reduce all potentially significant impacts to ***less than significant.***

Chapter 4

MITIGATION MONITORING & REPORTING PROGRAM

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 Parlier 1, 2, 3 – TCP Removal Treatment System located in the City of Parlier. The MMRP lists mitigation measures recommended in the IS/MND for the proposed Project and identifies monitoring and reporting requirements as well as conditions recommended by responsible agencies who commented on the project.

The first column of the Table identifies the mitigation measure. The second column, entitled "Party Responsible for Implementing Mitigation," names the party responsible for carrying out the required action. The third column, "Implementation Timing," identifies the time the mitigation measure should be initiated. The fourth column, "Party Responsible for Monitoring," names the party ultimately responsible for ensuring that the mitigation measure is implemented. The last column will be used by the City to ensure that individual mitigation measures have been monitored.

Mitigation Measure	Party responsible for Implementing Mitigation	Implementation Timing	Party responsible for Monitoring	Verification (name/date)
Biology				
Mitigation Measure BIO-1 If work will occur during the Swainson's hawk nesting season (15 March – 15 August), a qualified biologist shall conduct a survey for active Swainson's hawk nests within 0.5 miles of the Project site no more than 14 days prior to the start of construction. If an active nest is found within 0.5 miles and the activity would disrupt nesting, a buffer or limited operating period should be implemented in consultation with the CDFW.	City of Parlier	Prior to construction if during nesting season	City of Parlier	
Mitigation Measure BIO-2. To the extent practicable, construction shall be scheduled to avoid the nesting season, which extends from February through August. If it is not possible to schedule construction between September and January, preconstruction surveys for nesting birds shall be conducted by a qualified biologist to ensure that no active nests will be disturbed during Project implementation. A pre-construction survey shall be conducted no more than 14 days prior to the initiation of construction activities. During this	City of Parlier	Prior to construction		

Mitigation Measure	Party responsible for Implementing Mitigation	Implementation Timing	Party responsible for Monitoring	Verification (name/date)
survey, the qualified biologist shall inspect all potential nest substrates in and immediately adjacent to the impact areas for nests. If an active nest is found close enough to the construction area to be disturbed by these activities, the qualified biologist shall determine the extent of a construction-free buffer to be established around the nest. If work cannot proceed without disturbing the nesting birds, work may need to be halted or redirected to other areas until nesting and fledging are completed or the nest has otherwise failed for non-construction related reasons.				
Cultural Resources				
Measure CUL-1: 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 should be halted until a qualified archaeologist can assess the discovery and take appropriate actions as necessary.	City of Parlier	Prior to and during construction	City of Parlier	

Chapter 5

PREPARERS

LIST OF PREPARERS

Crawford & Bowen Planning, Inc.

- Travis Crawford, AICP, Principal Environmental Planner
- Emily Bowen, LEED AP, Principal Environmental Planner

AM Consulting Engineers

- Alfonso Manrique, PE

Colibri Ecological Consulting, LLC

- Jeff Davis

Applied EarthWorks, Inc.

- Kathleen Jernigan
- Eric Kowalski
- Mary Baloian

Appendices

Appendix A

CalEEMod Output Files

Parlier TCP Water Treatment Plant

San Joaquin Valley Unified APCD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	5.00	1000sqft	0.65	5,000.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	45
Climate Zone	3			**Operational Year**	2020
Utility Company					
CO2 Intensity (lb/MWhr)	0	**CH4 Intensity (lb/MWhr)**	0	**N2O Intensity (lb/MWhr)**	0

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Two treatment plants will occur on 0.65 acres of land.

Table Name	Column Name	Default Value	New Value
tblLandUse	LotAcreage	0.11	0.65
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural

2.0 Emissions Summary

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					
2019	0.0930	0.5787	0.4590	7.2000e-004	3.9000e-003	0.0352	0.0391	1.2100e-003	0.0325	0.0337	0.0000	64.5609	64.5609	0.0185	0.0000	65.0222
Maximum	**0.0930**	**0.5787**	**0.4590**	**7.2000e-004**	**3.9000e-003**	**0.0352**	**0.0391**	**1.2100e-003**	**0.0325**	**0.0337**	**0.0000**	**64.5609**	**64.5609**	**0.0185**	**0.0000**	**65.0222**

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					
2019	0.0930	0.5787	0.4590	7.2000e-004	3.9000e-003	0.0352	0.0391	1.2100e-003	0.0325	0.0337	0.0000	64.5609	64.5609	0.0185	0.0000	65.0221
Maximum	**0.0930**	**0.5787**	**0.4590**	**7.2000e-004**	**3.9000e-003**	**0.0352**	**0.0391**	**1.2100e-003**	**0.0325**	**0.0337**	**0.0000**	**64.5609**	**64.5609**	**0.0185**	**0.0000**	**65.0221**

	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**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-1-2019	3-31-2019	0.3439	0.3439
2	4-1-2019	6-30-2019	0.3238	0.3238
		Highest	0.3439	0.3439

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	0.0230	0.0000	5.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	9.0000e-005	9.0000e-005	0.0000	0.0000	1.0000e-004
Energy	5.6000e-004	5.1200e-003	4.3000e-003	3.0000e-005		3.9000e-004	3.9000e-004		3.9000e-004	3.9000e-004	0.0000	5.5685	5.5685	1.1000e-004	1.0000e-004	5.6016
Mobile	0.0124	0.1338	0.1418	6.4000e-004	0.0388	7.2000e-004	0.0395	0.0104	6.9000e-004	0.0111	0.0000	59.1089	59.1089	3.4600e-003	0.0000	59.1954
Waste						0.0000	0.0000		0.0000	0.0000	1.2585	0.0000	1.2585	0.0744	0.0000	3.1180
Water						0.0000	0.0000		0.0000	0.0000	0.3668	0.0000	0.3668	0.0377	8.9000e-004	1.5738
Total	**0.0359**	**0.1389**	**0.1462**	**6.7000e-004**	**0.0388**	**1.1100e-003**	**0.0399**	**0.0104**	**1.0800e-003**	**0.0115**	**1.6254**	**64.6775**	**66.3028**	**0.1156**	**9.9000e-004**	**69.4889**

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	0.0230	0.0000	5.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	9.0000e-005	9.0000e-005	0.0000	0.0000	1.0000e-004
Energy	5.6000e-004	5.1200e-003	4.3000e-003	3.0000e-005		3.9000e-004	3.9000e-004		3.9000e-004	3.9000e-004	0.0000	5.5685	5.5685	1.1000e-004	1.0000e-004	5.6016
Mobile	0.0124	0.1338	0.1418	6.4000e-004	0.0388	7.2000e-004	0.0395	0.0104	6.9000e-004	0.0111	0.0000	59.1089	59.1089	3.4600e-003	0.0000	59.1954
Waste						0.0000	0.0000		0.0000	0.0000	1.2585	0.0000	1.2585	0.0744	0.0000	3.1180
Water						0.0000	0.0000		0.0000	0.0000	0.3668	0.0000	0.3668	0.0377	8.9000e-004	1.5738
Total	**0.0359**	**0.1389**	**0.1462**	**6.7000e-004**	**0.0388**	**1.1100e-003**	**0.0399**	**0.0104**	**1.0800e-003**	**0.0115**	**1.6254**	**64.6775**	**66.3028**	**0.1156**	**9.9000e-004**	**69.4889**

	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

Parlier TCP Water Treatment Plant - San Joaquin Valley Unified APCD Air District, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2019	1/14/2019	5	10	
2	Site Preparation	Site Preparation	1/15/2019	1/15/2019	5	1	
3	Grading	Grading	1/16/2019	1/17/2019	5	2	
4	Building Construction	Building Construction	1/18/2019	6/6/2019	5	100	
5	Paving	Paving	6/7/2019	6/13/2019	5	5	
6	Architectural Coating	Architectural Coating	6/14/2019	6/20/2019	5	5	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 7,500; Non-Residential Outdoor: 2,500; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Parlier TCP Water Treatment Plant - San Joaquin Valley Unified APCD Air District, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Site Preparation	Graders	1	8.00	187	0.41
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Grading	Rubber Tired Dozers	1	1.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	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
Demolition	4	10.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	2	5.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	2.00	1.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	0.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2019

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	4.7700e-003	0.0430	0.0385	6.0000e-005		2.6900e-003	2.6900e-003		2.5600e-003	2.5600e-003	0.0000	5.2601	5.2601	1.0000e-003	0.0000	5.2852
Total	**4.7700e-003**	**0.0430**	**0.0385**	**6.0000e-005**		**2.6900e-003**	**2.6900e-003**		**2.5600e-003**	**2.5600e-003**	**0.0000**	**5.2601**	**5.2601**	**1.0000e-003**	**0.0000**	**5.2852**

3.2 Demolition - 2019

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	3.2000e-004	2.4000e-004	2.3800e-003	1.0000e-005	6.2000e-004	0.0000	6.3000e-004	1.7000e-004	0.0000	1.7000e-004	0.0000	0.5703	0.5703	2.0000e-005	0.0000	0.5708
Total	**3.2000e-004**	**2.4000e-004**	**2.3800e-003**	**1.0000e-005**	**6.2000e-004**	**0.0000**	**6.3000e-004**	**1.7000e-004**	**0.0000**	**1.7000e-004**	**0.0000**	**0.5703**	**0.5703**	**2.0000e-005**	**0.0000**	**0.5708**

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	4.7700e-003	0.0430	0.0385	6.0000e-005		2.6900e-003	2.6900e-003		2.5600e-003	2.5600e-003	0.0000	5.2601	5.2601	1.0000e-003	0.0000	5.2852
Total	**4.7700e-003**	**0.0430**	**0.0385**	**6.0000e-005**		**2.6900e-003**	**2.6900e-003**		**2.5600e-003**	**2.5600e-003**	**0.0000**	**5.2601**	**5.2601**	**1.0000e-003**	**0.0000**	**5.2852**

3.2 Demolition - 2019

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	3.2000e-004	2.4000e-004	2.3800e-003	1.0000e-005	6.2000e-004	0.0000	6.3000e-004	1.7000e-004	0.0000	1.7000e-004	0.0000	0.5703	0.5703	2.0000e-005	0.0000	0.5708
Total	**3.2000e-004**	**2.4000e-004**	**2.3800e-003**	**1.0000e-005**	**6.2000e-004**	**0.0000**	**6.3000e-004**	**1.7000e-004**	**0.0000**	**1.7000e-004**	**0.0000**	**0.5703**	**0.5703**	**2.0000e-005**	**0.0000**	**0.5708**

3.3 Site Preparation - 2019

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					
Fugitive Dust					2.7000e-004	0.0000	2.7000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.6000e-004	4.4600e-003	2.0700e-003	0.0000		1.8000e-004	1.8000e-004		1.7000e-004	1.7000e-004	0.0000	0.4378	0.4378	1.4000e-004	0.0000	0.4413
Total	**3.6000e-004**	**4.4600e-003**	**2.0700e-003**	**0.0000**	**2.7000e-004**	**1.8000e-004**	**4.5000e-004**	**3.0000e-005**	**1.7000e-004**	**2.0000e-004**	**0.0000**	**0.4378**	**0.4378**	**1.4000e-004**	**0.0000**	**0.4413**

3.3 Site Preparation - 2019

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	2.0000e-005	1.0000e-005	1.2000e-004	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0285	0.0285	0.0000	0.0000	0.0285
Total	**2.0000e-005**	**1.0000e-005**	**1.2000e-004**	**0.0000**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0285**	**0.0285**	**0.0000**	**0.0000**	**0.0285**

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					
Fugitive Dust					2.7000e-004	0.0000	2.7000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.6000e-004	4.4600e-003	2.0700e-003	0.0000		1.8000e-004	1.8000e-004		1.7000e-004	1.7000e-004	0.0000	0.4378	0.4378	1.4000e-004	0.0000	0.4413
Total	**3.6000e-004**	**4.4600e-003**	**2.0700e-003**	**0.0000**	**2.7000e-004**	**1.8000e-004**	**4.5000e-004**	**3.0000e-005**	**1.7000e-004**	**2.0000e-004**	**0.0000**	**0.4378**	**0.4378**	**1.4000e-004**	**0.0000**	**0.4413**

3.3 Site Preparation - 2019

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	2.0000e-005	1.0000e-005	1.2000e-004	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0285	0.0285	0.0000	0.0000	0.0285
Total	**2.0000e-005**	**1.0000e-005**	**1.2000e-004**	**0.0000**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0285**	**0.0285**	**0.0000**	**0.0000**	**0.0285**

3.4 Grading - 2019

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					
Fugitive Dust					7.5000e-004	0.0000	7.5000e-004	4.1000e-004	0.0000	4.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.5000e-004	8.6000e-003	7.6900e-003	1.0000e-005		5.4000e-004	5.4000e-004		5.1000e-004	5.1000e-004	0.0000	1.0520	1.0520	2.0000e-004	0.0000	1.0570
Total	**9.5000e-004**	**8.6000e-003**	**7.6900e-003**	**1.0000e-005**	**7.5000e-004**	**5.4000e-004**	**1.2900e-003**	**4.1000e-004**	**5.1000e-004**	**9.2000e-004**	**0.0000**	**1.0520**	**1.0520**	**2.0000e-004**	**0.0000**	**1.0570**

3.4 Grading - 2019

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	6.0000e-005	5.0000e-005	4.8000e-004	0.0000	1.2000e-004	0.0000	1.3000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1141	0.1141	0.0000	0.0000	0.1142
Total	**6.0000e-005**	**5.0000e-005**	**4.8000e-004**	**0.0000**	**1.2000e-004**	**0.0000**	**1.3000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.1141**	**0.1141**	**0.0000**	**0.0000**	**0.1142**

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					
Fugitive Dust					7.5000e-004	0.0000	7.5000e-004	4.1000e-004	0.0000	4.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.5000e-004	8.6000e-003	7.6900e-003	1.0000e-005		5.4000e-004	5.4000e-004		5.1000e-004	5.1000e-004	0.0000	1.0520	1.0520	2.0000e-004	0.0000	1.0570
Total	**9.5000e-004**	**8.6000e-003**	**7.6900e-003**	**1.0000e-005**	**7.5000e-004**	**5.4000e-004**	**1.2900e-003**	**4.1000e-004**	**5.1000e-004**	**9.2000e-004**	**0.0000**	**1.0520**	**1.0520**	**2.0000e-004**	**0.0000**	**1.0570**

3.4 Grading - 2019

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	6.0000e-005	5.0000e-005	4.8000e-004	0.0000	1.2000e-004	0.0000	1.3000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1141	0.1141	0.0000	0.0000	0.1142
Total	**6.0000e-005**	**5.0000e-005**	**4.8000e-004**	**0.0000**	**1.2000e-004**	**0.0000**	**1.3000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.1141**	**0.1141**	**0.0000**	**0.0000**	**0.1142**

3.5 Building Construction - 2019

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	0.0479	0.4910	0.3772	5.7000e-004		0.0303	0.0303		0.0279	0.0279	0.0000	51.1502	51.1502	0.0162	0.0000	51.5548
Total	**0.0479**	**0.4910**	**0.3772**	**5.7000e-004**		**0.0303**	**0.0303**		**0.0279**	**0.0279**	**0.0000**	**51.1502**	**51.1502**	**0.0162**	**0.0000**	**51.5548**

3.5 Building Construction - 2019

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	2.3000e-004	6.3700e-003	1.2800e-003	1.0000e-005	3.0000e-004	5.0000e-005	3.5000e-004	9.0000e-005	4.0000e-005	1.3000e-004	0.0000	1.2625	1.2625	1.1000e-004	0.0000	1.2653
Worker	6.5000e-004	4.8000e-004	4.7600e-003	1.0000e-005	1.2400e-003	1.0000e-005	1.2500e-003	3.3000e-004	1.0000e-005	3.4000e-004	0.0000	1.1407	1.1407	4.0000e-005	0.0000	1.1415
Total	**8.8000e-004**	**6.8500e-003**	**6.0400e-003**	**2.0000e-005**	**1.5400e-003**	**6.0000e-005**	**1.6000e-003**	**4.2000e-004**	**5.0000e-005**	**4.7000e-004**	**0.0000**	**2.4031**	**2.4031**	**1.5000e-004**	**0.0000**	**2.4068**

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	0.0479	0.4910	0.3772	5.7000e-004		0.0303	0.0303		0.0279	0.0279	0.0000	51.1502	51.1502	0.0162	0.0000	51.5548
Total	**0.0479**	**0.4910**	**0.3772**	**5.7000e-004**		**0.0303**	**0.0303**		**0.0279**	**0.0279**	**0.0000**	**51.1502**	**51.1502**	**0.0162**	**0.0000**	**51.5548**

3.5 Building Construction - 2019

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	2.3000e-004	6.3700e-003	1.2800e-003	1.0000e-005	3.0000e-004	5.0000e-005	3.5000e-004	9.0000e-005	4.0000e-005	1.3000e-004	0.0000	1.2625	1.2625	1.1000e-004	0.0000	1.2653
Worker	6.5000e-004	4.8000e-004	4.7600e-003	1.0000e-005	1.2400e-003	1.0000e-005	1.2500e-003	3.3000e-004	1.0000e-005	3.4000e-004	0.0000	1.1407	1.1407	4.0000e-005	0.0000	1.1415
Total	**8.8000e-004**	**6.8500e-003**	**6.0400e-003**	**2.0000e-005**	**1.5400e-003**	**6.0000e-005**	**1.6000e-003**	**4.2000e-004**	**5.0000e-005**	**4.7000e-004**	**0.0000**	**2.4031**	**2.4031**	**1.5000e-004**	**0.0000**	**2.4068**

3.6 Paving - 2019

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	2.0700e-003	0.0196	0.0179	3.0000e-005		1.1100e-003	1.1100e-003		1.0300e-003	1.0300e-003	0.0000	2.3931	2.3931	6.8000e-004	0.0000	2.4102
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.0700e-003**	**0.0196**	**0.0179**	**3.0000e-005**		**1.1100e-003**	**1.1100e-003**		**1.0300e-003**	**1.0300e-003**	**0.0000**	**2.3931**	**2.3931**	**6.8000e-004**	**0.0000**	**2.4102**

3.6 Paving - 2019

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	2.9000e-004	2.2000e-004	2.1400e-003	1.0000e-005	5.6000e-004	0.0000	5.6000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.5133	0.5133	2.0000e-005	0.0000	0.5137
Total	**2.9000e-004**	**2.2000e-004**	**2.1400e-003**	**1.0000e-005**	**5.6000e-004**	**0.0000**	**5.6000e-004**	**1.5000e-004**	**0.0000**	**1.5000e-004**	**0.0000**	**0.5133**	**0.5133**	**2.0000e-005**	**0.0000**	**0.5137**

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	2.0700e-003	0.0196	0.0179	3.0000e-005		1.1100e-003	1.1100e-003		1.0300e-003	1.0300e-003	0.0000	2.3931	2.3931	6.8000e-004	0.0000	2.4102
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.0700e-003**	**0.0196**	**0.0179**	**3.0000e-005**		**1.1100e-003**	**1.1100e-003**		**1.0300e-003**	**1.0300e-003**	**0.0000**	**2.3931**	**2.3931**	**6.8000e-004**	**0.0000**	**2.4102**

3.6 Paving - 2019

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	2.9000e-004	2.2000e-004	2.1400e-003	1.0000e-005	5.6000e-004	0.0000	5.6000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.5133	0.5133	2.0000e-005	0.0000	0.5137
Total	**2.9000e-004**	**2.2000e-004**	**2.1400e-003**	**1.0000e-005**	**5.6000e-004**	**0.0000**	**5.6000e-004**	**1.5000e-004**	**0.0000**	**1.5000e-004**	**0.0000**	**0.5133**	**0.5133**	**2.0000e-005**	**0.0000**	**0.5137**

3.7 Architectural Coating - 2019

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					
Archit. Coating	0.0348					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.7000e-004	4.5900e-003	4.6000e-003	1.0000e-005		3.2000e-004	3.2000e-004		3.2000e-004	3.2000e-004	0.0000	0.6383	0.6383	5.0000e-005	0.0000	0.6397
Total	**0.0354**	**4.5900e-003**	**4.6000e-003**	**1.0000e-005**		**3.2000e-004**	**3.2000e-004**		**3.2000e-004**	**3.2000e-004**	**0.0000**	**0.6383**	**0.6383**	**5.0000e-005**	**0.0000**	**0.6397**

3.7 Architectural Coating - 2019

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	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
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**

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					
Archit. Coating	0.0348					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.7000e-004	4.5900e-003	4.6000e-003	1.0000e-005		3.2000e-004	3.2000e-004		3.2000e-004	3.2000e-004	0.0000	0.6383	0.6383	5.0000e-005	0.0000	0.6397
Total	**0.0354**	**4.5900e-003**	**4.6000e-003**	**1.0000e-005**		**3.2000e-004**	**3.2000e-004**		**3.2000e-004**	**3.2000e-004**	**0.0000**	**0.6383**	**0.6383**	**5.0000e-005**	**0.0000**	**0.6397**

3.7 Architectural Coating - 2019

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	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
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**

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	0.0124	0.1338	0.1418	6.4000e-004	0.0388	7.2000e-004	0.0395	0.0104	6.9000e-004	0.0111	0.0000	59.1089	59.1089	3.4600e-003	0.0000	59.1954
Unmitigated	0.0124	0.1338	0.1418	6.4000e-004	0.0388	7.2000e-004	0.0395	0.0104	6.9000e-004	0.0111	0.0000	59.1089	59.1089	3.4600e-003	0.0000	59.1954

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	34.85	6.60	3.40	101,692	101,692
Total	34.85	6.60	3.40	101,692	101,692

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
General Light Industry	14.70	6.60	6.60	59.00	28.00	13.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.499524	0.033454	0.168279	0.130431	0.021581	0.005690	0.021752	0.108566	0.001799	0.001690	0.005397	0.000987	0.000848

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	5.6000e-004	5.1200e-003	4.3000e-003	3.0000e-005		3.9000e-004	3.9000e-004		3.9000e-004	3.9000e-004	0.0000	5.5685	5.5685	1.1000e-004	1.0000e-004	5.6016
NaturalGas Unmitigated	5.6000e-004	5.1200e-003	4.3000e-003	3.0000e-005		3.9000e-004	3.9000e-004		3.9000e-004	3.9000e-004	0.0000	5.5685	5.5685	1.1000e-004	1.0000e-004	5.6016

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					
General Light Industry	104350	5.6000e-004	5.1200e-003	4.3000e-003	3.0000e-005		3.9000e-004	3.9000e-004		3.9000e-004	3.9000e-004	0.0000	5.5685	5.5685	1.1000e-004	1.0000e-004	5.6016
Total		**5.6000e-004**	**5.1200e-003**	**4.3000e-003**	**3.0000e-005**		**3.9000e-004**	**3.9000e-004**		**3.9000e-004**	**3.9000e-004**	**0.0000**	**5.5685**	**5.5685**	**1.1000e-004**	**1.0000e-004**	**5.6016**

5.2 Energy by Land Use - NaturalGas

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					
General Light Industry	104350	5.6000e-004	5.1200e-003	4.3000e-003	3.0000e-005		3.9000e-004	3.9000e-004		3.9000e-004	3.9000e-004	0.0000	5.5685	5.5685	1.1000e-004	1.0000e-004	5.6016
Total		**5.6000e-004**	**5.1200e-003**	**4.3000e-003**	**3.0000e-005**		**3.9000e-004**	**3.9000e-004**		**3.9000e-004**	**3.9000e-004**	**0.0000**	**5.5685**	**5.5685**	**1.1000e-004**	**1.0000e-004**	**5.6016**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	44100	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	44100	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

	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	0.0230	0.0000	5.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	9.0000e-005	9.0000e-005	0.0000	0.0000	1.0000e-004
Unmitigated	0.0230	0.0000	5.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	9.0000e-005	9.0000e-005	0.0000	0.0000	1.0000e-004

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	3.4800e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0195					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	5.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	9.0000e-005	9.0000e-005	0.0000	0.0000	1.0000e-004
Total	**0.0230**	**0.0000**	**5.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**9.0000e-005**	**9.0000e-005**	**0.0000**	**0.0000**	**1.0000e-004**

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	3.4800e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0195					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	5.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	9.0000e-005	9.0000e-005	0.0000	0.0000	1.0000e-004
Total	**0.0230**	**0.0000**	**5.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**9.0000e-005**	**9.0000e-005**	**0.0000**	**0.0000**	**1.0000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.3668	0.0377	8.9000e-004	1.5738
Unmitigated	0.3668	0.0377	8.9000e-004	1.5738

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	1.15625 / 0	0.3668	0.0377	8.9000e-004	1.5738
Total		**0.3668**	**0.0377**	**8.9000e-004**	**1.5738**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	1.15625 / 0	0.3668	0.0377	8.9000e-004	1.5738
Total		**0.3668**	**0.0377**	**8.9000e-004**	**1.5738**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	1.2585	0.0744	0.0000	3.1180
Unmitigated	1.2585	0.0744	0.0000	3.1180

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	6.2	1.2585	0.0744	0.0000	3.1180
Total		**1.2585**	**0.0744**	**0.0000**	**3.1180**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	6.2	1.2585	0.0744	0.0000	3.1180
Total		**1.2585**	**0.0744**	**0.0000**	**3.1180**

9.0 Operational Offroad

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

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

Road Construction Emissions Model, Version 8.1.0

Daily Emission Estimates for -> Parlier TCP Removal Project

Project Phases (Pounds)	ROG (lbs/day)	CO (lbs/day)	NOx (lbs/day)	Total PM10 (lbs/day)	Exhaust PM10 (lbs/day)	Fugitive Dust PM10 (lbs/day)	Total PM2.5 (lbs/day)	Exhaust PM2.5 (lbs/day)	Fugitive Dust PM2.5 (lbs/day)	SOx (lbs/day)	CO2 (lbs/day)	CH4 (lbs/day)	N2O (lbs/day)	CO2e (lbs/day)
Grubbing/Land Clearing	1.31	10.74	14.62	5.63	0.63	5.00	1.60	0.56	1.04	0.02	2,299.39	0.59	0.03	2,321.76
Grading/Excavation	7.12	55.84	77.01	8.76	3.76	5.00	4.46	3.42	1.04	0.10	9,912.15	2.85	0.10	10,011.98
Drainage/Utilities/Sub-Grade	4.21	34.44	40.93	7.23	2.23	5.00	3.11	2.07	1.04	0.06	5,781.65	1.21	0.06	5,828.40
Paving	1.86	18.22	18.19	1.12	1.12	0.00	1.00	1.00	0.00	0.03	2,961.81	0.75	0.03	2,990.22
Maximum (pounds/day)	7.12	55.84	77.01	8.76	3.76	5.00	4.46	3.42	1.04	0.10	9,912.15	2.85	0.10	10,011.98
Total (tons/construction project)	0.31	2.52	3.26	0.45	0.17	0.28	0.21	0.15	0.06	0.00	439.73	0.11	0.00	443.88

Notes:

Project Start Year ->	2019
Project Length (months) ->	6
Total Project Area (acres) ->	1
Maximum Area Disturbed/Day (acres) ->	1
Water Truck Used? ->	Yes

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

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

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

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

Total Emission Estimates by Phase for -> Parlier TCP Removal Project

Project Phases (Tons for all except CO2e. Metric tonnes for CO2e)	ROG (tons/phase)	CO (tons/phase)	NOx (tons/phase)	Total PM10 (tons/phase)	Exhaust PM10 (tons/phase)	Fugitive Dust PM10 (tons/phase)	Total PM2.5 (tons/phase)	Exhaust PM2.5 (tons/phase)	Fugitive Dust PM2.5 (tons/phase)	SOx (tons/phase)	CO2 (tons/phase)	CH4 (tons/phase)	N2O (tons/phase)	CO2e (MT/phase)
Grubbing/Land Clearing	0.01	0.07	0.10	0.04	0.00	0.03	0.01	0.00	0.01	0.00	15.18	0.00	0.00	13.90
Grading/Excavation	0.19	1.47	2.03	0.23	0.10	0.13	0.12	0.09	0.03	0.00	261.68	0.08	0.00	239.79
Drainage/Utilities/Sub-Grade	0.10	0.80	0.95	0.17	0.05	0.12	0.07	0.05	0.02	0.00	133.56	0.03	0.00	122.14
Paving	0.02	0.18	0.18	0.01	0.01	0.00	0.01	0.01	0.00	0.00	29.32	0.01	0.00	26.86
Maximum (tons/phase)	0.19	1.47	2.03	0.23	0.10	0.13	0.12	0.09	0.03	0.00	261.68	0.08	0.00	239.79
Total (tons/construction project)	0.31	2.52	3.26	0.45	0.17	0.28	0.21	0.15	0.06	0.00	439.73	0.11	0.00	402.68

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

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

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

The CO2e emissions are reported as metric tons per phase.

Appendix B

Biological Evaluation Report

Biological Resource Evaluation

1,2,3-TCP Removal Treatment Systems

Fresno County, California

PREPARED FOR:

The City of Parlier
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May 2018

Contents

Figures

Tables

Appendixes

Executive Summary

The City of Parlier (City) proposes to construct two water treatment systems and rehabilitate a well to meet statewide water quality standards and water supply demands established by the State Water Resources Control Board Division of Drinking Water. The City's proposal outlines three project components. First, the City proposes to construct a centralized 1,2,3-Trichloropropane (TCP) treatment system for Well 2A and Well 4A. This system will include 340 linear feet of 10-inch pipeline between Well 2A and the proposed centralized treatment site and 3370 linear feet of 10-inch pipeline between Well 4A and the proposed centralized treatment site. Second, the City proposes to construct a new TCP treatment system at the current location of Well 9A. Third, the City proposes to rehabilitate Well 5A and convert it from a standby water source into an active water source. The purpose of this project is to (1) remove harmful levels of TCP, an impurity in certain pesticides and a known carcinogen, from the City's water supply and (2) increase the City's water supply capacity to meet Maximum Daily Demands and Peak Hour Demands.

The District will obtain financing for the project from the Drinking Water State Revolving Fund (DWSRF). The DWSRF is a state and federal partnership that helps ensure safe drinking water. It is administered by the State of California and partially funded by the United States Environmental Protection Agency. Consequently, the project must not only meet environmental documentation and review requirements under the California Environmental Quality Act (CEQA) but must meet such requirements with respect to certain federal laws and regulations as well. This state and federal review process is known as CEQA-Plus.

To evaluate whether the project may affect biological resources under CEQA-Plus purview, we (1) obtained official lists from the United States Fish and Wildlife Service and the California Department of Fish and Wildlife of special-status species and designated and proposed critical habitat, (2) reviewed other relevant background information such as aerial images and topographic maps, and (3) conducted a field reconnaissance survey of the project site.

This biological resource evaluation summarizes existing biological conditions on the project site, the potential for special-status species and regulated habitats to occur on or near the project site, the potential impacts of the proposed project on biological resources and regulated habitats, and measures to reduce those potential impacts to a less-than-significant level under CEQA. We concluded the project will not affect regulated habitats but could affect one special-status species, the state-listed as threatened Swainson's hawk (*Buteo swainsoni*), and nesting migratory birds, but effects can be reduced to less-than-significant levels with mitigation.

Abbreviations

Abbreviation	Definition
CCR	California Code of Regulations
CDFG	California Department of Fish and Game
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CNDDB	California Natural Diversity Data Base
CNPS	California Native Plant Society
EFH	Essential Fish Habitat
EPA	Environmental Protection Agency
FE	Federally listed as Endangered
FESA	Federal Endangered Species Act
FP	Fully Protected
FT	Federally listed as Threatened
GPM	Gallons Per Minute
NMFS	National Marine Fisheries Service
SE	State-listed as Endangered
SSSC	State Species of Special Concern
ST	State-listed as Threatened
SWRCB	State Water Resources Control Board
TCP	1,2,3-Trichloropropane
USACE	United States Army Corps of Engineers
USC	United States Code
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey

1.0 Introduction

1.1 Background

The City of Parlier (City) proposes to install water treatment systems to remove the pesticide impurity 1,2,3-Trichloropropane (TCP) from its water supply and to rehabilitate one well to increase the City's water supply capacity. The City will obtain financing for this water quality improvement project (Project) from the Drinking Water State Revolving Fund (DWSRF). The DWSRF is administered by the State Water Resources Control Board and partially funded by a capitalization grant from the United States Environmental Protection Agency (EPA). Due to this federal nexus, issuing funds from the DWSRF constitutes a federal action, one that requires the EPA to determine whether the proposed action may affect federally protected resources. The Project must therefore comply with requirements of the California Environmental Quality Act (CEQA) and certain federal environmental laws and regulations as well. This state and federal review process is known as CEQA-Plus.

The purpose of this biological resource evaluation is to assess whether the Project will affect state- or federally protected resources pursuant to CEQA-Plus guidelines. Such resources include species of plants or animals listed or proposed for listing under the Federal Endangered Species Act (FESA) or the California Endangered Species Act (CESA), as well as those covered under the Migratory Bird Treaty Act (MBTA), the California Native Plant Protection Act, and various other sections of the California Fish and Game Code. Biological resources considered here also include designated or proposed critical habitat recognized under the FESA. This biological resource evaluation also addresses Project-related impacts to regulated habitats, which are those under the jurisdiction of the United States Army Corps of Engineers (USACE) or California Department of Fish and Wildlife (CDFW), as well as those addressed under the Wild and Scenic Rivers Act, Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act), and Executive Order 11988 pertaining to floodplain management.

1.2 Project Description

The Project includes three components:

1. *Well 2A and Well 4A Centralized Treatment.* This component will centralize TCP treatment for Well 2A and Well 4A at a new site next to the Milton Lift Station. It will involve installing about 340 linear feet of 10-inch pipeline between Well 2A and the proposed centralized treatment site and about 3,370 linear feet of 10-inch pipeline between Well 4A and the proposed centralized treatment site. The centralized treatment will include a five-train TCP treatment system capable of handling the combined flow of Well 2A and Well 4A. The vertical turbine pumps at each well site will also be improved to produce the additional pressure required to go through the treatment process. At the

completion of this component, the City's Maximum Day Supply will be 3,800 gallons per minute (GPM) and the Peak Hour Supply will be 7,800 GPM.

2. *Well 9A TCP Treatment*. This component will involve constructing a new TCP treatment system at Well 9A. The TCP treatment system will include three trains in parallel. At the completion of this component, the City's Maximum Day Supply will be 5,100 GPM, and the Peak Hour Supply will be 9,500 GPM. Thus, at the completion of this component, the City will have adequate capacity to meet current Maximum Daily Demand and Peak Hour Demand.

3. *Well 5A Rehabilitation*. This component will rehabilitate Well 5 and convert it from a standby source into an active source. Rehabilitation of Well 5 will be preceded by a condition assessment of the well infrastructure and a pump test to determine its production. At the completion of this component, the City's Maximum Day Supply will be 5,850 GPM, and the Peak Hour Supply will be 10,250 GPM. Thus, at the completion of this component, the City will have adequate capacity to meet Maximum Daily Demand and Peak Hour Demand, even with the largest well out of service.

1.3 Project Location

The three Project locations are within the city limits of Parlier in south-central Fresno County, California (Figure 1). The locations of the three components are as follows:

1. *The Well 2A and Well 4A Centralized Treatment*. This component extends from east of the intersection of South Whitner Avenue and Young Avenue south to Tuolumne Street, then west along Tuolumne Street, and south along South Milton Avenue, including adjacent to the Milton Lift Station, to the intersection with East Manning Avenue (Figure 2).

2. *Well 9A TCP Treatment*. This component is on the south side of Industrial Drive, 0.1 miles west of South Mendocino Avenue (Figure 3).

3. *Well 5A Rehabilitation*. This component is on the northeast corner East Parlier Avenue and South Zediker Avenue (Figure 4).

Figure 1. Site vicinity map.

Figure 2. Well 2A and Well 4A Centralized Treatment site map.

Figure 3. Well 9A TCP Treatment site map.

Figure 4. Well 5A Rehabilitation site map.

1.4 Purpose and Need of Proposed Project

The purpose of the Project is to remove harmful levels of TCP from the City's water supply and increase the City's water supply capacity to meet maximum daily demands (MDD) and peak hour demands (PHD). The Project is needed to meet statewide drinking water standards established by the State Water Resources Control Board Division of Drinking Water.

1.5 Consultation History

Lists of all species listed or proposed for listing as threatened or endangered and all designated or proposed critical habitat under the FESA that could occur near the Project site were obtained by Colibri Staff Scientist Ryan Slezak from the United States Fish and Wildlife Service (USFWS) website (https://ecos.fws.gov/ipac/) on 02 May 2018 (Appendix A).

1.6 Regulatory Framework

The relevant federal and state regulatory requirements and policies that guide the impact analysis of the Project are summarized below.

1.6.1 Federal Requirements

Federal Endangered Species Act. The USFWS and the National Oceanographic and Atmospheric Administration's (NOAA) National Marine Fisheries Service (NMFS) enforce the provisions stipulated in the Federal Endangered Species Act of 1973 (FESA, 16 USC Section 1531 et seq.). Threatened and endangered species on the federal list (50 Code of Federal Regulations [CFR] 17.11 and 17.12) are protected from take unless a Section 10 permit is granted to an entity other than a federal agency or a Biological Opinion with incidental take provisions is rendered to a federal lead agency via a Section 7 consultation. Take is defined as harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct. Pursuant to the requirements of the FESA, an agency reviewing a proposed project within its jurisdiction must determine whether any federally listed species may be present on the project site and determine whether the proposed project may affect such species. Under the FESA, habitat loss is considered to be an impact to a species. In addition, the agency is required to determine whether the project is likely to jeopardize the continued existence of any species that is listed or proposed for listing under the FESA or result in the destruction or adverse modification of critical habitat proposed or designated for such species (16 USC §1536[3], [4]). Therefore, project-related impacts to these species or their habitats would be considered significant and would require mitigation.

Migratory Bird Treaty Act. The federal Migratory Bird Treaty Act (MBTA) (16 United States Code [USC] §703, Supp. I, 1989) prohibits killing, possessing, trading, or other forms of take of migratory birds except in accordance with regulations prescribed by the Secretary of the Interior.

"Take" is defined as the pursuing, hunting, shooting, capturing, collecting, or killing of birds, their nests, eggs, or young (16 USC §703 and §715n). This act encompasses whole birds, parts of birds, and bird nests and eggs. The MBTA specifically protects migratory bird nests from possession, sale, purchase, barter transport, import, and export, and take. For nests, the definition of take per 50 CFR 10.12 is to collect. The MBTA does not include a definition of an "active nest." However, the "Migratory Bird Permit Memorandum" issued by the USFWS in 2003 clarifies the MBTA in that regard and states that the removal of nests, without eggs or birds, is legal under the MBTA, provided no possession (which is interpreted as holding the nest with the intent of retaining it) occurs during the destruction (USFWS 2003).

United States Army Corps of Engineers Jurisdiction. Areas meeting the regulatory definition of "waters of the United States" (jurisdictional waters) are subject to the jurisdiction of the United States Army Corps of Engineers (USACE) under provisions of Section 404 of the Clean Water Act (1972) and Section 10 of the Rivers and Harbors Act (1899). These waters may include all waters used, or potentially used, for interstate commerce, including all waters subject to the ebb and flow of the tide, all interstate waters, all other waters (intrastate lakes, rivers, streams, mudflats, sandflats, playa lakes, natural ponds, etc.), all impoundments of waters otherwise defined as waters of the United States, tributaries of waters otherwise defined as waters of the United States, the territorial seas, and wetlands adjacent to waters of the United States (33 CFR part 328.3). Ditches and drainage canals where water flows intermittently or ephemerally are not regulated as waters of the United States. Wetlands on non-agricultural lands are identified using the *Corps of Engineers Wetlands Delineation Manual* and related Regional Supplement (USACE 1987 and 2008). Construction activities, including direct removal, filling, hydrologic disruption, or other means in jurisdictional waters are regulated by the USACE. The placement of dredged or fill material into such waters must comply with permit requirements of the USACE. No USACE permit will be effective in the absence of state water quality certification pursuant to Section 401 of the Clean Water Act. The State Water Resources Control Board is the state agency (together with the Regional Water Quality Control Boards) charged with implementing water quality certification in California.

Wild and Scenic Rivers Act. The National Wild and Scenic Rivers System was created by Congress in 1968 (Public Law 90-542; 16 U.S.C. 1271 et seq.) to preserve certain rivers with significant natural, cultural, and recreational values in a free-flowing condition. The Act safeguards the special character of these rivers, while also recognizing the potential for their appropriate use and development.

Magnuson-Stevens Fishery Conservation and Management Act. The Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) (Public law 94-265; Statutes at Large 90 Stat. 331; 16 U.S.C. ch. 38 § 1801 et seq.) establishes a management system for national marine and estuarine fishery resources. This legislation requires that all federal agencies consult the NMFS regarding all actions or proposed actions permitted, funded, or undertaken that may adversely affect "essential fish habitat (EFH)." EFH is defined as "waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity." The Magnuson-Stevens Act

states that migratory routes to and from anadromous fish spawning grounds are considered EFH. The phrase "adversely affect" refers to any impact that reduces the quality or quantity of EFH. Federal activities that occur outside of EFH, but which may have an impact on EFH must also be considered. The Act applies to salmon species, groundfish species, highly migratory species such as tuna, and coastal pelagic species such as anchovies.

Executive Order 11988: Floodplain Management. Executive Order 11988 (42 Federal Register 26951, 3 CFR, 1977 Comp., p. 117) requires federal agencies to avoid to the extent possible the long-term and short-term adverse impacts associated with occupying and modifying flood plains and to avoid direct and indirect support of developing floodplains wherever there is a practicable alternative.

1.6.2 State Requirements

California Endangered Species Act. The California Endangered Species Act (CESA) of 1970 (Fish and Game Code Section 2050 et seq., and CCR Title 14, Subsection 670.2, 670.51) prohibits the take of species listed under CESA (14 CCR Subsection 670.2, 670.5). Take is defined as hunt, pursue, catch, capture, or kill or attempt to hunt, pursue, catch, capture, or kill. Under CESA, state agencies are required to consult with the California Department of Fish and Wildlife [CDFW, formerly California Department of Fish and Game (CDFG)] when preparing CEQA documents. Consultation ensures that proposed projects or actions do not have a negative effect on state-listed species. During consultation, CDFW determines whether take would occur and identifies "reasonable and prudent alternatives" for the project and conservation of special-status species. CDFW can authorize take of state-listed species under Sections 2080.1 and 2081(b) of Fish and Game Code in those cases where it is demonstrated that the impacts are minimized and mitigated. Take authorized under section 2081(b) must be minimized and fully mitigated. A CESA permit must be obtained if a project will result in take of listed species, either during construction or over the life of the project. Under CESA, CDFW is responsible for maintaining a list of threatened and endangered species designated under state law (Fish and Game Code 2070). CDFW also maintains lists of species of special concern, which serve as "watch lists." Pursuant to the requirements of CESA, a state or local agency reviewing a proposed project within its jurisdiction must determine whether the proposed project will have a potentially significant impact upon such species. Project-related impacts to species on the CESA list would be considered significant and would require mitigation. Impacts to species of concern or fully protected species would be considered significant under certain circumstances.

California Environmental Quality Act. The California Environmental Quality Act (CEQA) of 1970 (Subsections 21000–21178) requires that CDFW be consulted during the CEQA review process regarding impacts of proposed projects on special-status species. Special-status species are defined under CEQA Guidelines subsection 15380(b) and (d) as those listed under FESA and CESA and species that are not currently protected by statute or regulation but would be considered rare, threatened, or endangered under these criteria or by the scientific community. Therefore, species considered rare or endangered are addressed in this biological resource evaluation

regardless of whether they are afforded protection through any other statute or regulation. The California Native Plant Society (CNPS) inventories the native flora of California and ranks species according to rarity (CNPS 2017). Plants with Rare Plant Ranks 1A, 1B, 2A, or 2B are considered special-status species under CEQA.

Although threatened and endangered species are protected by specific federal and state statutes, CEQA Guidelines Section 15380(d) provides that a species not listed on the federal or state list of protected species may be considered rare or endangered if it can be shown to meet certain specified criteria. These criteria have been modeled after the definition in the FESA and the section of the California Fish and Game Code dealing with rare and endangered plants and animals. Section 15380(d) allows a public agency to undertake a review to determine if a significant effect on species that have not yet been listed by either the USFWS or CDFW (i.e., candidate species) would occur. Thus, CEQA provides an agency with the ability to protect a species from the potential impacts of a project until the respective government agency has an opportunity to designate the species as protected, if warranted.

California Native Plant Protection Act. The California Native Plant Protection Act of 1977 (California Fish and Game Code Section 1900–1913) requires all state agencies to use their authority to carry out programs to conserve endangered and otherwise rare species of native plants. Provisions of the act prohibit the taking of listed plants from the wild and require the project proponent to notify CDFW at least 10 days in advance of any change in land use, which allows CDFW to salvage listed plants that would otherwise be destroyed.

Nesting birds. California Fish and Game Code Subsections 3503, 3503.5, and 3800 prohibit the possession, incidental take, or needless destruction of birds, their nests, and eggs. California Fish and Game Code Section 3511 lists birds that are "Fully Protected" as those that may not be taken or possessed except under specific permit.

California Department of Fish and Wildlife Jurisdiction. The CDFW has regulatory jurisdiction over lakes and streams in California. Activities that divert or obstruct the natural flow of a stream; substantially change its bed, channel, or bank; or use any materials (including vegetation) from the streambed, may require that the project applicant enter into a Streambed Alteration Agreement with the CDFW in accordance with California Fish and Game Code Section 1602.

2.0 Methods

2.1 Desktop Review

As a framework for the evaluation and reconnaissance survey, we obtained an official USFWS species list for the Project (USFWS 2018, Appendix A). In addition, we searched the California Natural Diversity Data Base (CNDDB, CDFW 2018) and the California Native Plant Society's Inventory of Rare and Endangered Plants (CNPS 2018) for records of special-status plant and animal species in the Project area. Regional lists of special-status species were compiled using USFWS, CNDDB, and CNPS database searches confined to the Selma 7.5-minute United States Geological Survey (USGS) topographic quad, which encompasses the Project site, and the eight surrounding quads (Malaga, Sanger, Wahtoke, Conejo, Reedley, Laton, Burris Park, and Traver). Local lists of special-status species were compiled using CNDDB records from within 5 miles of the Project site. Species for which the Project site does not provide suitable habitat were eliminated from further consideration. We also reviewed aerial imagery from Google Earth and other sources, USGS topographic maps, and relevant literature.

2.2 Reconnaissance Survey

Colibri scientists Graham Biddy, Howard Clark, and Ryan Slezak conducted a field reconnaissance survey of the Project site on 27 April 2018. The Project site and a 50-foot buffer surrounding the Project site were walked and thoroughly inspected to evaluate and document the potential for the site to support federally or state-protected resources. The survey area also included a 0.5-mile buffer around the Project site to evaluate the potential occurrence of nesting special-status raptors (Figure 5). All plants except those under cultivation in agricultural fields or planted in residential or commercial areas and all animals (vertebrate wildlife species) observed within the survey area were identified and documented. The survey area was evaluated for the presence of regulated habitats, including lakes, streams, and other waters using methods described in the *Wetlands Delineation Manual* and regional supplement (USACE 1987, 2008).

2.3 Effects Analysis and Significance Criteria

2.3.1 Effects Analysis

Factors considered in evaluating the effects of the Project on special-status species included the (1) presence of designated or proposed critical habitat in the survey area, (2) potential for the survey area to support special-status species, (3) dependence of any such species on specific habitat components that would be removed or modified, (4) the degree of impact to habitat, (5) abundance and distribution of habitat in the region, (6) distribution and population levels of the species, (7) cumulative effects of the Project and any future activities in the area, and (8) the potential to mitigate any adverse effects.

Factors considered in evaluating the effects of the Project on migratory birds included the potential for the Project to result in (1) mortality of migratory birds or (2) loss of migratory bird nests containing viable eggs or nestlings.

Factors considered in evaluating the effects of the Project on regulated habitats included the (1) presence of features comprising or potentially comprising waters of the United States, Wild and Scenic Rivers, essential fish habitat (EFH), floodplains, and lakes or streams within the survey area, and (2) potential for the Project to impact such habitats.

2.3.2 Significance Criteria

CEQA defines "significant effect on the environment" as "a substantial, or potentially substantial, adverse change in the environment." (Pub. Res. Code, §21068). Under CEQA Guidelines Section 15065, a project's effects on biological resources are deemed significant where the project would do the following:

- 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

In addition to the Section 15065 criteria, Appendix G within the CEQA Guidelines includes six additional impacts to consider when analyzing the effects of a project. Under Appendix G, a project's effects on biological resources are deemed significant where the project would do the following:

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 CDFW or USFWS.

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 CDFW or USFWS.

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.

These criteria were used to determine whether the potential effects of the Project on biological resources qualify as significant.

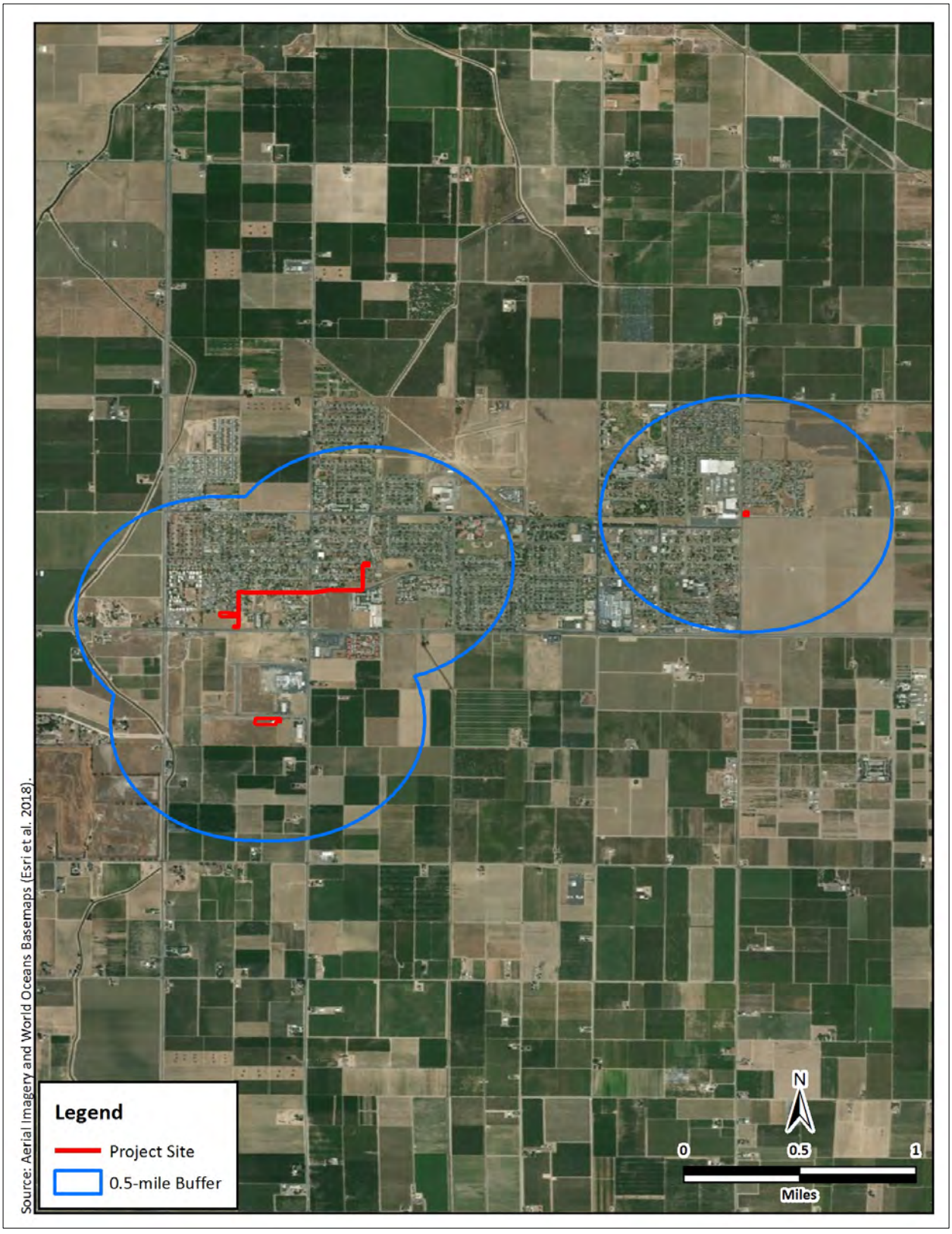

Figure 5. Reconnaissance survey area map.

3.0 Results

3.1 Desktop Review

The official species list for the Project site (USFWS 2018b, Table 1, Appendix A) included eight species listed as threatened or endangered under the FESA. Those species include the threatened vernal pool fairy shrimp (*Branchinecta lynchi*), the threatened Delta smelt (*Hypomesus transpacificus*), the threatened California red-legged frog (*Rana draytonii*), the threatened California tiger salamander (*Ambystoma californiense*), the endangered blunt-nosed leopard lizard (*Gambelia sila*), the threatened giant garter snake (*Thamnophis gigas*), the endangered Fresno kangaroo rat (*Dipodomys nitratoides exilis*), and the endangered San Joaquin kit fox (*Vulpes macrotis mutica*). As identified in the official species list (USFWS 2018b, Appendix A), the Project site does not occur in designated or proposed critical habitat.

Searching the CNDDB (CDFW 2018) for records of special-status species from within the Selma 7.5-minute USGS topographic quad and the eight surrounding quads produced 104 records of 38 species (Table 1, Appendix B). Of those species, five are known from within 5 miles of the Project site (Table 1, Figure 6). The non-federally listed species known from within 5 miles of the Project site include: California satintail (*Imperata brevifolia*), a plant with a CNPS Rare Plant Rank of 2B.1, pallid bat (*Antrozous pallidus*), a State Species of Special Concern (SSSC), Swainson's hawk (*Buteo swainsoni*), a species state-listed as threatened. The CNDDB search revealed three occurrences of the valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*), a federally threatened species, and one occurrence of the western yellow-billed cuckoo (*Coccyzus americanus occidentalis*), a state-listed as endangered and federally listed as threatened species.

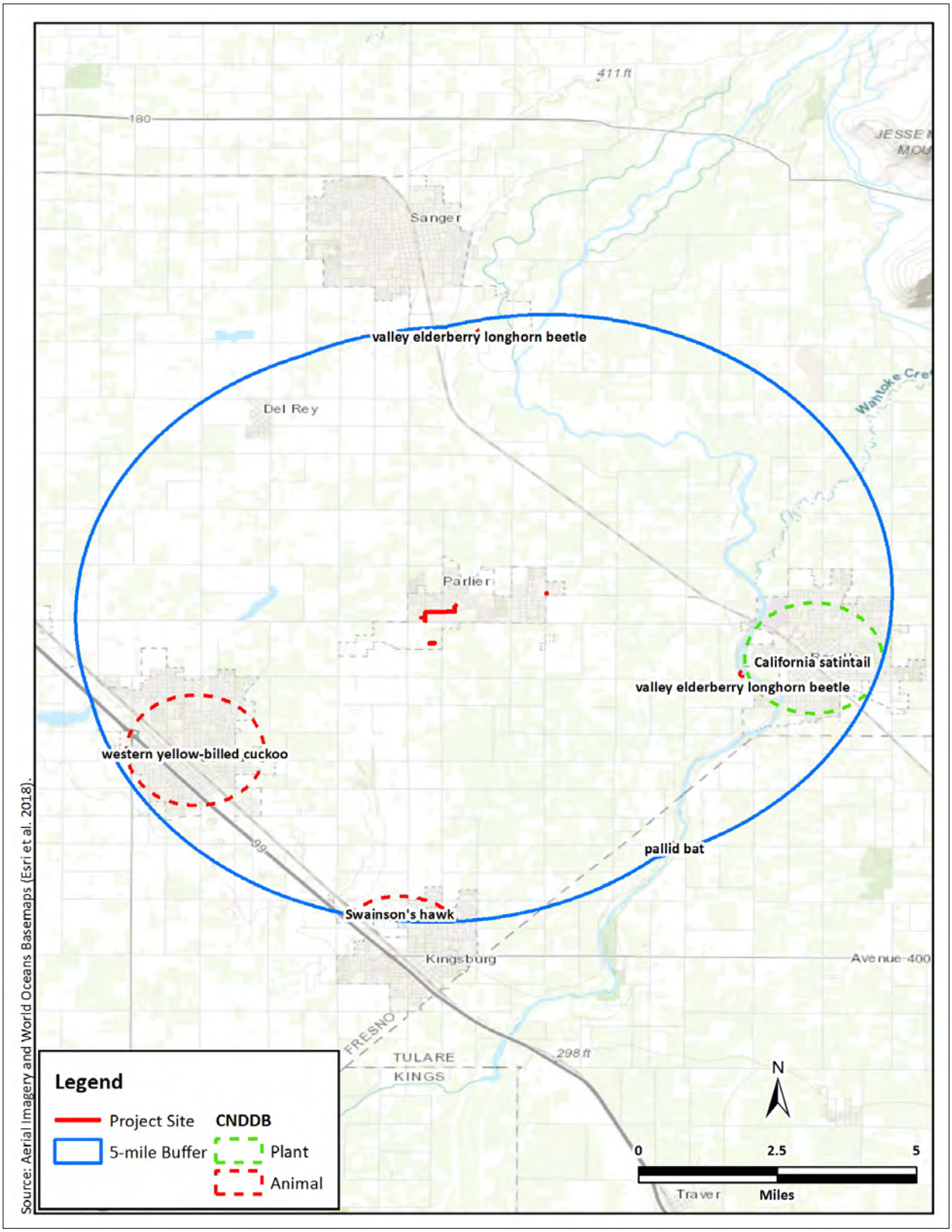

Figure 6. CNDDB occurrence map.

Table 1. Special-status species, their listing status, habitat requirements, and potential to occur on or near the Project site.

Species	Status[1]	Habitat	Potential to Occur[2]
Federally and State-Listed Endangered or Threatened Species			
California jewelflower (*Caulanthus californicus*)	FE, SE, 1B.1	Chenopod scrub, valley and foothill grassland, pinyon and juniper woodland.	**Absent.** Habitat lacking; no records from within 5 miles.
Greene's tuctoria (*Tuctoria greenei*)	FE, SR 1B.1	Vernal Pools and wetlands.	**Absent.** Habitat lacking; no records from within 5 miles.
San Joaquin adobe sunburst (*Pseudobahia peirsonii*)	FT, SE, 1B.1	Valley and foothill grassland, cismontane woodland.	**Absent.** Habitat lacking; no records from within 5 miles.
San Joaquin Valley Orcutt grass (*Orcuttia inaequalis*)	FT, SE, 1B.1	Vernal pools and wetlands.	**Absent.** Habitat lacking; no records from within 5 miles.
Vernal pool fairy shrimp (*Branchinecta lynchi*)	FT	Vernal pools; some artificial depressions, stock ponds, vernal swales, ephemeral drainages, and seasonal wetlands.	**Absent.** Habitat lacking; no records from within 5 miles.
Vernal pool tadpole shrimp (*Lepidurus packardi*)	FE	Vernal pools, clay flats, alkaline pools, ephemeral stock tanks.	**Absent.** Habitat lacking; no records from within 5 miles.
Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*)	FT	Elderberry (*Sambucus* sp.) plants with stems > 1-inch diameter at ground level.	**Absent.** Habitat lacking. No elderberry plants found in the survey area.
Delta smelt (*Hypomesus transpacificus*)	FT, SE	River channels, tidally influenced sloughs.	**Absent.** Habitat lacking; no records from within 5 miles, and no connectivity with suitable habitat.
California red-legged frog (*Rana draytonii*)	FT, SSSC	Creeks, ponds, and marshes for breeding; burrows for upland refuge.	**Absent.** Habitat lacking; no records from within 5 miles.
California tiger salamander (*Ambystoma californiense*)	FT, ST	Vernal pools or other seasonal sources for breeding;	**Absent.** Habitat lacking; no records from within 5 miles.

Species	Status[1]	Habitat	Potential to Occur[2]
		underground refuges for non-breeding.	
Blunt-nosed leopard lizard (*Gambelia sila*)	FE, SE, FP	Burrows for upland refuge, grasslands	**Absent.** Habitat lacking; no records from within 5 miles.
Giant gartersnake (*Thamnophis gigas*)	FT, ST	Marshes, sloughs, drainage canals, irrigation ditches, and slow-moving creeks.	**Absent.** Habitat lacking; no records from within 5 miles.
Swainson's hawk (*Buteo swainsoni*)	ST	Large trees for nesting with adjacent grasslands, alfalfa fields, or grain fields for foraging.	**Low.** Potential nest trees in the survey area, but foraging habitat is limited.
Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*)	FT, SE	Riparian forest along the broad, lower flood-bottoms of larger river systems.	**Absent.** Habitat lacking.
Fresno kangaroo rat (*Dipodomys nitratoides exilis*)	FE, SE	Sandy, alkaline, saline, and clay-based oils in upland scrub and grassland.	**Absent.** Habitat lacking; no records from within 5 miles.
San Joaquin kit fox (*Vulpes macrotis mutica*)	FE, ST	Grassland and upland scrub.	**Absent.** Habitat lacking; no records within five miles.
State Species of Special Concern			
Western spadefoot (*Spea hammondii*)	SSSC	Open areas with sandy gravelly soils; rain pools for breeding.	**Absent.** Habitat lacking; no records from within 5 miles.
Coast horned lizard (*Phrynosoma blainvillii*)	SSSC	Open, generally sandy areas, washes, and flood plains in a variety of habitats.	**Absent.** Habitat lacking; no records from within 5 miles.
California glossy snake (*Arizona elegans occidentalis*)	SSSC	Generalist reported from a range of scrub and grassland habitats, often with loose or sandy soils.	**Absent.** Habitat lacking; no records from within 5 miles.
Northern California legless lizard (*Anniella pulchra*)	SSSC	Chaparral, coastal dunes, coastal scrub.	**Absent.** Habitat lacking; no records from within 5 miles.

Species	Status[1]	Habitat	Potential to Occur[2]
Northern western pond turtle (*Actinemys marmorata*)	SSSC	Ponds, rivers, marshes, streams, and irrigation ditches, usually with aquatic vegetation. Basking sites and suitable upland areas for egg laying.	**Absent.** Habitat lacking; no records from within 5 miles.
Burrowing owl (*Athene cunicularia*)	SSSC	Grassland and upland scrub with friable soil; some agricultural or other developed and disturbed areas with ground squirrel burrows.	**Absent.** Habitat lacking; no records from within 5 miles. Although ground squirrel burrows were found in the survey area, no foraging habitat is present.
Loggerhead shrike (*Lanius ludovicianus*)	SSSC	Broken woodlands, savannah, pinyon-juniper, Joshua tree, and riparian woodlands, desert oases, scrub, and washes.	Habitat lacking; no records from within 5 miles.
Pallid bat (*Antrozous pallidus*)	SSSC	Rocky outcrops, cliffs, and crevices near open habitat.	**Absent.** Habitat lacking; no records from within 5 miles.
Western mastiff bat (*Eumops perotis californicus*)	SSSC	Prefers open, arid areas with high cliffs; open forests, woodlands, and grasslands for foraging.	**Absent.** Habitat lacking; no records from within 5 miles.
Otherwise Rare or Imperiled Species			
Caper-fruited tropidocarpum (*Tropidocarpum capparideum*)	CNDDB 1B.1	Valley and foothill grassland.	**Absent.** Habitat lacking; no records from within 5 miles.
Madera leptosiphon (*Leptosiphon serrulatus*)	CNDDB 1B.2	Cismontane woodland, lower montane coniferous forest.	**Absent.** Habitat lacking; no records from within 5 miles.
Winter's sunflower (*Helianthus winteri*)	CNDDB 1B.2	Cismontane woodland, valley and foothill grassland.	**Absent.** Habitat lacking; no records from within 5 miles.

Species	Status[1]	Habitat	Potential to Occur[2]
Antioch efferian robberfly (*Efferia antiochi*)	CNDDB	Interior dunes.	**Absent.** Habitat lacking; no records from within 5 miles.
Crotch bumble bee (*Bombus crotchii*)	CNDDB	Open grassland and scrub habitats. Food plant genera include *Antirrhinum*, *Phacelia, Clarkia, Dendromecon, Eschscholzia*, and *Eriogonum*.	**Absent.** Habitat lacking; no records from within 5 miles.
Hurd's metapogon robberfly (*Metapogon hurdi*)	CNDDB	Interior dunes.	**Absent.** Habitat lacking; no records from within 5 miles.
Molestan blister beetle (*Lytta molesta*)	CNDDB	Vernal pools.	**Absent.** Habitat lacking; no records from within 5 miles.
Morrison bumble bee (*Bombus morrisoni*)	CNDDB	Open dry scrub. Food plant genera include *Cirsium, Cleome, Helianthus, Lupinus, Chrysothamnus*, and *Melilotus*.	**Absent.** Habitat lacking; no records from within 5 miles.
Hoary bat (*Lasiurus cinereus*)	CNDDB	Dense foliage of medium to large trees for roosting. Large open areas such as lakes for foraging.	**Absent.** Habitat lacking, no records from within 5 miles.
California Rare Plants			
Adobe navarretia (*Navarretia nigelliformis* ssp. *Nigelliformis*)	4.2	Valley and foothill grassland vernally mesic, Vernal pools sometimes.	**Absent.** Habitat lacking; no records from within 5 miles.
Brittlescale (*Atriplex depressa*)	1B.2	Vernal pools, grasslands, or upland scrub with alkaline or clay soils.	**Absent.** Habitat lacking; no records from within 5 miles.
California alkali grass (*Puccinellia simplex*)	1B.2	Scrub, meadows, seeps, grassland, and vernal pools.	**Absent.** Habitat lacking; no records from within 5 miles.

Species	Status[1]	Habitat	Potential to Occur[2]
California satintail (*Imperata brevifolia*)	2B.1	Coastal scrub, chaparral, riparian scrub, Mojavean desert scrub, meadows and seeps (alkali), riparian scrub.	**Absent.** Habitat lacking.
Earlimart orache (*Atriplex cordulata* var. *erecticaulis*)	1B.2	Valley and foothill grassland.	**Absent.** Habitat lacking; no records from within 5 miles.
Kings River monkeyflower (*Erythranthe acutidens*)	3	Cismontane woodland, lower montane coniferous forest.	**Absent.** Habitat lacking; no records from within 5 miles.
Lesser saltscale (*Atriplex minuscula*)	1B.1	Chenopod scrub, playa, and grassland communities with sandy, alkaline soil.	**Absent.** Habitat lacking; no records from within 5 miles.
Sanford's arrowhead (*Sagittaria sanfordii*)	1B.2	Freshwater marsh-wetlands.	**Absent.** Habitat lacking; no records from within 5 miles.
Shevock's copper moss (*Mielichhoferia shevockii*)	1B.2	Cismontane woodland (metamorphic, rock, mesic).	**Absent.** Habitat lacking; no records from within 5 miles.
Small-flowered morning-glory (*Convolvulus simulans*)	4.2	Chaparral (openings), coastal scrub, valley and foothill grassland.	**Absent.** Habitat lacking; no records from within 5 miles.
Spiny-sepaled button-celery (*Eryngium spinosepalum*)	1B.2	Seasonally flooded depressions in clay soils.	**Absent.** Habitat lacking; no records from within 5 miles.

CDFW (2018), CNPS (2018), USFWS (2018b).

Status[1]	Potential to Occur[2]	
CNDDB = Recognized by the CNDDB, other state or federal agencies, or conservation groups as rare or imperiled.	Absent:	Species or sign not observed; conditions unsuitable for occurrence.
FE = Federally listed Endangered	Low:	Neither species nor sign observed; conditions marginal for occurrence.
FT = Federally listed Threatened		
FP = Fully Protected		
SE = State-listed Endangered		
SR = State-designated Rare		
ST = State-listed Threatened		
SSSC = State Species of Special Concern		

CNPS California Rare Plant Rank:	Threat Ranks:
1A – plants presumed extirpated in California and either rare or extinct elsewhere. 1B – plants rare, threatened, or endangered in California and elsewhere. 2A – plants presumed extirpated in California but common elsewhere. 2B – plants rare, threatened or endangered in California but common elsewhere. 3 – plants have unknown distribution, more information needed. 4 – plants have limited distribution in California.	0.1 – seriously threatened in California (> 80% of occurrences). 0.2 – moderately threatened in California (20-80% of occurrences). 0.3 – not very threatened in California (<20% of occurrences).

3.2 Reconnaissance Survey

3.2.1 Land Use and Habitats

Land use in the Project area is residential and industrial. Habitats are urban and ruderal. The well sites are surrounded by chain link fence and underlain by hardpan or concrete (Figure 7). The proposed pipeline between Well 2A and Well 4A follows paved roadways (Figure 8); the southernmost 250 feet of the proposed pipeline follows a compacted dirt road. The proposed centralized TCP treatment facility near Well 2A is in a vacant lot with ruderal vegetation (Figure 9). The Well 9A TCP treatment facility is in a disturbed field with ruderal vegetation (Figure 10). Well 5A is in a developed and fenced lot (Figure 11).

Figure 7. Photograph of the land cover at Well 4A.

Figure 8. Photograph of the land cover along the pipeline alignment.

Figure 9. Photograph from Well 2A showing the land cover near the proposed Centralized TCP Treatment facility and adjacent Milton Lift Station.

Figure 10. Photograph of the land cover at the proposed Well 9A TCP Treatment facility.

Figure 11. Photograph of the land cover at Well 5A Rehabilitation site.

3.2.2 Plant and Animal Species Observed

Nonnative, herbaceous forbs and grasses such as shepherd's purse (*Capsella bursa-pastoris*) and brome grass (*Bromus* sp.) dominate open areas of the Project site. In all, 32 plant species (11 native and 21 nonnative) were found during the survey (Table 2). Thirteen bird species and two mammal species were also detected (Table 2).

Table 2. Plant and animal species observed during the reconnaissance survey.

Common Name	Scientific Name	Status
Plants		
Family Amaranthaceae		
Rough pigweed	*Amaranthus retroflexus*	Nonnative
Family Asteraceae		
Cat's ear	*Hypochaeris* sp.	Nonnative
Common sunflower	*Helianthus annuus*	Native
Jersey cudweed	*Pseudognaphalium luteoalbum*	Nonnative
Pineapple weed	*Matricaria discoidea*	Native
Prickly sow thistle	*Sonchus asper*	Nonnative

Prickly lettuce	*Lactuca serriola*	Nonnative
Yarrow	*Achillea millefolium*	Native
Family Boraginaceae		
Small flowered fiddleneck	*Amsinckia menziesii*	Native
Valley popcornflower	*Plagiobothrys canescens*	Native
Family Brassicaceae		
Black mustard	*Brassica nigra*	Nonnative
Pepperweed	*Lepidium strictum*	Native
Shepherd's purse	*Capsella bursa-pastoris*	Nonnative
Wild radish	*Raphanus sativus*	Nonnative
Family Chenopodiaceae		
Russian thistle	*Salsola tragus*	Nonnative
Family Euphorbiaceae		
Valley spurge	*Euphorbia ocellata*	Native
Family Fabaceae		
Arroyo lupine	*Lupinus succulentus*	Native
Bicolor lupine	*Lupinus bicolor*	Native
California burclover	*Medicago polymorpha*	Nonnative
Hairy vetch	*Vicia villosa*	Nonnative
White clover	*Trifolium repens*	Nonnative
Family Geraniaceae		
Redstem stork's bill	*Erodium cicutarium*	Nonnative
Family Lamiaceae		
Henbit	*Lamium amplexicaule*	Nonnative
Family Malvaceae		
Dwarf mallow	*Malva neglecta*	Nonnative
Family Onagraceae		
Primrose	*Camissonia* sp.	Native
Family Orobanchaceae		
Owl's clover	*Castilleja exserta*	Native
Family Poaceae		
Bermuda grass	*Cynodon dactylon*	Nonnative
Hare barley	*Hordeum murinum*	Nonnative
Red brome	*Bromus madritensis* ssp. *rubens*	Nonnative

Ripgut brome	*Bromus diandrus*	Nonnative
Wild oat	*Avena fatua*	Nonnative
Family Zygophyllaceae		
Puncture vine	*Tribulus terrestris*	Nonnative
Birds		
Family Accipitridae		
Red-tailed hawk	*Buteo jamaicensis*	MBTA
Family Columbidae		
Eurasian collared-dove	*Streptopelia decaocto*	--
Mourning dove	*Zenaida macroura*	MBTA
Family Corvidae		
California scrub-jay	*Aphelocoma californica*	MBTA
Common raven	*Corvus corax*	MBTA
Family Fringillidae		
House finch	*Haemorhous mexicanus*	MBTA
Family Hirundinidae		
Cliff swallow	*Petrochelidon pyrrhonota*	MBTA
Family Icteridae		
Great-tailed grackle	*Quiscalus mexicanus*	MBTA
Family Mimidae		
Northern mockingbird	*Mimus polyglottos*	MBTA
Family Passeridae		
House sparrow	*Passer domesticus*	--
White-crowned sparrow	*Zonotrichia leucophrys*	MBTA
Family Sturnidae		
European starling	*Sturnus vulgaris*	--
Family Tyrannidae		
Western Kingbird	*Tyrannus verticalis*	MBTA
Mammals		
Family Geomyidae		
Botta's pocket gopher	*Thomomys bottae*	--
Family Sciuridae		
California ground squirrel	*Otospermophilus beecheyi*	--

MTBA: Covered under the Migratory Bird Treaty Act.

3.2.3 Special-Status Species

One special-status species, the state-listed as threatened Swainson's hawk (*Buteo swainsoni*), could occur near the Project site. Swainson's hawks use open areas, mainly grasslands and some agricultural fields, for foraging and prey largely on small mammals during the breeding season. In the non-breeding season, they rely greatly on insects. Breeding sites for Swainson's hawks include areas with scattered trees near agricultural areas and grasslands or along streams. Trees favored for nesting include willows, oaks, junipers, aspens, cottonwoods, and conifers (Bechard et al. 2010). Potential nest trees were within 0.5 miles of all Project areas.

3.2.4 Nesting Birds and the Migratory Bird Treaty Act

Migratory birds have the potential to nest on or near the Project site. Such species include, but are not limited to, red-tailed hawk (*Buteo jamaicensis*), Swainson's hawk (*Buteo swainsoni*), western kingbird (*Tyrannus verticalis*), common raven (*Corvus corax*), California scrub-jay (*Aphelocoma californica*), and house finch (*Carpodacus mexicanus*).

3.2.5 Regulated Habitats

No potentially regulated habitats of any kind were found on or within 50 feet of the Project site. The nearest river, the Kings River, is about 4 miles east of the Project site. According to the Wild and Scenic Rivers Act, the designated wild and scenic reach of the Kings River begins at the headwaters of the Middle Fork and South Fork and ends at the confluence of the main stem and Spring Creek, approximately 35 miles northeast of the Project site. Therefore, the portion of the Kings River east of the Project site is not included in the wild and scenic classification (USFWS 2018a).

No marine or estuarine fishery resources or migratory routes to and from anadromous fish spawning grounds were present in the survey area. In addition, no EFH, defined by the Magnuson-Stevens Act as those resources necessary for fish spawning, breeding, feeding, or growth to maturity, were present in the survey area.

The Project site is not within a flood plain (Federal Emergency Management Agency 2018). The nearest flood plain limit is along the Kings River, approximately 4 miles east of the Project site.

4.0 Environmental Impacts

4.1 Effects Determinations

4.1.1 Critical Habitat

We conclude the Project will have **no effect** on critical habitat as no critical habitat has been designated or proposed in the survey area.

4.1.2 Special-Status Species

We conclude the Project **may affect but is not likely to adversely affect** the state-listed as threatened Swainson's hawk. The Project is not expected to affect any other special-status species due to the lack of habitat for those species in the survey area.

4.1.3 Migratory Birds

We conclude the Project **may affect but is not likely to adversely affect** nesting migratory birds.

4.1.4 Regulated Habitats

We conclude the Project will have **no effect** on regulated habitats due the lack of such habitats in the survey area.

4.2 Significance Determinations

This Project will not: (1) 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 (criterion b); (2) 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 (criterion c); (3) conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance (criterion e); or (4) conflict with the provisions of an adopted Habitat Conservation Plan, Natural Communities Conservation Plan, or other approved local, regional, or state habitat conservation plan (criterion f). Thus, these significance criteria are not analyzed further.

The remaining statutorily defined criterion provided the framework for criterion BIO1 and BIO2 below. These criteria are used to assess the impacts to biological resources stemming from the Project and provide the basis for determinations of significance:

- Criterion BIO1: 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.

- Criterion BIO2: 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.

4.2.1 Direct and Indirect Impacts

4.2.1.1 Potential Impact #1: Have a Substantial Effect on any Special-Status Species (Criterion BIO1)

The Project has the potential to substantially impact the state-listed as threatened Swainson's hawk, which could nest near the Project site. Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings or otherwise lead to nest abandonment. Loss of fertile eggs or nestlings, or any activities resulting in nest abandonment, would constitute a significant impact. We recommend that the mitigation measure B1 (below) be included in the conditions of approval to reduce the potential impact to a less-than-significant level.

4.2.1.2 Potential Impact #2: Interfere Substantially with Native Wildlife Movements, Corridors, or Nursery Sites (Criterion BIO2)

The Project has the potential to impede the use of nursery sites for native birds protected under the Migratory Bird Treaty Act and California Fish and Game Code. Migratory birds are expected to nest on and near the Project site. Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings or otherwise lead to nest abandonment. Disturbance that causes nest abandonment or loss of reproductive effort is considered take by the CDFW. Loss of fertile eggs or nestlings, or any activities resulting in nest abandonment, could constitute a significant impact if the species is particularly rare in the region. Construction activities such trenching and grading that disturb a rare nesting bird on the site or immediately adjacent to the construction zone could constitute a significant impact. We recommend that the mitigation measure B2 (below) be included in the conditions of approval to reduce the potential impact to a less-than-significant level.

Mitigation Measure B1. Protect nesting Swainsons hawks.

If work will occur during the Swainson's hawk nesting season (15 March – 15 August), a qualified biologist shall conduct a survey for active Swainson's hawk nests within 0.25 miles of the Project site no more than 14 days prior to the start of construction. If an active nest is found within 0.25 miles and the activity would disrupt nesting, a buffer or limited operating period should be implemented in consultation with the CDFW.

Mitigation Measure B2. Protect nesting birds.

1. To the extent practicable, construction shall be scheduled to avoid the nesting season, which extends from February through August.
2. If it is not possible to schedule construction between September and January, pre-construction surveys for nesting birds shall be conducted by a qualified biologist to ensure that no active nests will be disturbed during Project implementation. A pre-construction survey shall be conducted no more than 14 days prior to the initiation of construction activities. During this survey, the qualified biologist shall inspect all potential nest substrates in and immediately adjacent to the impact areas for nests. If an active nest is found close enough to the construction area to be disturbed by these activities, the qualified biologist shall determine the extent of a construction-free buffer to be established around the nest. If work cannot proceed without disturbing the nesting birds, work may need to be halted or redirected to other areas until nesting and fledging are completed or the nest has otherwise failed for non-construction related reasons.

4.2.2 Cumulative Impacts

Mitigation Measures B1 and B2 would reduce any contribution to cumulative impacts on biological resources to a less-than-significant level.

4.2.3 Unavoidable Significant Adverse Impacts

No unavoidable significant adverse impacts on biological resources would occur from implementing the Project.

5.0 Literature Cited

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Appendix A. Official lists of threatened and endangered species and critical habitats.

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: May 02, 2018
Consultation Code: 08ESMF00-2018-SLI-2006
Event Code: 08ESMF00-2018-E-05852
Project Name: City of Parlier Water System Improvement Project

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

To Whom It May Concern:

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

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

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

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

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

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

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

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

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

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

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

Attachment(s):

- Official Species List

Official Species List

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

This species list is provided by:

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

Project Summary

Consultation Code: 08ESMF00-2018-SLI-2006

Event Code: 08ESMF00-2018-E-05852

Project Name: City of Parlier Water System Improvement Project

Project Type: WATER QUALITY MODIFICATION

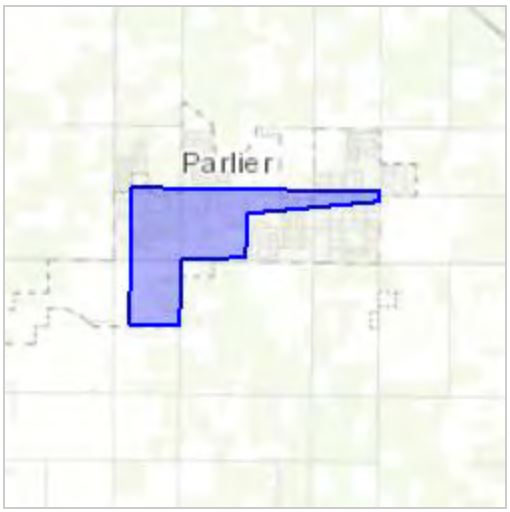
Project Description: The City of Parlier, California proposes to upgrade the city's existing water system to meet drinking water requirements. The proposed plan defines three project components :

1. Construct a centralized TCP treatment site for Well #2A and Well #4A adjacent to the Milton Lift Station. Construction includes the installation of approximately 3810 linear feet of 10-inch pipeline below paved roadways in a suburban residential area to connect both wells to the centralized treatment site.
2. Construct a new TCP treatment system at Well #9A in a previously disturbed field adjacent to an existing facility.
3. Rehabilitate Well #5 and convert it from a standby water source into an active water source.

The three project sites are located within the city limits of Parlier in Fresno County, California. Project #1 runs from east of the intersection of S. Whitner Avenue and Young Avenue south to Tuolumne Street Avenue, then west along Tuolumne Street and south along S. Milton Avenue to the intersection with E. Manning Avenue. Project #2 is located south of E. Industrial Drive in a previously disturbed field west of an existing facility. Project #3 is located within a fenced facility northeast of the intersection of E. Parlier Avenue and S. Zediker Avenue.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/36.60515824321092N119.54676265758113W



Counties: Fresno, CA

Endangered Species Act Species

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

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

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

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

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

Mammals

NAME	STATUS
Fresno Kangaroo Rat *Dipodomys nitratoides exilis* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5150 Species survey guidelines: https://ecos.fws.gov/ipac/guideline/survey/population/37/office/11420.pdf	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* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2891	Threatened
California Tiger Salamander *Ambystoma californiense* Population: U.S.A. (Central CA DPS) There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2076	Threatened

Fishes

NAME	STATUS
Delta Smelt *Hypomesus transpacificus* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/321	Threatened

Crustaceans

NAME	STATUS
Vernal Pool Fairy Shrimp *Branchinecta lynchi* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/498	Threatened

Critical habitats

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

Appendix B. CNDDB occurrence records.

Multiple Occurrences per Page

California Department of Fish and Wildlife

California Natural Diversity Database

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

Ambystoma californiense **Element Code:** AAAAA01180

California tiger salamander

Listing Status:	**Federal:**	Threatened	**CNDDB Element Ranks:**	**Global:**	G2G3
	State:	Threatened		**State:**	S2S3
	Other:	CDFW_WL-Watch List, IUCN_VU-Vulnerable			
Habitat:	**General:**	CENTRAL VALLEY DPS FEDERALLY LISTED AS THREATENED. SANTA BARBARA AND SONOMA COUNTIES DPS FEDERALLY LISTED AS ENDANGERED.			
	Micro:	NEED UNDERGROUND REFUGES, ESPECIALLY GROUND SQUIRREL BURROWS, AND VERNAL POOLS OR OTHER SEASONAL WATER SOURCES FOR BREEDING.			

Occurrence No.	221	**Map Index:**	25586	**EO Index:**	5485	**Element Last Seen:**	1991-04-17
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1991-04-17
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2009-06-17

Quad Summary: Wahtoke (3611964)

County Summary: Fresno

Lat/Long:	36.72154 / -119.39646	**Accuracy:**	1/5 mile
UTM:	Zone-11 N4066659 E285979	**Elevation (ft):**	500
PLSS:	T14S, R24E, Sec. 07, SE (M)	**Acres:**	0.0

Location: ALONG THE NORTH SIDE OF HWY 180, 7.7 MILES WEST HWY 63, AT THE BASE OF JESSE MORROW MOUNTAIN.

Detailed Location: CTS FOUND 500 FEET NORTH OF HWY 180.

Ecological: 2007 AERIAL PHOTO SHOWS AGRICULTURAL DEVELOPMENT ON THE SOUTH SIDE OF HWY 180 AND TO THE NE OF THE SITE, BUT LARGE NATURAL AREAS REMAIN.

General: SHAFFER SITE #124. CTS PRESENT ON 17 APRIL 1991; NUMBER AND LIFESTAGE UNKNOWN.

Owner/Manager: UNKNOWN

Occurrence No.	522	**Map Index:**	44980	**EO Index:**	44980	**Element Last Seen:**	1999-03-01
Occ. Rank:	Fair			**Presence:**	Presumed Extant	**Site Last Seen:**	1999-03-01
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2009-06-18

Quad Summary: Burris Park (3611945)

County Summary: Kings

Lat/Long:	36.37793 / -119.50895	**Accuracy:**	80 meters
UTM:	Zone-11 N4028791 E274936	**Elevation (ft):**	260
PLSS:	T18S, R23E, Sec. 08, W (M)	**Acres:**	0.0

Location: WEST SIDE OF CROSS CREEK, 1.3 MILES SOUTH OF SETTLERS DITCH, NW OF VSALIA.

Detailed Location:

Ecological: 1999: NON-NTIVE ANNUAL GRASSLAND W/VERNAL POOLS; GRASSLAND TO S & E, FARMLAND TO N & W. SCAPHIOPUS HAMMONDI, BRANCHINETA LYNCHI, LEPIDURUS PACKARDI, & ATHENE CUNICULARIA FOUND IN VICINITY. 2007 AERIAL PHOTO SHOWS AREAS TO S & E ARE NOW AG.

General: SEVERAL EGG MASSES OBSERVED ON 1 MAR 1999.

Owner/Manager: PVT

Occurrence No.	583	**Map Index:** 46277	**EO Index:**	46277	**Element Last Seen:**	1936-05-16
Occ. Rank:	None		**Presence:**	Extirpated	**Site Last Seen:**	1936-05-16
Occ. Type:	Natural/Native occurrence		**Trend:**	Unknown	**Record Last Updated:**	2002-08-20

Quad Summary: Malaga (3611966), Fresno South (3611967), Clovis (3611976), Fresno North (3611977)

County Summary: Fresno

Lat/Long:	36.77388 / -119.77951	**Accuracy:**	5 miles
UTM:	Zone-11 N4073392 E251931	**Elevation (ft):**	300
PLSS:	T13S, R20E, Sec. 27 (M)	**Acres:**	0.0

Location: FRESNO.

Detailed Location:

Ecological:

General: 1879 RECORD FROM THE USNM (#11794), NO OTHER INFORMATION GIVEN. CORNELL UNIVERSITY MUSEUM OF VERTEBRATES #3017 (2 SPECIMENS) COLLECTED 16 MAY 1936 BY L.F. HADSELL. JENNINGS CONSIDERS THIS SITE EXTIRPATED.

Owner/Manager: UNKNOWN

Occurrence No.	612	**Map Index:** 46426	**EO Index:**	46426	**Element Last Seen:**	XXXX-XX-XX
Occ. Rank:	None		**Presence:**	Extirpated	**Site Last Seen:**	XXXX-XX-XX
Occ. Type:	Natural/Native occurrence		**Trend:**	Unknown	**Record Last Updated:**	2017-11-15

Quad Summary: Burris Park (3611945)

County Summary: Kings

Lat/Long:	36.47325 / -119.54682	**Accuracy:**	1 mile
UTM:	Zone-11 N4039456 E271818	**Elevation (ft):**	275
PLSS:	T17S, R22E, Sec. 11 (M)	**Acres:**	0.0

Location: LOCATION GIVEN ONLY AS KINGS RIVER BELOW KINGSBURG IN KINGS COUNTY.

Detailed Location:

Ecological:

General: FOUND SOMETIME BEFORE 1925. JENNINGS CONSIDERS THIS SITE EXTIRPATED.

Owner/Manager: UNKNOWN

Spea hammondii **Element Code:** AAABF02020

western spadefoot

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G3
	State:	None		**State:**	S3
	Other:	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_NT-Near Threatened			
Habitat:	**General:**	OCCURS PRIMARILY IN GRASSLAND HABITATS, BUT CAN BE FOUND IN VALLEY-FOOTHILL HARDWOOD WOODLANDS.			
	Micro:	VERNAL POOLS ARE ESSENTIAL FOR BREEDING AND EGG-LAYING.			

Occurrence No.	195	**Map Index:**	44979	**EO Index:**	44979	**Element Last Seen:**	2017-03-01
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2017-03-01
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2017-10-06

Quad Summary:	Burris Park (3611945)
County Summary:	Kings

Lat/Long:	36.38141 / -119.50862	**Accuracy:**	specific area
UTM:	Zone-11 N4029177 E274977	**Elevation (ft):**	263
PLSS:	T18S, R23E, Sec. 8, W (M)	**Acres:**	37.0

Location:	WEST SIDE OF CROSS CREEK, ABOUT 1 MILE SOUTH OF SETTLERS DITCH, NW OF VISALIA.
Detailed Location:	2016: DETECTED IN POOL 25 AT (36.38055, -119.50874). MAPPED TO INCLUDE GIVEN DETECTION LOCATIONS.
Ecological:	NON-NATIVE ANNUAL GRASSLAND W/ VERNAL POOLS (MAINLY ALKALINE POOLS); GRASSLAND TO THE S & E, FARMLAND TO THE N & W. AREA IS GRAZED. AMBYSTOMA CALIFORNIENSE, BRANCHINETA LYNCHI, LEPIDURUS PACKARDI, & ATHENE CUNICULARIA FOUND IN THE VICINITY.
General:	MANY TADPOLES OBSERVED IN 3 SEPARATE POOLS ON 1 MAR 1999. PAIR IN AMPLEXUS OBSERVED ON 6 MAR 2016. TADPOLES FOUND IN 10 POOLS THROUGHOUT PROPERTY IN 2017; 1 MAPPED HERE.
Owner/Manager:	PVT

Occurrence No.	428	**Map Index:**	86230	**EO Index:**	87272	**Element Last Seen:**	2011-05-16
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2011-05-16
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2012-06-29

Quad Summary:	Traver (3611944)
County Summary:	Tulare

Lat/Long:	36.41315 / -119.45547	**Accuracy:**	nonspecific area
UTM:	Zone-11 N4032576 E279833	**Elevation (ft):**	275
PLSS:	T17S, R23E, Sec. 35, NW (M)	**Acres:**	83.0

Location:	JUST EAST OF HWY 99 ON THE NORTH SIDE OF CROSS CREEK, ABOUT 3 MILES SSE OF TRAVER.
Detailed Location:	MAPPED WITH RESPECT TO APPENDIX H AERIAL MAP (GEOREFERENCED). VERNAL POOLS 1, 3, 4, 10, AND 11. 1,090 ACRE SITE ALONG CROSS CREEK DRAINAGE EXTENDING NE OF HWY 99 FOR ABOUT 3 MILES.
Ecological:	HABITAT DESCRIBED AS NON-NATIVE GRASSLANDS USED FOR GRAZING. THE 1,090 ACRE SITE WAS RECENTLY DISKED (OCT 2010) AND PLANTED WITH WHEAT. SITE HAS NOT BEEN LEVELED LIKE ADJACENT AGRICULTURE LANDS. LEPIDURUS PACKARDI ALSO FOUND ON SITE.
General:	19 TOTAL INDIVIDUAL TADPOLES WERE CAPTURED FROM 17 VERNAL POOLS ON SITE DURING DIP-NET SURVEYS.
Owner/Manager:	PVT

Occurrence No.	429	**Map Index:**	86232	**EO Index:**	87274	**Element Last Seen:**	2011-05-16
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2011-05-16
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2012-06-29

Quad Summary:	Traver (3611944)
County Summary:	Tulare

Lat/Long:	36.40665 / -119.45575	**Accuracy:**	nonspecific area
UTM:	Zone-11 N4031856 E279790	**Elevation (ft):**	275
PLSS:	T17S, R23E, Sec. 35, SW (M)	**Acres:**	31.0

Location:	JUST EAST OF HWY 99 ON EITHER SIDE OF CROSS CREEK, ABOUT 3.7 MILES SSE OF TRAVER.
Detailed Location:	MAPPED WITH RESPECT TO APPENDIX H AERIAL MAP (GEOREFERENCED). VERNAL POOLS 6, 7, AND 8. 1,090 ACRE SITE ALONG CROSS CREEK DRAINAGE EXTENDING NE OF HWY 99 FOR ABOUT 3 MILES.
Ecological:	HABITAT DESCRIBED AS NON-NATIVE GRASSLANDS USED FOR GRAZING. THE 1,090 ACRE SITE WAS RECENTLY DISKED (OCT 2010) AND PLANTED WITH WHEAT. SITE HAS NOT BEEN LEVELED LIKE ADJACENT AGRICULTURE LANDS. LEPIDURUS PACKARDI ALSO FOUND ON SITE.
General:	19 TOTAL INDIVIDUAL TADPOLES WERE CAPTURED FROM 17 VERNAL POOLS ON SITE DURING DIP-NET SURVEYS.
Owner/Manager:	PVT

Occurrence No.	430	**Map Index:**	86233	**EO Index:**	87275	**Element Last Seen:**	2011-05-24
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2011-05-24
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2012-07-02

Quad Summary:	Traver (3611944)
County Summary:	Tulare

Lat/Long:	36.40493 / -119.44769	**Accuracy:**	1/10 mile
UTM:	Zone-11 N4031646 E280508	**Elevation (ft):**	275
PLSS:	T17S, R23E, Sec. 35, S (M)	**Acres:**	0.0

Location:	JUST EAST OF HWY 99 ON THE SOUTH SIDE OF CROSS CREEK, ABOUT 4 MILES SSE OF TRAVER.
Detailed Location:	MAPPED WITH RESPECT TO APPENDIX H AERIAL MAP (GEOREFERENCED). VERNAL POOL #51. 1,090 ACRE SITE ALONG CROSS CREEK DRAINAGE EXTENDING NE OF HWY 99 FOR ABOUT 3 MILES.
Ecological:	HABITAT DESCRIBED AS NON-NATIVE GRASSLANDS USED FOR GRAZING. THE 1,090 ACRE SITE WAS RECENTLY DISKED (OCT 2010) AND PLANTED WITH WHEAT. SITE HAS NOT BEEN LEVELED LIKE ADJACENT AGRICULTURE LANDS. LEPIDURUS PACKARDI ALSO FOUND ON SITE.
General:	19 TOTAL INDIVIDUAL TADPOLES WERE CAPTURED FROM 17 VERNAL POOLS ON SITE DURING DIP-NET SURVEYS.
Owner/Manager:	PVT

Occurrence No.	431	**Map Index:**	86234	**EO Index:**	87276	**Element Last Seen:**	2011-05-16
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2011-05-16
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2012-07-09

Quad Summary:	Traver (3611944)
County Summary:	Tulare

Lat/Long:	36.41285 / -119.44221	**Accuracy:**	nonspecific area
UTM:	Zone-11 N4032513 E281022	**Elevation (ft):**	275
PLSS:	T17S, R23E, Sec. 35, NE (M)	**Acres:**	24.0

Location:	ABOUT 1 MILE EAST OF HWY 99 ON THE NORTH SIDE OF CROSS CREEK, AND ABOUT 3.75 MILES SE OF TRAVER.
Detailed Location:	MAPPED WITH RESPECT TO APPENDIX H AERIAL MAP (GEOREFERENCED). VERNAL POOLS 22 AND 23. 1,090 ACRE SITE ALONG CROSS CREEK DRAINAGE EXTENDING NE OF HWY 99 FOR ABOUT 3 MILES.
Ecological:	HABITAT DESCRIBED AS NON-NATIVE GRASSLANDS USED FOR GRAZING. THE 1,090 ACRE SITE WAS RECENTLY DISKED (OCT 2010) AND PLANTED WITH WHEAT. SITE HAS NOT BEEN LEVELED LIKE ADJACENT AGRICULTURE LANDS. LEPIDURUS PACKARDI ALSO FOUND ON SITE.
General:	19 TOTAL INDIVIDUAL TADPOLES WERE CAPTURED FROM 17 VERNAL POOLS ON SITE DURING DIP-NET SURVEYS.
Owner/Manager:	PVT

Occurrence No.	432	**Map Index:**	86235	**EO Index:**	87277	**Element Last Seen:**	2011-05-16
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2011-05-16
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2012-06-29

Quad Summary:	Traver (3611944)
County Summary:	Tulare

Lat/Long:	36.40849 / -119.43713	**Accuracy:**	1/10 mile
UTM:	Zone-11 N4032017 E281465	**Elevation (ft):**	275
PLSS:	T17S, R23E, Sec. 36, NW (M)	**Acres:**	0.0

Location:	ABOUT 1 MILE EAST OF HWY 99 ON THE SOUTH SIDE OF CROSS CREEK, AND ABOUT 4 MILES SE OF TRAVER.
Detailed Location:	MAPPED WITH RESPECT TO APPENDIX H AERIAL MAP (GEOREFERENCED). VERNAL POOL #34. 1,090 ACRE SITE ALONG CROSS CREEK DRAINAGE EXTENDING NE OF HWY 99 FOR ABOUT 3 MILES.
Ecological:	HABITAT DESCRIBED AS NON-NATIVE GRASSLANDS USED FOR GRAZING. THE 1,090 ACRE SITE WAS RECENTLY DISKED (OCT 2010) AND PLANTED WITH WHEAT. SITE HAS NOT BEEN LEVELED LIKE ADJACENT AGRICULTURE LANDS. LEPIDURUS PACKARDI ALSO FOUND ON SITE.
General:	19 TOTAL INDIVIDUAL TADPOLES WERE CAPTURED FROM 17 VERNAL POOLS ON SITE DURING DIP-NET SURVEYS.
Owner/Manager:	PVT

Occurrence No.	433	**Map Index:**	86236	**EO Index:**	87278	**Element Last Seen:**	2011-05-24
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2011-05-24
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2012-06-29

Quad Summary:	Traver (3611944)
County Summary:	Tulare

Lat/Long:	36.42047 / -119.42055	**Accuracy:**	1/10 mile
UTM:	Zone-11 N4033309 E282985	**Elevation (ft):**	280
PLSS:	T17S, R24E, Sec. 30, SW (M)	**Acres:**	0.0

Location:	ABOUT 2.25 MILES UPSTREAM (NE) OF HWY 99 ON THE SOUTH SIDE OF CROSS CREEK, AND ABOUT 4.4 MILES SE OF TRAVER.
Detailed Location:	MAPPED WITH RESPECT TO APPENDIX H AERIAL MAP (GEOREFERENCED). VERNAL POOL #41. 1,090 ACRE SITE ALONG CROSS CREEK DRAINAGE EXTENDING NE OF HWY 99 FOR ABOUT 3 MILES.
Ecological:	NON-NATIVE GRASSLANDS USED FOR GRAZING. THE 1,090 ACRE SITE WAS RECENTLY DISKED (OCT 2010) AND PLANTED WITH WHEAT. SITE HAS NOT BEEN LEVELED LIKE ADJACENT AGRICULTURE LANDS. LEPIDURUS PACKARDI ALSO FOUND ON SITE & BUTEO SWAINSONI NEARBY.
General:	19 TOTAL INDIVIDUAL TADPOLES WERE CAPTURED FROM 17 VERNAL POOLS ON SITE DURING DIP-NET SURVEYS.
Owner/Manager:	PVT

Occurrence No.	434	**Map Index:**	86237	**EO Index:**	87279	**Element Last Seen:**	2011-05-24
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2011-05-24
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2012-06-29

Quad Summary:	Traver (3611944)
County Summary:	Tulare

Lat/Long:	36.42814 / -119.41143	**Accuracy:**	nonspecific area
UTM:	Zone-11 N4034140 E283825	**Elevation (ft):**	280
PLSS:	T17S, R24E, Sec. 30, NE (M)	**Acres:**	37.0

Location:	ABOUT 3 MILES UPSTREAM (NE) OF HWY 99 ALONG CROSS CREEK, AND ABOUT 4.6 MILES ESE OF TRAVER.
Detailed Location:	MAPPED WITH RESPECT TO APPENDIX H AERIAL MAP (GEOREFERENCED). VERNAL POOLS 48 & 55. 1,090 ACRE SITE ALONG CROSS CREEK DRAINAGE EXTENDING NE OF HWY 99 FOR ABOUT 3 MILES.
Ecological:	NON-NATIVE GRASSLANDS USED FOR GRAZING. THE 1,090 ACRE SITE WAS RECENTLY DISKED (OCT 2010) AND PLANTED WITH WHEAT. SITE HAS NOT BEEN LEVELED LIKE ADJACENT AGRICULTURE LANDS. LEPIDURUS PACKARDI ALSO FOUND ON SITE.
General:	19 TOTAL INDIVIDUAL TADPOLES WERE CAPTURED FROM 17 VERNAL POOLS ON SITE DURING DIP-NET SURVEYS.
Owner/Manager:	PVT

Occurrence No.	435	**Map Index:**	86238	**EO Index:**	87280	**Element Last Seen:**	2011-05-24
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2011-05-24
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2012-06-29

Quad Summary:	Traver (3611944)
County Summary:	Tulare

Lat/Long:	36.43548 / -119.39745	**Accuracy:**	nonspecific area
UTM:	Zone-11 N4034923 E285098	**Elevation (ft):**	290
PLSS:	T17S, R24E, Sec. 20, SW (M)	**Acres:**	30.0

Location:	ABOUT 4 MILES UPSTREAM (NE) OF HWY 99 ALONG CROSS CREEK (COTTONWOOD CREEK), AND ABOUT 5.2 MILES ESE OF TRAVER.
Detailed Location:	MAPPED WITH RESPECT TO APPENDIX H AERIAL MAP (GEOREFERENCED). REFERENCE VERNAL POOLS A & F ON ADJACENT LAND NEXT TO 1,090 ACRE SITE ALONG CROSS CREEK DRAINAGE EXTENDING NE OF HWY 99 FOR ABOUT 3 MILES.
Ecological:	NON-NATIVE GRASSLANDS USED FOR GRAZING. THIS SITE ALSO APPEARS TO HAVE BEEN DISKED (JUN 2011 AERIAL). LEPIDURUS PACKARDI ALSO FOUND ON SITE.
General:	19 TOTAL INDIVIDUAL TADPOLES WERE CAPTURED FROM 17 VERNAL POOLS BETWEEN THIS REFERENCE SITE AND THE NEIGHBORING 1,090 ACRE SITE DURING DIP-NET SURVEYS.
Owner/Manager:	PVT

Occurrence No.	472	**Map Index:**	A6746	**EO Index:**	108515	**Element Last Seen:**	2017-03-01
Occ. Rank:	Excellent			**Presence:**	Presumed Extant	**Site Last Seen:**	2017-03-01
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2017-10-12

Quad Summary:	Traver (3611944)
County Summary:	Tulare

Lat/Long:	36.40092 / -119.46489	**Accuracy:**	specific area
UTM:	Zone-11 N4031241 E278955	**Elevation (ft):**	271
PLSS:	T17S, R23E, Sec. 34, S (M)	**Acres:**	23.0

Location:	VICINITY OF CROSS CREEK ABOUT 1.6 MI NW OF HWY 99 AT AVE 328 & 1.2-1.5 MI SSE OF AVE 352 AT RD 44, NW OF VISALIA.
Detailed Location:	MAPPED TO PROVIDED MAP.
Ecological:	CROSS CREEK PROPERTIES BEING EVALUATED AS POTENTIAL MITIGATION LANDS FOR THE HIGH SPEED RAIL AUTHORITY (2017).
General:	LARVAE DETECTED IN 10 POOLS THROUGHOUT PROPERTY DURING 2017 SURVEYS; 3 MAPPED HERE.
Owner/Manager:	PVT

Occurrence No.	473	**Map Index:**	A6747	**EO Index:**	108517	**Element Last Seen:**	2017-03-01
Occ. Rank:	Excellent			**Presence:**	Presumed Extant	**Site Last Seen:**	2017-03-01
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2017-10-12

Quad Summary: Traver (3611944)

County Summary: Tulare

Lat/Long:	36.39203 / -119.47218	**Accuracy:**	specific area
UTM:	Zone-11 N4030271 E278276	**Elevation (ft):**	268
PLSS:	T18S, R23E, Sec. 3, SW (M)	**Acres:**	10.0

Location: NW SIDE OF CROSS CREEK, ABOUT 1.6 MILES NW OF HWY 99 AT AVE 328 & 1.9 MI SSE OF AVE 352 AT RD 44, NW OF VISALIA.

Detailed Location: MAPPED TO PROVIDED MAP.

Ecological: CROSS CREEK PROPERTIES BEING EVALUATED AS POTENTIAL MITIGATION LANDS FOR THE HIGH SPEED RAIL AUTHORITY (2017).

General: LARVAE DETECTED IN 10 POOLS THROUGHOUT PROPERTY DURING 2017 SURVEYS; 2 MAPPED HERE.

Owner/Manager: PVT

Occurrence No.	474	**Map Index:**	A6749	**EO Index:**	108518	**Element Last Seen:**	2017-03-01
Occ. Rank:	Excellent			**Presence:**	Presumed Extant	**Site Last Seen:**	2017-03-01
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2017-10-12

Quad Summary: Traver (3611944)

County Summary: Kings, Tulare

Lat/Long:	36.39782 / -119.47766	**Accuracy:**	specific area
UTM:	Zone-11 N4030926 E277801	**Elevation (ft):**	269
PLSS:	T18S, R23E, Sec. 4, NE (M)	**Acres:**	10.0

Location: FROM 2.0-2.4 MI NW OF HWY 99 AT AVE 328, 1.3-1.4 MI SSW OF AVE 352 AT RD 44, NW OF VISALIA.

Detailed Location: MAPPED TO PROVIDED MAP.

Ecological: CROSS CREEK PROPERTIES BEING EVALUATED AS POTENTIAL MITIGATION LANDS FOR THE HIGH SPEED RAIL AUTHORITY (2017).

General: LARVAE DETECTED IN 10 POOLS THROUGHOUT PROPERTY DURING 2017 SURVEYS; 2 MAPPED HERE.

Owner/Manager: PVT

Occurrence No.	475	**Map Index:**	A6750	**EO Index:**	108519	**Element Last Seen:**	2017-03-01
Occ. Rank:	Excellent			**Presence:**	Presumed Extant	**Site Last Seen:**	2017-03-01
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2017-10-12

Quad Summary: Traver (3611944)

County Summary: Kings

Lat/Long:	36.39708 / -119.48916	**Accuracy:**	specific area
UTM:	Zone-11 N4030870 E276767	**Elevation (ft):**	268
PLSS:	T18S, R23E, Sec. 4, NW (M)	**Acres:**	10.0

Location: FROM 2.5-2.6 MI NW OF HWY 99 AT AVE 328, 1.7 MI SW OF AVE 352 AT RD 44, NW OF VISALIA.

Detailed Location: MAPPED TO PROVIDED MAP.

Ecological: CROSS CREEK PROPERTIES BEING EVALUATED AS POTENTIAL MITIGATION LANDS FOR THE HIGH SPEED RAIL AUTHORITY (2017).

General: LARVAE DETECTED IN 10 POOLS THROUGHOUT PROPERTY DURING 2017 SURVEYS; 2 MAPPED HERE.

Owner/Manager: PVT

Buteo swainsoni

Element Code: ABNKC19070

Swainson's hawk

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G5
	State:	Threatened		**State:**	S3
	Other:	BLM_S-Sensitive, IUCN_LC-Least Concern, USFWS_BCC-Birds of Conservation Concern			
Habitat:	**General:**	BREEDS IN GRASSLANDS WITH SCATTERED TREES, JUNIPER-SAGE FLATS, RIPARIAN AREAS, SAVANNAHS, & AGRICULTURAL OR RANCH LANDS WITH GROVES OR LINES OF TREES.			
	Micro:	REQUIRES ADJACENT SUITABLE FORAGING AREAS SUCH AS GRASSLANDS, OR ALFALFA OR GRAIN FIELDS SUPPORTING RODENT POPULATIONS.			

Occurrence No.	829	**Map Index:** 43431	**EO Index:** 43431	**Element Last Seen:**	2000-07-10
Occ. Rank:	Poor		**Presence:** Presumed Extant	**Site Last Seen:**	2000-07-10
Occ. Type:	Natural/Native occurrence		**Trend:** Unknown	**Record Last Updated:**	2013-09-13

Quad Summary: Conejo (3611956)

County Summary: Fresno

Lat/Long:	36.50472 / -119.62767	**Accuracy:**	1/10 mile
UTM:	Zone-11 N4043143 E264668	**Elevation (ft):**	300
PLSS:	T16S, R22E, Sec. 30, SE (M)	**Acres:**	0.0

Location: NE CORNER OF CLARKSON AVENUE AND HIGHWAY 43 (HIGHLAND AVENUE), SOUTH OF SELMA.

Detailed Location: MAPPED TO EUCALYPTUS GROVE AT "NE CORNER OF HWY 43 & CLARKSON AVE."

Ecological: HABITAT CONSISTED OF A EUCALYPTUS GROVE, WHICH WAS BEING CLEANED/TRIMMED AT THE TIME OF THE YEAR 2000 DETECTION. SOME ALFALFA FOUND GROWING BETWEEN THE ORCHARD ROWS.

General: NESTING PRESUMED IN 2000 DUE TO THE ACTIONS OF THE ADULTS: THEY BOTH STAYED IN THE IMMEDIATE VICINITY DESPITE THE DISTURBANCE OF TRIMMING/CUTTING IN THE EUCALYPTUS GROVE. 1 ADULT OBSERVED IN SAME GROVE BUT NO NEST FOUND, JUL 2003.

Owner/Manager: PVT

Occurrence No.	1782	**Map Index:** 86224	**EO Index:** 87266	**Element Last Seen:**	2011-04-22
Occ. Rank:	Good		**Presence:** Presumed Extant	**Site Last Seen:**	2011-04-22
Occ. Type:	Natural/Native occurrence		**Trend:** Unknown	**Record Last Updated:**	2012-06-28

Quad Summary: Traver (3611944)

County Summary: Tulare

Lat/Long:	36.41485 / -119.41469	**Accuracy:**	80 meters
UTM:	Zone-11 N4032672 E283495	**Elevation (ft):**	285
PLSS:	T17S, R24E, Sec. 31, NW (M)	**Acres:**	0.0

Location: SOUTH SIDE OF SAINT JOHNS RIVER ABOUT 1 MILE DOWNSTREAM (WEST) OF ROAD 80 (ALTA AVE), ABOUT 4.9 MILES SE OF TRAVER.

Detailed Location: MAPPED TO PROVIDED COORDINATES AND ISOLATED TREE VISIBLE IN AERIAL.

Ecological: SURROUNDING LAND IS PRIMARILY AGRICULTURE FIELDS.

General: 1 ADULT OBSERVED IN ADJACENT SEC 25 NEAR THE CONFLUENCE OF CROSS CREEK & ST. JOHNS RIVER IN 2008, BUT NESTING NOT DETERMINED. 2 ADULTS OBSERVED AT A NEST HERE ON 22 APR 2011.

Owner/Manager: PVT

Occurrence No.	1783	**Map Index:**	86225	**EO Index:**	87267	**Element Last Seen:**	2008-07-16
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2008-07-16
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2012-06-28

Quad Summary:	Traver (3611944)
County Summary:	Tulare

Lat/Long:	36.43498 / -119.38415	**Accuracy:**	1/10 mile
UTM:	Zone-11 N4034838 E286289	**Elevation (ft):**	290
PLSS:	T17S, R24E, Sec. 21, SW (M)	**Acres:**	0.0

Location:	JUST SOUTH OF COTTONWOOD CREEK, ABOUT 0.5 MILE UPSTREAM (EAST) OF ROAD 80 (ALTA AVE), ABOUT 5.9 MILES ESE OF TRAVER.
Detailed Location:	MAPPED WITH RESPECT TO PROVIDED MAPS AND ISOLATED TREE VISIBLE IN AERIALS.
Ecological:	NON-NATIVE GRASSLAND ALONG COTTONWOOD CREEK WITH MOST SURROUNDING LANDS USED FOR AGRICULTURE. NO OTHER TREES FOR NESTING WITHIN A 1/2 MILE.
General:	A PAIR OF SWAINSON'S HAWKS WAS OBSERVED IN A WILLOW TREE ON 16 JUL 2008.
Owner/Manager:	PVT

Occurrence No.	1784	**Map Index:**	86226	**EO Index:**	87268	**Element Last Seen:**	2012-08-XX
Occ. Rank:	Fair			**Presence:**	Presumed Extant	**Site Last Seen:**	2012-08-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2013-09-12

Quad Summary:	Traver (3611944)
County Summary:	Tulare

Lat/Long:	36.40887 / -119.45945	**Accuracy:**	nonspecific area
UTM:	Zone-11 N4032110 E279465	**Elevation (ft):**	275
PLSS:	T17S, R23E, Sec. 34, SE (M)	**Acres:**	27.0

Location:	MEDIAN OF HWY 99 AT CROSS CREEK, ABOUT 3.8 MILES SSE OF TRAVER.
Detailed Location:	2008 DETECTION MAPPED TO MIDDLE POLYGON, PER PROVIDED AERIAL MAP. 2012 DETECTIONS MAPPED TO NORTH AND SOUTH POLYGONS, PER PROVIDED COORDINATES.
Ecological:	ADULT "SITTING IN CROW NEST" MAR 2008; MAY HAVE BEEN REPAIRING NEST OR REUSING NEST MATERIAL FOR NEW NEST NEARBY. 2012 NESTS IN EUCALYPTI MEDIAN JUST N AND S OF CREEK. NON-NATIVE GRASSLAND ALONG CREEK USED FOR GRAZING, THEN AGRICULTURE.
General:	UNCONFIRMED NEST SITE IN 2008. PAIR & 1 CHICK OBSERVED AT N NEST IN 2012; CHICK SUCCESSFULLY FLEDGED IN AUG. PAIR AT S NEST PRODUCED 2 YOUNG IN 2012; 1ST DIED WITHIN 2 WEEKS OF HATCHING, 2ND HIT BY VEHICLE WHILE BRANCHING/FLEDGING.
Owner/Manager:	CALTRANS ROW

Occurrence No.	2506	**Map Index:**	90264	**EO Index:**	91297	**Element Last Seen:**	1926-04-04
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1926-04-04
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2013-10-02

Quad Summary:	Selma (3611955)
County Summary:	Fresno

Lat/Long:	36.51889 / -119.55884	**Accuracy:**	1 mile
UTM:	Zone-11 N4044550 E270874	**Elevation (ft):**	290
PLSS:	T16S, R22E, Sec. 22 (M)	**Acres:**	0.0

Location:	KINGSBURG.
Detailed Location:	MAPPED TO GIVEN LOCALITY "KINGSBURG." EXACT COLLECTION LOCATION UNKNOWN.
Ecological:	
General:	EGGS COLLECTED BY D. BULL ON 4 APR 1926.
Owner/Manager:	UNKNOWN

Occurrence No.	2507	**Map Index:**	90265	**EO Index:**	91298	**Element Last Seen:**	1914-04-10
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1914-04-10
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2013-09-09

Quad Summary:	Conejo (3611956)
County Summary:	Fresno

Lat/Long:	36.51799 / -119.71927	**Accuracy:**	1 mile
UTM:	Zone-11 N4044844 E256504	**Elevation (ft):**	250
PLSS:	T16S, R21E, Sec. 30 (M)	**Acres:**	0.0

Location:	CONEJO.
Detailed Location:	MAPPED TO GIVEN LOCALITY "CONEJO." EXACT COLLECTION LOCATION UNKNOWN.
Ecological:	NEST 50' UP IN TRIPLE FORKS AT TOP OF DEAD POPLAR TREE IN FIELD. NEST A BULKY MASS OF DRY STICKS AND TWIGS LINED WITH BARK.
General:	BIRD ON NEST OBSERVED ON 10 APR 1914, 2 EGGS WERE COLLECTED.
Owner/Manager:	UNKNOWN

Occurrence No.	2510	**Map Index:**	90287	**EO Index:**	91320	**Element Last Seen:**	2012-08-XX
Occ. Rank:	Fair			**Presence:**	Presumed Extant	**Site Last Seen:**	2012-08-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2013-09-12

Quad Summary:	Traver (3611944)
County Summary:	Tulare

Lat/Long:	36.42370 / -119.46917	**Accuracy:**	80 meters
UTM:	Zone-11 N4033778 E278635	**Elevation (ft):**	270
PLSS:	T17S, R23E, Sec. 27, NW (M)	**Acres:**	0.0

Location:	STATE ROUTE 99 MEDIAN, ABOUT 1.5 MILES NW OF THE CROSS CREEK CROSSING AND 2.3 MILES SE OF THE TRAVER POST OFFICE.
Detailed Location:	MAPPED TO GIVEN COORDINATES.
Ecological:	NEST IN TRIMMED EUCALYPTUS IN MEDIAN, FOUND DURING ROAD CONSTRUCTION. SURROUNDING LAND USE WAS AGRICULTURAL, INCLUDING DAIRY IMMEDIATELY TO WEST.
General:	NESTING PAIR WITH 1 CHICK OBSERVED IN 2012; CHICK SUCCESSFULLY FLEDGED IN AUGUST.
Owner/Manager:	CALTRANS

Occurrence No.	2583	**Map Index:**	46277	**EO Index:**	91594	**Element Last Seen:**	1956-05-04
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1956-05-04
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2013-09-26

Quad Summary:	Malaga (3611966), Fresno South (3611967), Clovis (3611976), Fresno North (3611977)
County Summary:	Fresno

Lat/Long:	36.77388 / -119.77951	**Accuracy:**	5 miles
UTM:	Zone-11 N4073392 E251931	**Elevation (ft):**	300
PLSS:	T13S, R20E, Sec. 27 (M)	**Acres:**	0.0

Location:	FRESNO.
Detailed Location:	MAPPED GENERALLY TO GIVEN LOCALITY "NEAR FRESNO," EXACT DETECTION LOCATIONS UNKNOWN.
Ecological:	
General:	ACTIVE NEST(S) OBSERVED BY MINTURN ON 23 APR 1956 AND 4 MAY 1956, AS REPORTED IN BLOOM (1979).
Owner/Manager:	UNKNOWN

Occurrence No.	2706	**Map Index:**	A2911	**EO Index:**	104532	**Element Last Seen:**	2016-04-21
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2016-04-21
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2016-12-21

Quad Summary:	Conejo (3611956)
County Summary:	Fresno

Lat/Long:	36.55096 / -119.73772	**Accuracy:**	80 meters
UTM:	Zone-11 N4048549 E254956	**Elevation (ft):**	266
PLSS:	T16S, R20E, Sec. 12, SE (M)	**Acres:**	5.0

Location:	0.25 MI NNW OF S CHESTNUT AVE AT E MOUNTAIN VIEW AVE & 1.2 MI SE OF S CEDAR AVE AT E NEBRASKA AVE, S OF MONMOUTH.
Detailed Location:	MAPPED TO PROVIDED COORDINATES.
Ecological:	STICK NEST IN ROADSIDE EUCALYPTUS ADJACENT TO INACTIVE AGRICULTRAL LAND AND ANNUAL GRASSLANDS.
General:	2 ADULTS OBSERVED CARRYING STICKS TO STICK NEST ON 21 APR 2016. NESTING OUTCOME UNKNOWN.
Owner/Manager:	PVT

Occurrence No.	2720	**Map Index:**	A5139	**EO Index:**	106840	**Element Last Seen:**	2016-06-20
Occ. Rank:	Fair			**Presence:**	Presumed Extant	**Site Last Seen:**	2016-06-20
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2017-06-29

Quad Summary:	Malaga (3611966), Fresno South (3611967)
County Summary:	Fresno

Lat/Long:	36.67196 / -119.75036	**Accuracy:**	80 meters
UTM:	Zone-11 N4062008 E254209	**Elevation (ft):**	288
PLSS:	T14S, R20E, Sec. 36, NW (M)	**Acres:**	5.0

Location:	W SIDE OF RR TRACKS ABOUT 0.25 MI NE OF E MALAGA AVE AT S CEDAR AVE, 0.7 MI SW OF HWY 99 AT E CENTRAL AVE, SOUTH FRESNO.
Detailed Location:	MAPPED TO PROVIDED COORDINATES.
Ecological:	NEST IN TREE IN NON-NATIVE GRASSLAND WITHIN PASTURE WITH SCATTERED TREES. ADJACENT TO ROAD AND RAILROAD IN AGRICULTURAL AND RURAL RESIDENTIAL AREA.
General:	NEST MONITORED IN 2016; ONE YOUNG WAS SUCCESSFULLY FLEDGED.
Owner/Manager:	PVT

Coccyzus americanus occidentalis

Element Code: ABNRB02022

western yellow-billed cuckoo

Listing Status:	**Federal:**	Threatened	**CNDDB Element Ranks:**	**Global:**	G5T2T3
	State:	Endangered		**State:**	S1
	Other:	BLM_S-Sensitive, NABCI_RWL-Red Watch List, USFS_S-Sensitive, USFWS_BCC-Birds of Conservation Concern			
Habitat:	**General:**	RIPARIAN FOREST NESTER, ALONG THE BROAD, LOWER FLOOD-BOTTOMS OF LARGER RIVER SYSTEMS.			
	Micro:	NESTS IN RIPARIAN JUNGLES OF WILLOW, OFTEN MIXED WITH COTTONWOODS, WITH LOWER STORY OF BLACKBERRY, NETTLES, OR WILD GRAPE.			

Occurrence No.	87	**Map Index:** 14944	**EO Index:**	25589	**Element Last Seen:** 1902-07-10
Occ. Rank:	None		**Presence:**	Extirpated	**Site Last Seen:** 1902-07-10
Occ. Type:	Natural/Native occurrence		**Trend:**	Unknown	**Record Last Updated:** 1989-08-10

Quad Summary: Sanger (3611965), Malaga (3611966), Round Mountain (3611975), Clovis (3611976)

County Summary: Fresno

Lat/Long:	36.75271 / -119.63986	**Accuracy:**	1 mile
UTM:	Zone-11 N4070690 E264333	**Elevation (ft):**	345
PLSS:	T13S, R21E, Sec. 36, SW (M)	**Acres:**	0.0

Location: FANCHER CREEK, 6 MI NE OF FRESNO.

Detailed Location:

Ecological:

General: REPORTED AS UNCOMMON BUT NESTING BY TYLER (1913).

Owner/Manager: PVT

Occurrence No.	198	**Map Index:** 95841	**EO Index:**	96985	**Element Last Seen:** 1898-07-08
Occ. Rank:	None		**Presence:**	Possibly Extirpated	**Site Last Seen:** 1898-07-08
Occ. Type:	Natural/Native occurrence		**Trend:**	Unknown	**Record Last Updated:** 2015-04-13

Quad Summary: Selma (3611955), Conejo (3611956)

County Summary: Fresno

Lat/Long:	36.57134 / -119.61218	**Accuracy:**	1 mile
UTM:	Zone-11 N4050498 E266256	**Elevation (ft):**	300
PLSS:	T16S, R22E, Sec. 06 (M)	**Acres:**	0.0

Location: SELMA.

Detailed Location:

Ecological:

General: 2 EGGS COLLECTED ON 8 JUL 1898 (USNM #B 44012).

Owner/Manager: UNKNOWN

Athene cunicularia

Element Code: ABNSB10010

burrowing owl

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G4
	State:	None		**State:**	S3
	Other:	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern, USFWS_BCC-Birds of Conservation Concern			
Habitat:	**General:**	OPEN, DRY ANNUAL OR PERENNIAL GRASSLANDS, DESERTS, AND SCRUBLANDS CHARACTERIZED BY LOW-GROWING VEGETATION.			
	Micro:	SUBTERRANEAN NESTER, DEPENDENT UPON BURROWING MAMMALS, MOST NOTABLY, THE CALIFORNIA GROUND SQUIRREL.			

Occurrence No.	310	**Map Index:**	40396	**EO Index:**	35403	**Element Last Seen:**	1998-04-10
Occ. Rank:	Fair			**Presence:**	Presumed Extant	**Site Last Seen:**	1998-04-10
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1998-12-16

Quad Summary:	Traver (3611944)
County Summary:	Tulare

Lat/Long:	36.40371 / -119.43657	**Accuracy:**	nonspecific area
UTM:	Zone-11 N4031485 E281502	**Elevation (ft):**	280
PLSS:	T17S, R23E, Sec. 36, SE (M)	**Acres:**	254.0

Location:	SOUTH OF CROSS CREEK, 0.75 MILE NE OF HWY 99, 4.5 MILES SE OF TRAVER.
Detailed Location:	
Ecological:	HABITAT CONSISTS OF NON-NATIVE ANNUAL GRASSLAND WITH VERNAL POOLS. LEPIDURUS PACKARDI ALSO OCCURS IN THE VICINITY. AGRICULTURE TO SOUTH AND EAST.
General:	UNKNOWN NUMBER OF OWLS OBSERVED ON 10 APRIL 1998.
Owner/Manager:	PVT

Occurrence No.	396	**Map Index:**	44977	**EO Index:**	44977	**Element Last Seen:**	2017-03-01
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2017-03-01
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2017-06-13

Quad Summary:	Traver (3611944)
County Summary:	Kings

Lat/Long:	36.39659 / -119.48743	**Accuracy:**	specific area
UTM:	Zone-11 N4030812 E276921	**Elevation (ft):**	268
PLSS:	T18S, R23E, Sec. 4, NW (M)	**Acres:**	34.0

Location:	BETWEEN CROSS CREEK AND SETTLERS DITCH, 12 MILES NW OF VISALIA.
Detailed Location:	MAPPED TO PROVIDED COORDINATES.
Ecological:	2000: NON-NATIVE ANNUAL GRASSLAND WITH VERNAL POOLS; SURROUNDED BY GRASSLAND TO NORTH & EAST, FARMLAND TO SOUTH & WEST. 2016: SURROUNDING LANDS USED FOR AGRICULTURE & GRAZING; OVERWINTERING HABITAT FOR THE OWLS; POTENTIAL MITIGATION BANK.
General:	2 ADULTS OBSERVED AT THE BURROW SITE DURING FEB 2000. 2 OWLS AT SEPARATE BURROWS OBSERVED ON 6 MAR 2016. 6 OCCUPIED BURROWS OBSERVED DURING BRANCHIOPOD SURVEYS DEC 2016-MAR 2017.
Owner/Manager:	PVT

Occurrence No.	397	**Map Index:**	44978	**EO Index:**	44978	**Element Last Seen:**	2017-03-01
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2017-03-01
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2017-05-30

Quad Summary: Burris Park (3611945)

County Summary: Kings

Lat/Long:	36.38171 / -119.50948	**Accuracy:**	specific area
UTM:	Zone-11 N4029212 E274900	**Elevation (ft):**	263
PLSS:	T18S, R23E, Sec. 8, W (M)	**Acres:**	21.0

Location: WEST SIDE OF CROSS CREEK, 1 MILE SOUTH OF SETTLERS DITCH, NW OF VISALIA.

Detailed Location: MAPPED TO PROVIDED LOCATIONS.

Ecological: 1999: NON-NATIVE ANNUAL GRASSLAND WITH VERNAL POOLS; SURROUNDED BY GRASSLAND TO THE SOUTH & EAST, FARMLAND TO THE NORTH & WEST. 2016: LAND USED FOR AGRICULTURE & GRAZING; WETLANDS ARE MAINLY ALKALI VERNAL POOLS; POTENTIAL MITIGATION BANK.

General: 4 ADULTS OBSERVED AT THE BURROW SITE ON 1 MAR 1999. 1 ADULT OBSERVED AT BURROW ON 6 MAR 2016. 4 OCCUPIED BURROWS OBSERVED DURING BRANCHIOPOD SURVEYS DEC 2016-MAR 2017.

Owner/Manager: PVT

Occurrence No.	768	**Map Index:**	64119	**EO Index:**	64214	**Element Last Seen:**	2006-02-02
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	2006-02-02
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2006-11-30

Quad Summary: Reedley (3611954)

County Summary: Tulare

Lat/Long:	36.53747 / -119.42102	**Accuracy:**	80 meters
UTM:	Zone-11 N4046292 E283269	**Elevation (ft):**	325
PLSS:	T16S, R23E, Sec. 13, SE (M)	**Acres:**	0.0

Location: 0.1 MILE SOUTH OF AVENUE 412 AND 0.4 MILE EAST OF SAND RIDGE AQUEDUCT, SW OF DINUBA.

Detailed Location: MAPPED IN NW1/4 OF SE1/4 SEC 13.

Ecological: HABITAT CONSISTS OF A FALLOW VINEYARD, WHERE THE VINES HAVE BEEN REMOVED WITHIN THE PAST 5 YEARS. SITE CONTAINS MANY GROUND SQUIRREL BURROWS.

General: 2 ADULTS OBSERVED AT A BURROW SITE ON 2 FEB 2006.

Owner/Manager: CITY OF DINUBA

Occurrence No.	2004	**Map Index:**	A4870	**EO Index:**	106568	**Element Last Seen:**	2017-03-01
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	2017-03-01
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2017-05-30

Quad Summary: Traver (3611944)

County Summary: Tulare

Lat/Long:	36.40552 / -119.47338	**Accuracy:**	80 meters
UTM:	Zone-11 N4031771 E278206	**Elevation (ft):**	270
PLSS:	T17S, R23E, Sec. 34, SW (M)	**Acres:**	5.0

Location: ABOUT 0.9 MILES WNW OF HWY 99 AT CROSS CREEK AND 2.0 MILES SE OF AVE 352 AT RD 36, NW OF GOSHEN.

Detailed Location: MAPPED TO PROVIDED MAP.

Ecological: VERNAL POOL LANDSCAPE; POTENTIAL MITIGATION BANK.

General: OCCUPIED BURROW OBSERVED DURING BRANCHIOPOD SURVEYS DEC 2016-MAR 2017.

Owner/Manager: PVT

Occurrence No.	2005	**Map Index:**	A4872	**EO Index:**	106570	**Element Last Seen:**	2017-03-01
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	2017-03-01
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2017-05-30

Quad Summary:	Traver (3611944)
County Summary:	Tulare

Lat/Long:	36.40521 / -119.46468	**Accuracy:**	80 meters
UTM:	Zone-11 N4031716 E278986	**Elevation (ft):**	273
PLSS:	T17S, R23E, Sec. 34, SE (M)	**Acres:**	5.0

Location:	ABOUT 0.4 MILES WNW OF HWY 99 AT CROSS CREEK AND 2.3 MILES SE OF AVE 352 AT RD 36, NW OF GOSHEN.
Detailed Location:	MAPPED TO PROVIDED MAP.
Ecological:	VERNAL POOL LANDSCAPE; POTENTIAL MITIGATION BANK.
General:	OCCUPIED BURROW OBSERVED DURING BRANCHIOPOD SURVEYS DEC 2016-MAR 2017.
Owner/Manager:	PVT

Lanius ludovicianus

Element Code: ABPBR01030

loggerhead shrike

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:** G4
	State:	None		**State:** S4
	Other:	CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern, USFWS_BCC-Birds of Conservation Concern		
Habitat:	**General:**	BROKEN WOODLANDS, SAVANNAH, PINYON-JUNIPER, JOSHUA TREE, AND RIPARIAN WOODLANDS, DESERT OASES, SCRUB & WASHES.		
	Micro:	PREFERS OPEN COUNTRY FOR HUNTING, WITH PERCHES FOR SCANNING, AND FAIRLY DENSE SHRUBS AND BRUSH FOR NESTING.		

Occurrence No.	106	**Map Index:**	86216	**EO Index:**	87281	**Element Last Seen:**	1992-06-29
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	1992-06-29
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2012-06-29

Quad Summary:	Traver (3611944)
County Summary:	Tulare

Lat/Long:	36.43406 / -119.39746	**Accuracy:**	nonspecific area
UTM:	Zone-11 N4034765 E285094	**Elevation (ft):**	285
PLSS:	T17S, R24E, Sec. 20, SW (M)	**Acres:**	132.0

Location:	WEST SIDE OF ROAD 80 (ALTA AVE) ALONG COTTONWOOD CREEK ABOUT 0.5 MILE SOUTH OF AVENUE 360, ABOUT 5 MILES ESE OF TRAVER.
Detailed Location:	MAPPED GENERALLY TO PROJECT SITE.
Ecological:	1 OR MORE LOGGERHEAD SHRIKE NEST WAS FOUND IN GOODDING'S WILLOWS ON THE SITE. IN 1994 AND 2010 AERIALS, TREES ARE ONLY FOUND ALONG THE CREEK RUNNING THROUGH THE SITE. SITE USED FOR GRAZING.
General:	AT LEAST ONE NEST WAS FOUND ON THE SITE BETWEEN 21 MAR AND 29 JUN 1992. 6 OTHER BIRD SPECIES NESTED IN WILLOWS, AND LEPIDURUS PACKARDI, BRANCHINECTA LYNCHI, AND SPEA HAMMONDII ARE KNOWN FROM SITE.
Owner/Manager:	PVT

Lasiurus cinereus **Element Code:** AMACC05030

hoary bat

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G5
	State:	None		**State:**	S4
	Other:	IUCN_LC-Least Concern, WBWG_M-Medium Priority			
Habitat:	**General:**	PREFERS OPEN HABITATS OR HABITAT MOSAICS, WITH ACCESS TO TREES FOR COVER AND OPEN AREAS OR HABITAT EDGES FOR FEEDING.			
	Micro:	ROOSTS IN DENSE FOLIAGE OF MEDIUM TO LARGE TREES. FEEDS PRIMARILY ON MOTHS. REQUIRES WATER.			

Occurrence No.	130	**Map Index:** 68823	**EO Index:** 69375	**Element Last Seen:**	1943-04-17
Occ. Rank:	Unknown		**Presence:** Presumed Extant	**Site Last Seen:**	1943-04-17
Occ. Type:	Natural/Native occurrence		**Trend:** Unknown	**Record Last Updated:**	2007-04-05

Quad Summary: Orange Cove South (3611953), Reedley (3611954)

County Summary: Tulare

Lat/Long:	36.54365 / -119.38823	**Accuracy:**	1 mile
UTM:	Zone-11 N4046903 E286223	**Elevation (ft):**	
PLSS:	T16S, R24E, Sec. 17 (M)	**Acres:**	0.0

Location: DINUBA.

Detailed Location: MAPPED TO INCLUDE LAT/LONG COORDINATES PROVIDED BY MANIS, WITH UNCERTAINTIES OF 402.336 M AND 30 M.

Ecological:

General: 1 FEMALE SPECIMEN (MVZ #5033) COLLECTED BY A.S. DICKEY ON 1 APR 1909. 1 FEMALE SPECIMEN (MVZ #102195) COLLECTED BY WALTER W. DALQUEST ON 17 APR 1943.

Owner/Manager: UNKNOWN

Antrozous pallidus **Element Code:** AMACC10010

pallid bat

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G5
	State:	None		**State:**	S3
	Other:	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern, USFS_S-Sensitive, WBWG_H-High Priority			
Habitat:	**General:**	DESERTS, GRASSLANDS, SHRUBLANDS, WOODLANDS AND FORESTS. MOST COMMON IN OPEN, DRY HABITATS WITH ROCKY AREAS FOR ROOSTING.			
	Micro:	ROOSTS MUST PROTECT BATS FROM HIGH TEMPERATURES. VERY SENSITIVE TO DISTURBANCE OF ROOSTING SITES.			

Occurrence No.	75	**Map Index:** 50366	**EO Index:** 50366	**Element Last Seen:**	2001-10-17
Occ. Rank:	Good		**Presence:** Presumed Extant	**Site Last Seen:**	2001-10-17
Occ. Type:	Natural/Native occurrence		**Trend:** Unknown	**Record Last Updated:**	2003-03-03

Quad Summary: Reedley (3611954)

County Summary: Tulare

Lat/Long:	36.54668 / -119.48725	**Accuracy:**	80 meters
UTM:	Zone-11 N4047464 E277366	**Elevation (ft):**	300
PLSS:	T16S, R23E, Sec. 08 (M)	**Acres:**	0.0

Location: MOUNTAIN VIEW AVENUE CROSSING OVER THE KINGS RIVER, 3.5 MILES SW OF REEDLEY.

Detailed Location:

Ecological: HABITAT CONSISTS OF GREAT VALLEY MIXED RIPARIAN SURROUNDING THE BRIDGE WHICH SERVES AS A ROOST.

General: PRE-DISPERSAL MATERNITY ROOST; ~80 ADULTS AND ~40 JUVENILES OBSERVED ON 17 OCT 2001. A LARGE (<1000) TADIRIDA BRASILLIENSIS COLONY IS ALSO PRESNT, ALONG WITH MYOTIS THYSANODES AND MYOTIS YUMANENSIS.

Owner/Manager: TUL COUNTY

Eumops perotis californicus

Element Code: AMACD02011

western mastiff bat

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G5T4
	State:	None		**State:**	S3S4
	Other:	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, WBWG_H-High Priority			
Habitat:	**General:**	MANY OPEN, SEMI-ARID TO ARID HABITATS, INCLUDING CONIFER & DECIDUOUS WOODLANDS, COASTAL SCRUB, GRASSLANDS, CHAPARRAL, ETC.			
	Micro:	ROOSTS IN CREVICES IN CLIFF FACES, HIGH BUILDINGS, TREES AND TUNNELS.			

Occurrence No.	91	**Map Index:**	66331	**EO Index:**	66424	**Element Last Seen:**	1899-03-01
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1899-03-01
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2006-09-26

Quad Summary: Traver (3611944)

County Summary: Tulare

Lat/Long:	36.45403 / -119.48506	**Accuracy:**	3/5 mile
UTM:	Zone-11 N4037179 E277297	**Elevation (ft):**	
PLSS:	T17S, R23E, Sec. 16 (M)	**Acres:**	0.0

Location: TRAVER.

Detailed Location: EXACT LOCATION UNKNOWN. MAPPED IN THE GENERAL VICINITY OF TRAVER.

Ecological:

General: 1 FEMALE SPECIMEN COLLECTED BY C.H.B. WRIGHT ON 1 MAR 1899, CAS #17445.

Owner/Manager: UNKNOWN

Vulpes macrotis mutica

Element Code: AMAJA03041

San Joaquin kit fox

Listing Status:	**Federal:**	Endangered	**CNDDB Element Ranks:**	**Global:**	G4T2
	State:	Threatened		**State:**	S2
	Other:				
Habitat:	**General:**	ANNUAL GRASSLANDS OR GRASSY OPEN STAGES WITH SCATTERED SHRUBBY VEGETATION.			
	Micro:	NEED LOOSE-TEXTURED SANDY SOILS FOR BURROWING, AND SUITABLE PREY BASE.			

Occurrence No.	150	**Map Index:**	55307	**EO Index:**	55307	**Element Last Seen:**	2003-08-08
Occ. Rank:	Fair			**Presence:**	Presumed Extant	**Site Last Seen:**	2003-08-08
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2004-05-03

Quad Summary: Traver (3611944)

County Summary: Tulare

Lat/Long:	36.38330 / -119.39653	**Accuracy:**	1/5 mile
UTM:	Zone-11 N4029131 E285037	**Elevation (ft):**	300
PLSS:	T18S, R24E, Sec. 08, SE (M)	**Acres:**	0.0

Location: NORTHEAST OF GOSHEN, 600 FT SW OF THE INTERSECTION OF J19 (AKA ROAD 80) & J34 (AKA AVE 328).

Detailed Location: UTM COORDINATES AND MAP DO NOT INDICATE THE SAME LOCATION. USED THE MAP TO PLOT THE SIGHTING. ALSO LOCATION CONFIRMED BY E-MAIL.

Ecological: IRRIGATED ALFALFA, BURROWING OWLS WERE IN THE AREA.

General: 2003: 08/08/2003 ONE ADULT SIGHTED FORAGING IN FRESHLY CUT ALFALFA FIELD AT 22:30, ABOUT 600 FEET SW OF THE INTERSECTION.

Owner/Manager: UNKNOWN

Occurrence No.	619	**Map Index:**	67378	**EO Index:**	67546	**Element Last Seen:**	1971-XX-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1971-XX-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2007-01-17

Quad Summary:	Traver (3611944)
County Summary:	Tulare

Lat/Long:	36.41594 / -119.39717	**Accuracy:**	1/5 mile
UTM:	Zone-11 N4032754 E285070	**Elevation (ft):**	290
PLSS:	T17S, R24E, Sec. 29 (M)	**Acres:**	0.0

Location:	ABOUT 4.7 MI NNE OF GOSHEN, JUST N OF ST. JOHNS RIVER.
Detailed Location:	
Ecological:	
General:	KIT FOX OBSERVATION(S) IN 1971. SIGHTING, ROAD KILL OR DEN PRIOR TO 1972.
Owner/Manager:	UNKNOWN

Occurrence No.	924	**Map Index:**	67807	**EO Index:**	67957	**Element Last Seen:**	1975-07-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1975-07-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2007-01-17

Quad Summary:	Goshen (3611934), Remnoy (3611935), Traver (3611944), Burris Park (3611945)
County Summary:	Kings

Lat/Long:	36.37274 / -119.50189	**Accuracy:**	2/5 mile
UTM:	Zone-11 N4028199 E275554	**Elevation (ft):**	260
PLSS:	T18S, R23E, Sec. 08 (M)	**Acres:**	0.0

Location:	ABOUT 8.3 MI ENE OF HANFORD & 4.7 MI NW OF GOSHEN, NEAR EAST BRANCH CROSS CREEK.
Detailed Location:	
Ecological:	
General:	SIGHTING FROM 1972 THROUGH JUL 1975.
Owner/Manager:	UNKNOWN

Occurrence No.	925	**Map Index:**	67808	**EO Index:**	67958	**Element Last Seen:**	1975-07-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1975-07-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2007-01-17

Quad Summary:	Laton (3611946)
County Summary:	Kings

Lat/Long:	36.41045 / -119.65323	**Accuracy:**	2/5 mile
UTM:	Zone-11 N4032746 E262090	**Elevation (ft):**	
PLSS:	T17S, R21E, Sec. 36 (M)	**Acres:**	0.0

Location:	ABOUT 2.5 MI SE OF LATON, 0.6 MI N OF INTERSECTION OF 11TH AVE AND EXCELSIOR AVE & S OF THE KINGS RIVER.
Detailed Location:	
Ecological:	
General:	SIGHTING SOMETIME FROM 1972 THROUGH JUL 1975.
Owner/Manager:	UNKNOWN

Occurrence No.	926	**Map Index:**	67809	**EO Index:**	67959	**Element Last Seen:**	1975-07-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1975-07-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2007-01-17

Quad Summary:	Laton (3611946)
County Summary:	Fresno

Lat/Long:	36.48025 / -119.71111	**Accuracy:**	2/5 mile
UTM:	Zone-11 N4040635 E257116	**Elevation (ft):**	260
PLSS:	T17S, R21E, Sec. 05 (M)	**Acres:**	0.0

Location:	ABOUT 3.5 MI NNW OF LATON, JUST SW OF INTERSECTION OF CLOVIS AVE & ATCHISON TOPEKA AND SANTA FE RR.
Detailed Location:	
Ecological:	
General:	SIGHTING SOMETIME FROM 1972 THROUGH JUL 1975.
Owner/Manager:	UNKNOWN

Occurrence No.	1115	**Map Index:**	69792	**EO Index:**	70606	**Element Last Seen:**	198X-XX-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	198X-XX-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2007-08-23

Quad Summary:	Sanger (3611965)
County Summary:	Fresno

Lat/Long:	36.70281 / -119.55857	**Accuracy:**	1 mile
UTM:	Zone-11 N4064956 E271443	**Elevation (ft):**	365
PLSS:	T14S, R22E, Sec. 22 (M)	**Acres:**	0.0

Location:	SANGER.
Detailed Location:	LOCATION GIVEN ONLY AS "SANGER"
Ecological:	
General:	ONE SIGHTED IN THE 1980'S BY HENRY LAMELLE.
Owner/Manager:	UNKNOWN

Emys marmorata **Element Code:** ARAAD02030

western pond turtle

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G3G4
	State:	None		**State:**	S3
	Other:	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_VU-Vulnerable, USFS_S-Sensitive			
Habitat:	**General:**	A THOROUGHLY AQUATIC TURTLE OF PONDS, MARSHES, RIVERS, STREAMS AND IRRIGATION DITCHES, USUALLY WITH AQUATIC VEGETATION, BELOW 6000 FT ELEVATION.			
	Micro:	NEEDS BASKING SITES AND SUITABLE (SANDY BANKS OR GRASSY OPEN FIELDS) UPLAND HABITAT UP TO 0.5 KM FROM WATER FOR EGG-LAYING.			

Occurrence No.	24	**Map Index:** 32783	**EO Index:** 17488	**Element Last Seen:**	XXXX-XX-XX
Occ. Rank:	Unknown		**Presence:** Presumed Extant	**Site Last Seen:**	XXXX-XX-XX
Occ. Type:	Natural/Native occurrence		**Trend:** Unknown	**Record Last Updated:**	1996-01-29

Quad Summary: Orange Cove North (3611963), Wahtoke (3611964), Pine Flat Dam (3611973)

County Summary: Fresno

Lat/Long:	36.73507 / -119.37380	**Accuracy:**	specific area
UTM:	Zone-11 N4068110 E288040	**Elevation (ft):**	500
PLSS:	T14S, R24E, Sec. 04 (M)	**Acres:**	172.5

Location: WAHTOKE CREEK, CLARKS VALLEY, NORTH OF HIGHWAY 180; NORTHWEST OF KAKTUS KORNER.

Detailed Location:

Ecological:

General: COLLECTION MADE BY R.W. HANSEN. DATE AND NUMBER OF SPECIMENS OBSERVED UNKNOWN.

Owner/Manager: UNKNOWN

Anniella pulchra **Element Code:** ARACC01020

northern California legless lizard

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G3
	State:	None		**State:**	S3
	Other:	CDFW_SSC-Species of Special Concern, USFS_S-Sensitive			
Habitat:	**General:**	SANDY OR LOOSE LOAMY SOILS UNDER SPARSE VEGETATION.			
	Micro:	SOIL MOISTURE IS ESSENTIAL. THEY PREFER SOILS WITH A HIGH MOISTURE CONTENT.			

Occurrence No.	116	**Map Index:** 46277	**EO Index:** 107017	**Element Last Seen:**	188X-XX-XX
Occ. Rank:	Unknown		**Presence:** Presumed Extant	**Site Last Seen:**	188X-XX-XX
Occ. Type:	Natural/Native occurrence		**Trend:** Unknown	**Record Last Updated:**	2017-07-12

Quad Summary: Malaga (3611966), Fresno South (3611967), Clovis (3611976), Fresno North (3611977)

County Summary: Fresno

Lat/Long:	36.77388 / -119.77951	**Accuracy:**	5 miles
UTM:	Zone-11 N4073392 E251931	**Elevation (ft):**	300
PLSS:	T13S, R20E, Sec. 27 (M)	**Acres:**	0.0

Location: FRESNO.

Detailed Location: HISTORIC COLLECTION NEEDING MORE REFINED FIELD RESEARCH.

Ecological:

General: TWO COLLECTED IN THE LATE 1800S, MOST LIKELY 1880S. IT'S NOT ENTIRELY CERTAIN WHAT NEWLY DESCRIBED ANNIELLA CONCEPT IS IN THIS AREA, BUT PAPENFUSS & PARHAM (2013) IMPLY THESE WOULD BE A. PULCHRA.

Owner/Manager: UNKNOWN

Phrynosoma blainvillii **Element Code:** ARACF12100

coast horned lizard

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G3G4
	State:	None		**State:**	S3S4
	Other:	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern			
Habitat:	**General:**	FREQUENTS A WIDE VARIETY OF HABITATS, MOST COMMON IN LOWLANDS ALONG SANDY WASHES WITH SCATTERED LOW BUSHES.			
	Micro:	OPEN AREAS FOR SUNNING, BUSHES FOR COVER, PATCHES OF LOOSE SOIL FOR BURIAL, AND ABUNDANT SUPPLY OF ANTS AND OTHER INSECTS.			

Occurrence No.	863	**Map Index:** 46277	**EO Index:**	103150	**Element Last Seen:** 1893-07-07
Occ. Rank:	None		**Presence:**	Possibly Extirpated	**Site Last Seen:** 1893-07-07
Occ. Type:	Natural/Native occurrence		**Trend:**	Unknown	**Record Last Updated:** 2016-08-23

Quad Summary: Malaga (3611966), Fresno South (3611967), Clovis (3611976), Fresno North (3611977)

County Summary: Fresno

Lat/Long:	36.77388 / -119.77951	**Accuracy:**	5 miles
UTM:	Zone-11 N4073392 E251931	**Elevation (ft):**	300
PLSS:	T13S, R20E, Sec. 27 (M)	**Acres:**	0.0

Location: FRESNO.

Detailed Location: COLLECTION LOCALITIES GIVEN ONLY AS "FRESNO."

Ecological:

General: 4 COLLECTED ON UNKNOWN DATES BY ANONYMOUS COLLECTORS. 4 COLLECTED IN 1879. 3 COLLECTED ON 23 SEP 1891. 1 COLLECTED ON 7 JUL 1893. 1 COLLECTED ON UNKNOWN DATE PRIOR TO 1906.

Owner/Manager: UNKNOWN

Arizona elegans occidentalis **Element Code:** ARADB01017

California glossy snake

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G5T2
	State:	None		**State:**	S2
	Other:	CDFW_SSC-Species of Special Concern			
Habitat:	**General:**	PATCHILY DISTRIBUTED FROM THE EASTERN PORTION OF SAN FRANCISCO BAY, SOUTHERN SAN JOAQUIN VALLEY, AND THE COAST, TRANSVERSE, AND PENINSULAR RANGES, SOUTH TO BAJA CALIFORNIA.			
	Micro:	GENERALIST REPORTED FROM A RANGE OF SCRUB AND GRASSLAND HABITATS, OFTEN WITH LOOSE OR SANDY SOILS.			

Occurrence No.	1	**Map Index:** 46277	**EO Index:** 104841	**Element Last Seen:**	1893-07-04
Occ. Rank:	Unknown		**Presence:** Presumed Extant	**Site Last Seen:**	1893-07-04
Occ. Type:	Natural/Native occurrence		**Trend:** Unknown	**Record Last Updated:**	2017-03-02

Quad Summary: Malaga (3611966), Fresno South (3611967), Clovis (3611976), Fresno North (3611977)

County Summary: Fresno

Lat/Long:	36.77388 / -119.77951	**Accuracy:**	5 miles
UTM:	Zone-11 N4073392 E251931	**Elevation (ft):**	300
PLSS:	T13S, R20E, Sec. 27 (M)	**Acres:**	0.0

Location: FRESNO.

Detailed Location: EXACT LOCATION UNKNOWN, MAPPED TO CENTER OF FRESNO.

Ecological:

General: 1 MALE (A PARATYPE) WAS COLLECTED IN THIS VICINITY ON 4 JUL 1893.

Owner/Manager: UNKNOWN

Valley Sacaton Grassland

Element Code: CTT42120CA

Valley Sacaton Grassland

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G1
	State:	None		**State:**	S1.1
	Other:				
Habitat:	**General:**				
	Micro:				

Occurrence No.	12	**Map Index:** 15270	**EO Index:** 8665	**Element Last Seen:**	1985-03-12
Occ. Rank:	Poor		**Presence:** Presumed Extant	**Site Last Seen:**	1985-03-12
Occ. Type:	Natural/Native occurrence		**Trend:** Decreasing	**Record Last Updated:**	1998-07-14

Quad Summary: Goshen (3611934), Remnoy (3611935), Traver (3611944), Burris Park (3611945)

County Summary: Kings, Tulare

Lat/Long:	36.36772 / -119.49151	**Accuracy:**	1 mile
UTM:	Zone-11 N4027618 E276472	**Elevation (ft):**	260
PLSS:	T18S, R23E, Sec. 16, NW (M)	**Acres:**	0.0

Location: CROSS CREEK NORTH OF HWY 198, ABOUT 3 MILES WEST OF HWY 99 VIA AVE 328 & DIRT ROAD CONNECTING TO 320.

Detailed Location:

Ecological: HEAVILY GRAZED W/ VERY FEW SPOROBOLUS & SOME DEGRADED VERNAL POOLS, DISTICHLIS, HORDEUM, ERODIUM, ELYMUS DOM. LOW DIVERSITY, LOW NATIVE COVER. POOLS W/ MYOSURUS, LASTHENIA GLABRATA, JUNCUS, LEPIDIUM, PLAGIOBOTHRYS.

General: SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.

Owner/Manager: PVT

Northern Claypan Vernal Pool **Element Code:** CTT44120CA

Northern Claypan Vernal Pool

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G1
	State:	None		**State:**	S1.1
	Other:				
Habitat:	**General:**				
	Micro:				

Occurrence No.	10	**Map Index:** 15328	**EO Index:** 26434	**Element Last Seen:**	1983-XX-XX
Occ. Rank:	Unknown		**Presence:** Presumed Extant	**Site Last Seen:**	1983-XX-XX
Occ. Type:	Natural/Native occurrence		**Trend:** Unknown	**Record Last Updated:**	1998-07-15

Quad Summary: Traver (3611944)

County Summary: Tulare

Lat/Long:	36.40439 / -119.45762	**Accuracy:**	1 mile
UTM:	Zone-11 N4031608 E279616	**Elevation (ft):**	270
PLSS:	T17S, R23E, Sec. 34, SE (M)	**Acres:**	0.0

Location: CROSS CREEK VERNAL POOLS. NEAR HWY 99 & ALONG CROSS CREEK 4 MILES NORTH OF GOSHEN. BOTH SIDES OF HWY.

Detailed Location: CATTLE GRAZING SITE. IRRIGATED BARLEY SURROUNDS.

Ecological: ANASTOMOSING POOLS ON CREEK FLOOD PLAIN. PROFUSE DOWNINGIA BELLA, LASTHENIA FREMONTII. GRASSLAND OF HORDEUM DEPRESSUM & DISTICHLIS. ELYMUS ALONG EPHEMERAL WATER WAYS (1980).

General: UNABLE TO CONVERT TO FLORISTIC CLASSIFICATION, LACKS SPP. INFO. SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.

Owner/Manager: UNKNOWN

Great Valley Mixed Riparian Forest

Element Code: CTT61420CA

Great Valley Mixed Riparian Forest

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G2
	State:	None		**State:**	S2.2
	Other:				
Habitat:	**General:**				
	Micro:				

Occurrence No.	38	**Map Index:** 15312	**EO Index:** 15631	**Element Last Seen:**	1981-08-06
Occ. Rank:	Unknown		**Presence:** Presumed Extant	**Site Last Seen:**	1981-08-06
Occ. Type:	Natural/Native occurrence		**Trend:** Unknown	**Record Last Updated:**	1998-07-21

Quad Summary: Wahtoke (3611964)

County Summary: Fresno

Lat/Long:	36.71595 / -119.47028	**Accuracy:**	specific area
UTM:	Zone-11 N4066207 E279369	**Elevation (ft):**	380
PLSS:	T14S, R23E, Sec. 16 (M)	**Acres:**	327.9

Location: BYRD SLOUGH BETWEEN MINKLER & ANNADALE ROADS, EAST OF KINGS RIVER.

Detailed Location: BOUNDARY FROM 1981 AERIAL PHOTOS.

Ecological: ALLUVIAL FLOOD PLAIN ASSOCIATION W/QUERCUS LOBATA, PLATANUS RACEMOSA, ALNUS RHOMBIFOLIA & FRAXINUS LATIFOLIA.

General: SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.

Owner/Manager: PVT

Occurrence No.	39	**Map Index:** 15293	**EO Index:** 15630	**Element Last Seen:**	1981-08-06
Occ. Rank:	Unknown		**Presence:** Presumed Extant	**Site Last Seen:**	1981-08-06
Occ. Type:	Natural/Native occurrence		**Trend:** Unknown	**Record Last Updated:**	1998-07-21

Quad Summary: Wahtoke (3611964)

County Summary: Fresno

Lat/Long:	36.72577 / -119.47530	**Accuracy:**	specific area
UTM:	Zone-11 N4067308 E278949	**Elevation (ft):**	380
PLSS:	T14S, R23E, Sec. 09 (M)	**Acres:**	106.1

Location: KINGS RIVER, MOSTLY SOUTH OF HWY 180, EAST OF CENTERVILLE.

Detailed Location: BOUNDARY FROM 1981 AERIAL PHOTOS.

Ecological: ALLUVIAL FLOODPLAIN ASSOC OF QUERCUS LOBATA, PLATANUS RACEMOSA, ALNUS RHOMBIFOLIA & FRAXINUS LATIFOLIA.

General: SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.

Owner/Manager: PVT

Branchinecta lynchi

Element Code: ICBRA03030

vernal pool fairy shrimp

Listing Status:	**Federal:**	Threatened	**CNDDB Element Ranks:**	**Global:**	G3
	State:	None		**State:**	S3
	Other:	IUCN_VU-Vulnerable			
Habitat:	**General:**	ENDEMIC TO THE GRASSLANDS OF THE CENTRAL VALLEY, CENTRAL COAST MOUNTAINS, AND SOUTH COAST MOUNTAINS, IN ASTATIC RAIN-FILLED POOLS.			

Micro: INHABIT SMALL, CLEAR-WATER SANDSTONE-DEPRESSION POOLS AND GRASSED SWALE, EARTH SLUMP, OR BASALT-FLOW DEPRESSION POOLS.

Occurrence No.	11 **Map Index:** 33051	**EO Index:**	3692	**Element Last Seen:**	1994-03-26
Occ. Rank:	Unknown	**Presence:**	Presumed Extant	**Site Last Seen:**	1994-03-26
Occ. Type:	Natural/Native occurrence	**Trend:**	Unknown	**Record Last Updated:**	2014-10-22

Quad Summary: Wahtoke (3611964)

County Summary: Fresno

Lat/Long:	36.72106 / -119.39216	**Accuracy:**	1/5 mile
UTM:	Zone-11 N4066597 E286362	**Elevation (ft):**	470
PLSS:	T14S, R24E, Sec. 08, SW (M)	**Acres:**	0.0

Location: JUST NW OF HWY 180 AND ALTA ROAD, ON THE SOUTH SLOPE OF JESSE MORROW MOUNTAIN, 6 MILES EAST OF CENTERVILLE.

Detailed Location:

Ecological: COLLECTION SITE WAS A POND.

General: COLLECTION #MW-94-01, DEPOSITED AT DFG-IFD (NOW AT CAS, CASIZ #105406).

Owner/Manager: UNKNOWN

Occurrence No.	110 **Map Index:** 32735	**EO Index:**	17486	**Element Last Seen:**	1992-02-22
Occ. Rank:	Unknown	**Presence:**	Presumed Extant	**Site Last Seen:**	1992-02-22
Occ. Type:	Natural/Native occurrence	**Trend:**	Unknown	**Record Last Updated:**	1995-12-15

Quad Summary: Traver (3611944)

County Summary: Tulare

Lat/Long:	36.43500 / -119.39716	**Accuracy:**	80 meters
UTM:	Zone-11 N4034868 E285123	**Elevation (ft):**	285
PLSS:	T17S, R24E, Sec. 20, SW (M)	**Acres:**	0.0

Location: ESE OF TRAVER; 0.4 KM NW OF ROAD 80 AT COTTONWOOD CREEK.

Detailed Location: HARRELL PROPERTY.

Ecological: NATURAL POOL (SALTGRASS); 12 INCHES DEEP AT GREATEST DEPTH, PH=6.5.

General: 1 FEMALE (APPROX 16 MM IN LENGTH) OBSERVED BY R. HANSEN AND K. KIRKPATRICK; AMBYSTOMA CALIFORNIENSE OBSERVED NEAR SITE.

Owner/Manager: PVT-HARRELL

Occurrence No.	113	**Map Index:**	32752	**EO Index:**	18594	**Element Last Seen:**	1993-01-09
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	1993-01-09
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1996-01-29

Quad Summary:	Traver (3611944)
County Summary:	Tulare

Lat/Long:	36.41425 / -119.45597	**Accuracy:**	specific area
UTM:	Zone-11 N4032699 E279792	**Elevation (ft):**	270
PLSS:	T17S, R23E, Sec. 35, NW (M)	**Acres:**	14.6

Location:	SSE OF TRAVER; APPROXIMATELY 1.0 KM NORTH OF HIGHWAY 99 AT CROSS CREEK.
Detailed Location:	
Ecological:	POOL A: SLIGHT TURBIDITY, 10 X 30 M. POOL B: SLIGHT TURBIDITY, 10 X 50 M. POOL C: VERY TURBID, 10 X 50 M. ALL POOLS 54 DEGREES FAHRENHEIT.
General:	B. LYNCHI OBSERVED BY G. AND K. KIRKPATRICK, AND R. HANSEN.
Owner/Manager:	PVT

Occurrence No.	206	**Map Index:**	41569	**EO Index:**	41569	**Element Last Seen:**	2017-03-01
Occ. Rank:	Fair			**Presence:**	Presumed Extant	**Site Last Seen:**	2017-03-01
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2017-10-04

Quad Summary:	Remnoy (3611935), Burris Park (3611945)
County Summary:	Kings

Lat/Long:	36.37817 / -119.50853	**Accuracy:**	nonspecific area
UTM:	Zone-11 N4028817 E274975	**Elevation (ft):**	261
PLSS:	T18S, R23E, Sec. 8, SW (M)	**Acres:**	59.0

Location:	VICINITY OF CROSS CREEK, 1.8 MI SE OF 4TH AVE AT EXCELSIOR AVE & 3.6 MI WSW OF HWY 99 AT AVE 328, SW OF BURRIS PARK.
Detailed Location:	1999: MAPPED TO LOCATION PROVIDED FOR VERNAL POOL(S) IN AREA "B" (NORTHMOST POLYGON). 2017: MAPPED TO SPECIFIC LOCATIONS GIVEN FOR OCCUPIED POOLS (SOUTHMOST POLYGONS).
Ecological:	VERNAL POOLS IN GRAZED, NON-NATIVE GRASSLAND. PROPERTIES BEING CONSIDERED AS MITIGATION LANDS FOR HIGH SPEED RAIL AUTHORITY IN 2017.
General:	HUNDREDS OBSERVED HERE AND IN AREA "A" (OCCURRENCE #207); 64 COLLECTED 21 FEB-14 MAR 1999 (CASIZ #122186 -122193). BRANCHINECTA CYSTS FOUND DURING 2016 DRY SEASON SURVEYS. FOUND IN 56 POOLS THROUGHOUT PROPERTY IN 2017; 12 POOLS MAPPED HERE.
Owner/Manager:	PVT

Occurrence No.	207	**Map Index:**	41571	**EO Index:**	41571	**Element Last Seen:**	2017-03-01
Occ. Rank:	Fair			**Presence:**	Presumed Extant	**Site Last Seen:**	2017-03-01
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2017-10-04

Quad Summary:	Traver (3611944)
County Summary:	Kings

Lat/Long:	36.39382 / -119.48911	**Accuracy:**	specific area
UTM:	Zone-11 N4030509 E276762	**Elevation (ft):**	264
PLSS:	T18S, R23E, Sec. 4, SW (M)	**Acres:**	52.0

Location:	VICINITY OF CROSS CREEK, ABOUT 1.5-2.1 MI SW OF RD 44 AT AVE 352 & 2.3-2.7 MI NW OF HWY 99 AT AVE 328, NW OF VISALIA.
Detailed Location:	1999: DETECTED IN VERNAL POOL(S) IN AREA "A." MAPPED TO SPECIFIC LOCATIONS GIVEN FOR OCCUPIED POOLS IN 2017.
Ecological:	VERNAL POOLS IN GRAZED, NON-NATIVE GRASSLAND. 2017: PROPERTIES BEING CONSIDERED AS MITIGATION LANDS FOR HIGH SPEED RAIL AUTHORITY.
General:	HUNDREDS OBSERVED HERE AND IN AREA "B" (OCCURRENCE #206); 64 COLLECTED 21 FEB-14 MAR 1999 (CASIZ #122186 -122193). BRANCHINECTA CYSTS DETECTED DURING DRY SEASON SURVEYS IN 2016. ADULTS FOUND IN 56 POOLS IN 2017 SURVEYS, 12 POOLS MAPPED HERE.
Owner/Manager:	PVT

Occurrence No.	616	**Map Index:**	72249	**EO Index:**	73198	**Element Last Seen:**	2005-03-29
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	2005-03-29
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2008-09-12

Quad Summary:	Wahtoke (3611964)
County Summary:	Fresno

Lat/Long:	36.70001 / -119.38030	**Accuracy:**	specific area
UTM:	Zone-11 N4064235 E287362	**Elevation (ft):**	442
PLSS:	T14S, R24E, Sec. 20, NE (M)	**Acres:**	8.0

Location:	FRIANT-KERN CANAL AT MILEPOSTS 035.68 & 035.72, AT RAILROAD BRIDGE & NEAR BENCH MARK 446, 1.3 MILES NORTH OF NAVELENCIA.
Detailed Location:	TWO POOLS: ONE ON N SIDE OF CANAL & JUST E OF RAIL ROW (NORTH, POOL ID FKC-L-035.68.1); THE OTHER POOL ON S SIDE OF CANAL & 70 YRDS E OF RAIL ROW (SOUTH, POOL ID FKC-R-035.72.1).
Ecological:	POOLS DESCRIBED AS: A CLEAR, ROADSIDE, LINEAR PUDDLE, W/ NO VEG (NORTH POOL); SOUTH POOL: A TURBID POOL W/ CLAYISH, SOFT SUBSTRATE (ADDITIONAL POOL JUST NW ABOUT SAME SIZE AND DEPTH, W/ NO BRANCHIOPODS).
General:	3 MALES & 2 FEMALES IDENTIFIED IN NORTH POOL ON 23 MAR 2004, & 2 MALES & 2 FEMALES IDENTIFIED IN SOUTH POOL ON 29 MAR 2005, BOTH BY K. GARCIA-TOMLINSON.
Owner/Manager:	USBOR

Occurrence No.	911	**Map Index:**	A6723	**EO Index:**	108492	**Element Last Seen:**	2017-03-01
Occ. Rank:	Excellent			**Presence:**	Presumed Extant	**Site Last Seen:**	2017-03-01
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2017-10-18

Quad Summary: Traver (3611944)

County Summary: Tulare

Lat/Long:	36.40187 / -119.46327	**Accuracy:**	specific area
UTM:	Zone-11 N4031342 E279102	**Elevation (ft):**	272
PLSS:	T17S, R23E, Sec. 34, SE (M)	**Acres:**	86.0

Location: VICINITY OF CROSS CREEK, FROM 1.6 MI NNW-1.9 MI NW OF HWY 99 AT AVE 328 & 2.25 MI SSE OF RD 36 AT AVE 352, NW OF VISALIA

Detailed Location: MAPPED TO PROVIDED MAPS.

Ecological: CROSS CREEK PROPERTIES BEING EVALUATED AS POTENTIAL MITIGATION LANDS FOR THE HIGH SPEED RAIL AUTHORITY (2017).

General: BRANCHINECTA CYSTS DETECTED DURING 2016 DRY SEASON SAMPLING. ADULTS FOUND IN 56 POOLS ACROSS PROPERTY IN 2017; 31 MAPPED HERE.

Owner/Manager: PVT

Occurrence No.	912	**Map Index:**	A6724	**EO Index:**	108493	**Element Last Seen:**	2017-03-01
Occ. Rank:	Excellent			**Presence:**	Presumed Extant	**Site Last Seen:**	2017-03-01
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2017-10-19

Quad Summary: Traver (3611944)

County Summary: Kings

Lat/Long:	36.39249 / -119.479	**Accuracy:**	80 meters
UTM:	Zone-11 N4030338 E277665	**Elevation (ft):**	268
PLSS:	T18S, R23E, Sec. 4, SE (M)	**Acres:**	5.0

Location: VICINITY OF CROSS CREEK, 2.0 MI NW OF HWY 99 AT AVE 328 & 1.8 MI SSE OF RD 44 AT AVE 352, NW OF VISALIA.

Detailed Location: MAPPED TO PROVIDED MAPS.

Ecological: CROSS CREEK PROPERTIES BEING EVALUATED AS POTENTIAL MITIGATION LANDS FOR THE HIGH SPEED RAIL AUTHORITY (2017).

General: BRANCHINECTA CYSTS DETECTED DURING 2016 DRY SEASON SAMPLING. ADULTS FOUND IN 56 POOLS ACROSS PROPERTY IN 2017; 1 MAPPED HERE.

Owner/Manager: PVT

Lepidurus packardi

Element Code: ICBRA10010

vernal pool tadpole shrimp

Listing Status:	**Federal:**	Endangered	**CNDDB Element Ranks:**	**Global:**	G4
	State:	None		**State:**	S3S4
	Other:	IUCN_EN-Endangered			
Habitat:	**General:**	INHABITS VERNAL POOLS AND SWALES IN THE SACRAMENTO VALLEY CONTAINING CLEAR TO HIGHLY TURBID WATER.			
	Micro:	POOLS COMMONLY FOUND IN GRASS-BOTTOMED SWALES OF UNPLOWED GRASSLANDS. SOME POOLS ARE MUD-BOTTOMED AND HIGHLY TURBID.			

Occurrence No.	129	**Map Index:**	40395	**EO Index:**	35402	**Element Last Seen:**	1998-04-10
Occ. Rank:	Fair			**Presence:**	Presumed Extant	**Site Last Seen:**	1998-04-10
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2015-02-19

Quad Summary:	Traver (3611944)
County Summary:	Tulare

Lat/Long:	36.40620 / -119.44165	**Accuracy:**	1/10 mile
UTM:	Zone-11 N4031773 E281054	**Elevation (ft):**	280
PLSS:	T17S, R23E, Sec. 35, SE (M)	**Acres:**	0.0

Location:	SOUTH OF CROSS CREEK, ABOUT 1.5 MILES NNE OF HIGHWAY 99 AT AVE 328, 4.5 MILES SE OF TRAVER.
Detailed Location:	
Ecological:	NON-NATIVE ANNUAL GRASSLAND WITH VERNAL POOLS. BURROWING OWLS ALSO OBSERVED IN THE VICINITY. AGRICULTURE TO SOUTH AND EAST. AIR PHOTOS FROM 2014 SHOW POSSIBLE CHANGE IN HYDROLOGY (FLOODING OF FIELD ADJACENT TO IRRIGATION DITCH).
General:	100S OF TADPOLE SHRIMP OBSERVED ON 10 APRIL 1998. 20 COLLECTED, 15 IN CAS (CASIZ #118377).
Owner/Manager:	PVT

Occurrence No.	139	**Map Index:**	41568	**EO Index:**	41568	**Element Last Seen:**	2017-03-01
Occ. Rank:	Fair			**Presence:**	Presumed Extant	**Site Last Seen:**	2017-03-01
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2018-01-22

Quad Summary:	Burris Park (3611945)
County Summary:	Kings

Lat/Long:	36.38052 / -119.50857	**Accuracy:**	specific area
UTM:	Zone-11 N4029078 E274978	**Elevation (ft):**	263
PLSS:	T18S, R23E, Sec. 8, NW (M)	**Acres:**	14.0

Location:	0.3 MILE WEST OF CROSS CREEK, 1.8 MILES SE OF JUNCTION OF 4TH AVENUE AND EXCELSIOR AVE, ABOUT 6 MILES SW OF BURRIS PARK.
Detailed Location:	1999: VERNAL POOL(S) IN AREA "B." 2017: CROSS CREEK WEST PROPERTY.
Ecological:	1999: VERNAL POOLS IN GRAZED NON-NATIVE GRASSLAND. 2017: PROPERTY BEING CONSIDERED FOR MITIGATION BANK BY HIGH SPEED RAIL AUTHORITY.
General:	100S OBSERVED HERE & IN AREA "A" (OCCURRENCE #140) ON 14 MAR 1999; COLLECTIONS DEPOSITED AT CAS. CYSTS FOUND IN 31 OF 46 POOLS DRY-SAMPLED IN 2016; 1 MAPPED HERE. DETECTED AT ABOUT 20 SAMPLING SITES IN 5 POOLS, JAN-MAR 2017; 1 MAPPED HERE.
Owner/Manager:	PVT

Occurrence No.	140	**Map Index:**	41572	**EO Index:**	41572	**Element Last Seen:**	2017-03-01
Occ. Rank:	Fair			**Presence:**	Presumed Extant	**Site Last Seen:**	2017-03-01
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2018-01-22

Quad Summary:	Traver (3611944), Burris Park (3611945)
County Summary:	Kings

Lat/Long:	36.39448 / -119.48994	**Accuracy:**	specific area
UTM:	Zone-11 N4030584 E276690	**Elevation (ft):**	263
PLSS:	T18S, R23E, Sec. 4, NW (M)	**Acres:**	111.0

Location:	BOTH SIDES OF CROSS CREEK ABOUT 1.25-2.8 MILES SW OF WHERE IT CROSSES HIGHWAY 99, 4 MILES SOUTH OF TRAVER.
Detailed Location:	1999: VERNAL POOL(S) IN AREA "A." 2016-17: ON CROSS CREEK EAST AND WEST PROPERTIES.
Ecological:	VERNAL POOLS IN NON-NATIVE GRASSLAND. 2016-17: PROPERTY BEING EVALUATED FOR HIGH SPEED RAIL AUTHORITY MITIGATION BANK.
General:	100S OBSERVED HERE & IN AREA "B" (OCCURRENCE #139) IN 1999; COLLECTIONS DEPOSITED AT CAS. CYSTS FOUND IN 31 OF 46 POOLS DRY-SAMPLED IN 2016; 12 MAPPED HERE. DETECTED IN 23 POOLS ACROSS PROPERTY IN 2017; ABOUT 9 SAMPLING SITES MAPPED HERE.
Owner/Manager:	PVT

Occurrence No.	292	**Map Index:**	86216	**EO Index:**	87257	**Element Last Seen:**	1992-06-22
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2011-05-24
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2012-06-29

Quad Summary:	Traver (3611944)
County Summary:	Tulare

Lat/Long:	36.43406 / -119.39746	**Accuracy:**	nonspecific area
UTM:	Zone-11 N4034765 E285094	**Elevation (ft):**	285
PLSS:	T17S, R24E, Sec. 20, SW (M)	**Acres:**	132.0

Location:	WEST SIDE OF ROAD 80 (ALTA AVE) ALONG COTTONWOOD CREEK ABOUT 0.5 MILE SOUTH OF AVENUE 360, ABOUT 5 MILES ESE OF TRAVER.
Detailed Location:	MAPPED GENERALLY TO PROJECT SITE AND GENERAL LOCATION DESCRIPTIONS OF POOLS; NOTED AS "COMMON IN THE TURBID WATER OF POOL #3," AND FOUND "IN COTTONWOOD CREEK" AND "IN THE IRRIGATION CANAL..."
Ecological:	NATURAL COMMUNITIES ON SITE INCLUDED NON-NATIVE GRASSLAND, NORTHEN CLAYPAN VERNAL POOL, GREAT VALLEY WILLOW SCRUB, VALLEY SACATON GRASSLAND, & VALLEY WILDRYE GRASSLAND. NO CHANGE BETWEEN 1994 & 2011 AERIAL; DISKING APPARENT IN 2011 IMAGE.
General:	DETECTED AND PHOTOGRAPHED ON 21 MAR, 21 & 22 JUN, 1992. NONE DETECTED WHEN 7 VERNAL POOLS WERE SAMPLED (NON-PROTOCOL) IN THE NE 1/4 OF FEATURE ALONG CANAL IN 2011. FURTHER SAMPLING NEEDED.
Owner/Manager:	PVT

Occurrence No.	293	**Map Index:**	86221	**EO Index:**	87258	**Element Last Seen:**	2011-05-24
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2011-05-24
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2012-06-28

Quad Summary:	Traver (3611944)
County Summary:	Tulare

Lat/Long:	36.42907 / -119.40907	**Accuracy:**	nonspecific area
UTM:	Zone-11 N4034238 E284038	**Elevation (ft):**	285
PLSS:	T17S, R24E, Sec. 30, NE (M)	**Acres:**	48.0

Location:	VICINITY OF CROSS CREEK (COTTONWOOD CRK) ABOUT 1.3 MI SW OF ROAD 80 (ALTA AVE) AT AVE 360, & ABOUT 4.7 MI ESE OF TRAVER.
Detailed Location:	MAPPED GENERALLY TO PROVIDED TOPOGRAPHIC AND AERIAL MAPS (GEOREFERENCED). THIS SITE REPRESENTS THE GENERAL AREA OF 2 VERNAL POOLS (#48 & 50) OF 64 ON THE PROJECT SITE THAT CONTAINED VERNAL POOL TADPOLE SHRIMP.
Ecological:	HABITAT DESCRIBED AS NON-NATIVE GRASSLANDS, BUT WAS RECENTLY DISKED (OCT 2010) AND PLANTED WITH WHEAT. SITE HAS NOT BEEN LEVELED LIKE ADJACENT AGRICULTURE LANDS. WESTERN SPADEFOOT TOAD (SPEA HAMMONDII) ALSO FOUND ON SITE.
General:	UNKNOWN NUMBER OF LEPIDURUS PACKARDI DETECTED IN TWO VERNAL POOLS DURING 3 SURVEYS (NON-PROTOCOL) FROM 1 APR - 24 MAY 2011. ABOUT 10 TOTAL ADULTS WERE DETECTED IN 3 POOLS FROM SITE.
Owner/Manager:	PVT

Occurrence No.	294	**Map Index:**	86222	**EO Index:**	87264	**Element Last Seen:**	2011-05-16
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2011-05-16
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2012-06-28

Quad Summary:	Traver (3611944)
County Summary:	Tulare

Lat/Long:	36.40837 / -119.45608	**Accuracy:**	1/10 mile
UTM:	Zone-11 N4032047 E279765	**Elevation (ft):**	275
PLSS:	T17S, R23E, Sec. 35, E (M)	**Acres:**	0.0

Location:	EAST SIDE OF HWY 99, ABOUT 1/4 MILE NORTH OF WHERE CROSS CREEK PASSES UNDER HWY 99, ABOUT 3.6 MI SSE OF TRAVER.
Detailed Location:	VERNAL POOL #6. MAPPED GENERALLY TO TOPOGRAPHIC AND AERIAL MAPS (GEOREFERENCED). VERNAL POOL TADPOLE SHRIMP DETECTED IN 3 OF 64 POOLS ON THE PROJECT SITE.
Ecological:	HABITAT DESCRIBED AS NON-NATIVE GRASSLANDS, BUT WAS RECENTLY DISKED (OCT 2010) AND PLANTED WITH WHEAT. SITE HAS NOT BEEN LEVELED LIKE ADJACENT AGRICULTURE LANDS. WESTERN SPADEFOOT TOAD (SPEA HAMMONDII) ALSO FOUND ON SITE.
General:	UNKNOWN NUMBER OF LEPIDURUS PACKARDI DETECTED IN THIS VERNAL POOL DURING 3 SURVEYS (NON-PROTOCOL) FROM 18 MAR - 16 MAY 2011. ABOUT 10 TOTAL ADULTS WERE DETECTED IN 3 POOLS FROM SITE.
Owner/Manager:	PVT

Occurrence No.	295	**Map Index:** 86223	**EO Index:**	87265	**Element Last Seen:**	2017-03-01
Occ. Rank:	Good		**Presence:**	Presumed Extant	**Site Last Seen:**	2017-03-01
Occ. Type:	Natural/Native occurrence		**Trend:**	Unknown	**Record Last Updated:**	2018-01-22

Quad Summary: Traver (3611944)

County Summary: Tulare

Lat/Long:	36.40128 / -119.46353	**Accuracy:**	specific area
UTM:	Zone-11 N4031277 E279078	**Elevation (ft):**	271
PLSS:	T17S, R23E, Sec. 34, SE (M)	**Acres:**	153.0

Location: BOTH SIDES OF CROSS CREEK FROM THE HWY 99 CROSSING TO ABOUT 0.9 MILES SW, ABOUT 4 MILES SSE OF TRAVER.

Detailed Location: ON CROSS CREEK EAST PROPERTY. MAPPED TO PROVIDED MAPS. 2007: ADJACENT TO ROAD 60 WHICH IS A FRONTAGE ROAD TO HWY 99.

Ecological: 2007: WETLAND POND IN INTERMITTENT DRAINAGE OF CROSS CREEK SURROUNDED BY NON-NATIVE ANNUAL GRASSLAND USED FOR CATTLE GRAZING. 2016-17: POTENTIAL MITIGATION PROPERTY FOR HIGH SPEED RAIL AUTHORITY.

General: ABOUT 30 ADULTS DETECTED ON 17 MAY 2007. CYSTS FOUND IN 31 OF 46 POOLS DRY-SAMPLED IN 2016, 18 MAPPED HERE. DETECTED IN 18 POOLS THROUGHOUT CROSS CREEK EAST PROPERTY IN 2017 (ABOUT 9 SAMPLING SITES REPRESENTED HERE).

Owner/Manager: PVT

Desmocerus californicus dimorphus

Element Code: IICOL48011

valley elderberry longhorn beetle

Listing Status:	**Federal:**	Threatened	**CNDDB Element Ranks:**	**Global:**	G3T2
	State:	None		**State:**	S2
	Other:				
Habitat:	**General:**	OCCURS ONLY IN THE CENTRAL VALLEY OF CALIFORNIA, IN ASSOCIATION WITH BLUE ELDERBERRY (SAMBUCUS MEXICANA).			
	Micro:	PREFERS TO LAY EGGS IN ELDERBERRIES 2-8 INCHES IN DIAMETER; SOME PREFERENCE SHOWN FOR "STRESSED" ELDERBERRIES.			

Occurrence No.	68	**Map Index:** 33009	**EO Index:**	4065	**Element Last Seen:**	1991-05-01
Occ. Rank:	Good		**Presence:**	Presumed Extant	**Site Last Seen:**	1991-05-01
Occ. Type:	Natural/Native occurrence		**Trend:**	Unknown	**Record Last Updated:**	1998-08-11

Quad Summary: Reedley (3611954)

County Summary: Fresno

Lat/Long:	36.59131 / -119.46949	**Accuracy:**	80 meters
UTM:	Zone-11 N4052375 E279084	**Elevation (ft):**	340
PLSS:	T15S, R23E, Sec. 28, SE (M)	**Acres:**	0.0

Location: KINGS RIVER (WEST BANK), ALONG KINGS RIVER ROAD, JUST NORTH OF DINUBA AVENUE, ABOUT 1 MILE WEST OF REEDLEY.

Detailed Location: REPORT ON: TAXONOMY; DISTRIBUTION; LIFE HISTORY; HABITAT; FIELD TECHNIQUES & OBSERVATIONS; BEETLE RECOVERY.

Ecological: HABITAT CONSISTS OF OPEN RIPARIAN WOODLAND, WITH ELDERBERRIES SCATTERED BETWEEN ROAD AND RIVER (ROAD IS LOCATED ON THE BLUFF ABOVE THE RIVER).

General: ONLY ONE CLUMP (TREE) WITH EXIT HOLES, AND THESE HAD BEEN ENLARGED, PROBABLY BY BIRDS. MANY OTHER CLUMPS WITHOUT HOLES.

Owner/Manager: PVT

Occurrence No.	69	**Map Index:**	33008	**EO Index:**	4064	**Element Last Seen:**	1998-04-16
Occ. Rank:	Fair			**Presence:**	Presumed Extant	**Site Last Seen:**	1998-04-16
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1998-11-23

Quad Summary:	Wahtoke (3611964)
County Summary:	Fresno

Lat/Long:	36.72957 / -119.47992	**Accuracy:**	specific area
UTM:	Zone-11 N4067740 E278547	**Elevation (ft):**	380
PLSS:	T14S, R23E, Sec. 09, NW (M)	**Acres:**	166.2

Location:	KINGS RIVER, FROM 0.4 AIR MILE NE TO 1.2 AIR MILE SW OF HIGHWAY 180 FROM RIVER CROSSING, 1 MILE EAST OF CENTERVILLE.
Detailed Location:	REPORT INCLUDES INFORMATION ON: TAXONOMY; DISTRIBUTION; LIFE HISTORY; HABITAT; FIELD TECHNIQUES & OBSERVATIONS; & BEETLE RECOVERY.
Ecological:	HABITAT CONSISTS OF RIPARIAN ALONG THE BANKS OF THE SLOUGH CONNECTED TO, AND SEVERAL LOCATIONS ALONG THE KINGS RIVER.
General:	1998: SERVERAL CLUMPS WITH EXIT HOLES OBSERVED. 1991: TWO LARGE RIPARIAN CLUMPS WERE OBSERVED CONTAINING OLD, CLEAN-CUT EXIT HOLES. APRIL 1989: ADULTS COLLECTED, 2 FEMALES & 1 MALE, FEMALES OBSERVED LAYING EGGS ON ELDERBERRY TREES.
Owner/Manager:	PVT

Occurrence No.	70	**Map Index:**	33007	**EO Index:**	4066	**Element Last Seen:**	1991-05-01
Occ. Rank:	Excellent			**Presence:**	Presumed Extant	**Site Last Seen:**	1991-05-01
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1998-08-11

Quad Summary:	Sanger (3611965)
County Summary:	Fresno

Lat/Long:	36.67840 / -119.53215	**Accuracy:**	80 meters
UTM:	Zone-11 N4062184 E273732	**Elevation (ft):**	330
PLSS:	T14S, R22E, Sec. 25, SW (M)	**Acres:**	0.0

Location:	COLLINS CREEK, TRIBUTARY TO KINGS RIVER, IN THE VICINITY OF CHANNEL ROAD, ABOUT 2 MILES SE OF SANGER.
Detailed Location:	REPORT ON: TAXONOMY; DISTRIBUTION; LIFE HISTORY; HABITAT; FIELD TECHNIQUES & OBSERVATIONS; BEETLE RECOVERY.
Ecological:	HABITAT CONSISTS OF DENSE RIPARIAN WOODLAND WITH OAKS, COTTONWOODS, AND ELDERBERRIES.
General:	BOTH OLD AND RECENT EXIT HOLES FOUND IN SEVERAL LARGE, OLD ELDERBERRIES.
Owner/Manager:	PVT

Occurrence No.	165	**Map Index:**	39525	**EO Index:**	34527	**Element Last Seen:**	1990-XX-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1990-XX-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1998-08-25

Quad Summary: Wahtoke (3611964)

County Summary: Fresno

Lat/Long:	36.72101 / -119.46247	**Accuracy:**	specific area
UTM:	Zone-11 N4066750 E280081	**Elevation (ft):**	380
PLSS:	T14S, R23E, Sec. 10 (M)	**Acres:**	32.6

Location: BYRD SLOUGH, 0.35 MILE SW OF HIGHWAY 180 AT MINKLER, 2 MILE ESE OF CENTERVILLE.

Detailed Location: PRIVATE PARK (PILIBOS PARK).

Ecological: RIPARIAN, ELDERBERRY HABITAT PRESENT.

General: 1 MALE OBSERVED 1987. 1 COLLECTED 1989. EMERGENCE HOLES IN ELDERBERRIES AT SEVERAL LOCATIONS ALONG SLOUGH 1990.

Owner/Manager: PVT

Occurrence No.	166	**Map Index:**	39531	**EO Index:**	34533	**Element Last Seen:**	1990-XX-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1990-XX-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1998-08-25

Quad Summary: Wahtoke (3611964)

County Summary: Fresno

Lat/Long:	36.71948 / -119.43933	**Accuracy:**	specific area
UTM:	Zone-11 N4066527 E282144	**Elevation (ft):**	400
PLSS:	T14S, R23E, Sec. 14 (M)	**Acres:**	11.1

Location: BETWEEN HIGHWAY 180 AND ALTA MAIN CANAL, 0.5 MILE E OF JCT OF FRANKWOOD AVE, 1 MILE ESE OF MINKLER.

Detailed Location: PASTURE AND CANAL BANK, 1.9 MILES NW OF CAMPBELL MTN.

Ecological: PASTURE WITH ELDERBERRY HABITAT.

General: MANY EMERGENCE HOLES IN MANY ELDERBERRIES, BUT NO ADULTS OBSERVED.

Owner/Manager: UNKNOWN

Occurrence No.	167	**Map Index:**	39533	**EO Index:**	34535	**Element Last Seen:**	1989-04-18
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1989-04-18
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1998-08-25

Quad Summary: Sanger (3611965)

County Summary: Fresno

Lat/Long:	36.70086 / -119.50636	**Accuracy:**	specific area
UTM:	Zone-11 N4064616 E276102	**Elevation (ft):**	345
PLSS:	T14S, R23E, Sec. 19, NE (M)	**Acres:**	41.1

Location: KINGS RIVER, 0.25 MILE NE OF ANNADALE AND RIVERBEND AVENUES, 2.8 MILES EAST OF SANGER.

Detailed Location: RIPARIAN, GRAVEL MINING PITS/PONDS.

Ecological: RIPARIAN WITH ELDERBERRY HABITAT PRESENT.

General: 1 FEMALE LAYING EGGS OBSERVED BUT NOT COLLECTED. EGGS AND EMERGENCE HOLES ON ONE ELDERBERRY NOTED.

Owner/Manager: UNKNOWN

Occurrence No.	168	**Map Index:** 39534	**EO Index:**	34536	**Element Last Seen:**	1990-06-01
Occ. Rank:	Unknown		**Presence:**	Presumed Extant	**Site Last Seen:**	1990-06-01
Occ. Type:	Natural/Native occurrence		**Trend:**	Unknown	**Record Last Updated:**	1998-08-25

Quad Summary: Sanger (3611965)

County Summary: Fresno

Lat/Long:	36.69427 / -119.52570	**Accuracy:**	80 meters
UTM:	Zone-11 N4063930 E274355	**Elevation (ft):**	340
PLSS:	T14S, R22E, Sec. 24, NE (M)	**Acres:**	0.0

Location: ALONG CHANNEL ROAD, 0,5 MILE SOUTH OF ANNADALE AVE INTERSECTION, 1.9 MILES SE OF SANGER.

Detailed Location:

Ecological: ELDERBERRY AND OAK FOREST ALONG ROAD.

General: MANY ELDERBERRIES ALONG ROAD. A FEW ELDERBERRY TREES WITH EMERGENCE HOLES. NO ADULTS OBSERVED.

Owner/Manager: UNKNOWN

Occurrence No.	178	**Map Index:** 40240	**EO Index:**	35242	**Element Last Seen:**	1998-04-16
Occ. Rank:	Unknown		**Presence:**	Presumed Extant	**Site Last Seen:**	1998-04-16
Occ. Type:	Natural/Native occurrence		**Trend:**	Unknown	**Record Last Updated:**	1998-11-24

Quad Summary: Sanger (3611965)

County Summary: Fresno

Lat/Long:	36.70507 / -119.51215	**Accuracy:**	specific area
UTM:	Zone-11 N4065097 E275597	**Elevation (ft):**	256
PLSS:	T14S, R23E, Sec. 19, NW (M)	**Acres:**	8.6

Location: TRANSMISSION LINES, 0.4 MILE N OF INTERSECTION OF RIVERBEND & ANNADALE AVES & KINGS RIVER, 2.5 MILES E OF SANGER.

Detailed Location: EXIT HOLE FOUND IN DEAD WOOD 650 FEET NORTHEAST OF TOWER 33/167. POTENTIAL HABITAT (OTHER AVAILABLE PLANTS) FROM 423 TO 650 FEET NE OF TOWER.

Ecological: RIPARIAN.

General: EXIT HOLES FOUND IN DEAD WOOD.

Owner/Manager: UNKNOWN

Occurrence No.	179	**Map Index:** 40241	**EO Index:**	35243	**Element Last Seen:**	1998-04-16
Occ. Rank:	Unknown		**Presence:**	Presumed Extant	**Site Last Seen:**	1998-04-16
Occ. Type:	Natural/Native occurrence		**Trend:**	Unknown	**Record Last Updated:**	1998-11-24

Quad Summary: Sanger (3611965)

County Summary: Fresno

Lat/Long:	36.70191 / -119.51709	**Accuracy:**	specific area
UTM:	Zone-11 N4064757 E275147	**Elevation (ft):**	350
PLSS:	T14S, R23E, Sec. 19, NW (M)	**Acres:**	19.2

Location: TRANSMISSION LINES, 0.35 MILE NW OF INTERSECTION RIVERBEND & ANNADALE AVES, & KINGS RIVER, 2.5 MILES E OF SANGER.

Detailed Location: ELDERBERRIESS WITH EXIT HOLES FOUND 289 FT & 180 FT NE; & 112 FT & 52 FT WEST OF TOWER 33/168. POTENTIAL HABITAT (OTHER ELDERBERRY BUSHES) FOUND 102 FT SW; 174, 151 & 62 FT WEST & 30 FT SE OF THE TOWER.

Ecological: AGRICULTURE (ORCHARDS, ROW CROPS, VINEYARD) UNCERTAIN WHICH OF THESE IS AT THIS SITE.

General: EXIT HOLES FOUND IN BOTH LIVE AND DEAD WOOD.

Owner/Manager: UNKNOWN

Occurrence No.	180	**Map Index:**	40242	**EO Index:**	35244	**Element Last Seen:**	1998-04-16
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1998-04-16
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1998-11-24

Quad Summary:	Sanger (3611965)
County Summary:	Fresno

Lat/Long:	36.68014 / -119.53810	**Accuracy:**	80 meters
UTM:	Zone-11 N4062392 E273205	**Elevation (ft):**	332
PLSS:	T14S, R22E, Sec. 25, SW (M)	**Acres:**	0.0

Location:	ABOUT 1 MILE ENE OF JCT CENTRAL & ACADEMY AVES, & 0.4 MILE N OF JCT GOODFELLOW AVE & CHANNEL RD, 2 MILES SE OF SANGER.
Detailed Location:	43 FEET NORTHWEST OF TOWER 35/177.
Ecological:	AGRICULTURE (ORCHARDS, ROW CROPS, VINEYARD), UNCERTAIN WHICH OF THESE IS AT THIS SITE.
General:	EXIT HOLES FOUND IN LIVE WOOD.
Owner/Manager:	UNKNOWN

Occurrence No.	245	**Map Index:**	94924	**EO Index:**	96046	**Element Last Seen:**	2005-11-08
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	2005-11-08
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2015-01-16

Quad Summary:	Wahtoke (3611964), Sanger (3611965)
County Summary:	Fresno

Lat/Long:	36.72031 / -119.50448	**Accuracy:**	specific area
UTM:	Zone-11 N4066771 E276327	**Elevation (ft):**	365
PLSS:	T14S, R23E, Sec. 18, NE (M)	**Acres:**	22.0

Location:	ABOUT 0.5 MI SE OF RAINBOW RD & RIVERBEND AVE INTERSECTION, ADJACENT TO COLLINS CREEK, 3.1 MI ENE OF SANGER POST OFFICE.
Detailed Location:	MAPPED ACCORDING TO PROVIDED MAP LOCATIONS FOR ELDERBERRY PLANTS WITH EXIT HOLES. THESE PLANTS WERE ALONG ROADWAYS ADJACENT TO ORCHARDS. ADDITIONAL ELDERBERRY PLANTS OBSERVED IN THE VICINITY BUT SHOWED NO SIGNS OF VELB OCCUPANCY.
Ecological:	AGGREGATE MINING HAS BEEN OCCURRING IN THE AREA JUST TO THE EAST SINCE THE 1940'S. SURVEYORS NOTED THAT MINING ACTIVITY IS NOT BELIEVED TO HAVE A SIGNIFICANT IMPACT ON THE PRESENCE OF VELB.
General:	APPROXIMATELY 8 ELDERBERRY PLANTS CONTAINING EXIT HOLES OBSERVED ON 8 NOV 2005. A TOTAL OF 80 PLANTS WITH EXIT HOLES FOUND BETWEEN THIS OCCURRENCE & OCCURRENCES # 246 & 247 TO THE EAST.
Owner/Manager:	PVT-VULCAN MATERIALS

Occurrence No.	246	**Map Index:**	94925	**EO Index:**	96048	**Element Last Seen:**	2005-11-08
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	2005-11-08
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2015-01-16

Quad Summary:	Wahtoke (3611964)
County Summary:	Fresno

Lat/Long:	36.72445 / -119.49376	**Accuracy:**	specific area
UTM:	Zone-11 N4067204 E277296	**Elevation (ft):**	375
PLSS:	T14S, R23E, Sec. 08, SW (M)	**Acres:**	6.0

Location:	~0.6 MI SSE OF HWY 180 & RAINBOW RD INTERSECTION, ADJACENT TO COLLINS CREEK, S OF CENTERVILLE, 3.8 MI ENE OF SANGER PO.
Detailed Location:	MAPPED ACCORDING TO PROVIDED MAP LOCATIONS FOR ELDERBERRY PLANTS WITH EXIT HOLES. PLANTS LOCATED ADJACENT TO ACCESS ROAD NORTH OF MAIN MINING SITE. ADDITIONAL ELDERBERRY PLANTS OBSERVED IN THE VICINITY BUT SHOWED NO SIGNS OF VELB OCCUPANCY.
Ecological:	AGGREGATE MINING HAS BEEN OCCURRING IN THE AREA SINCE THE 1940'S. SURVEYORS NOTED THAT MINING ACTIVITY IS NOT BELIEVED TO HAVE A SIGNIFICANT IMPACT ON THE PRESENCE OF VELB.
General:	APPROXIMATELY 4 ELDERBERRY PLANTS CONTAINING EXIT HOLES OBSERVED ON 8 NOV 2005. A TOTAL OF 80 PLANTS WITH EXIT HOLES FOUND BETWEEN THIS OCCURRENCE & OCCURRENCES # 245 & 247 TO THE WEST AND SOUTH RESPECTIVELY.
Owner/Manager:	PVT-VULCAN MATERIALS

Occurrence No.	247	**Map Index:**	94926	**EO Index:**	96049	**Element Last Seen:**	2005-11-08
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	2005-11-08
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2015-05-14

Quad Summary:	Wahtoke (3611964), Sanger (3611965)
County Summary:	Fresno

Lat/Long:	36.71722 / -119.49688	**Accuracy:**	specific area
UTM:	Zone-11 N4066410 E276997	**Elevation (ft):**	370
PLSS:	T14S, R23E, Sec. 17 (M)	**Acres:**	90.0

Location:	ABOUT 1 MI S OF CENTERVILLE, 1.6 MI NE OF RIVERBEND AVE & ANNADALE RD, 3.7 MI ENE OF SANGER POST OFFICE, KINGS RIVER.
Detailed Location:	MAPPED ACCORDING TO PROVIDED MAP LOCATIONS FOR ELDERBERRY PLANTS W/ EXIT HOLES. ADDITIONAL PLANTS OBS IN THE VICINITY W/ NO VELB. A TOTAL OF 80 PLANTS W/ EXIT HOLES FOUND BTWN THIS OCCURRENCE & OCC. #245 & 246 TO THE W & N RESPECTIVELY.
Ecological:	AGGREGATE MINING HAS BEEN OCCURRING IN THE AREA SINCE THE 1940'S. SURVEYORS NOTED THAT MINING ACTIVITY IS NOT BELIEVED TO HAVE A SIGNIFICANT IMPACT ON THE PRESENCE OF VELB. GENERAL HABITAT DESCRIBED AS "RIPARIAN" IN 2009.
General:	APPROXIMATELY 68 ELDERBERRY PLANTS CONTAINING EXIT HOLES OBSERVED ON 8 NOV 2005. A SINGLE SHRUB WAS SURVEYED ON 11 DEC 2009 BY PG&E; PRESENCE OF EXIT HOLES WAS UNCLEAR.
Owner/Manager:	PVT-VULCAN MATERIALS

Lytta molesta

Element Code: IICOL4C030

molestan blister beetle

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G2
	State:	None		**State:**	S2
	Other:				
Habitat:	**General:**	INHABITS THE CENTRAL VALLEY OF CALIFORNIA, FROM CONTRA COSTA TO KERN AND TULARE COUNTIES.			
	Micro:				

Occurrence No.	13	**Map Index:** 46277	**EO Index:** 64456	**Element Last Seen:**	19XX-XX-XX
Occ. Rank:	Unknown		**Presence:** Possibly Extirpated	**Site Last Seen:**	19XX-XX-XX
Occ. Type:	Natural/Native occurrence		**Trend:** Unknown	**Record Last Updated:**	2006-03-30

Quad Summary: Malaga (3611966), Fresno South (3611967), Clovis (3611976), Fresno North (3611977)

County Summary: Fresno

Lat/Long:	36.77388 / -119.77951	**Accuracy:**	5 miles
UTM:	Zone-11 N4073392 E251931	**Elevation (ft):**	360
PLSS:	T13S, R20E, Sec. 27 (M)	**Acres:**	0.0

Location: FRESNO.

Detailed Location:

Ecological:

General: LOCALITY FROM CALIFORNIA BEETLE PROJECT ONLINE DATABASE; COLLECTION INFORMATION NOT GIVEN. HISTORICAL RECORD; EXACT LOCATION UNKNOWN.

Owner/Manager: UNKNOWN

Efferia antiochi

Element Code: IIDIP07010

Antioch efferian robberfly

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G1G2
	State:	None		**State:**	S1S2
	Other:				
Habitat:	**General:**	KNOWN ONLY FROM CONTRA COSTA AND FRESNO COUNTIES.			
	Micro:				

Occurrence No.	2	**Map Index:** 46277	**EO Index:** 63436	**Element Last Seen:**	1954-12-15
Occ. Rank:	Unknown		**Presence:** Presumed Extant	**Site Last Seen:**	1954-12-15
Occ. Type:	Natural/Native occurrence		**Trend:** Unknown	**Record Last Updated:**	2005-12-08

Quad Summary: Malaga (3611966), Fresno South (3611967), Clovis (3611976), Fresno North (3611977)

County Summary: Fresno

Lat/Long:	36.77388 / -119.77951	**Accuracy:**	5 miles
UTM:	Zone-11 N4073392 E251931	**Elevation (ft):**	300
PLSS:	T13S, R20E, Sec. 27 (M)	**Acres:**	0.0

Location: FRESNO.

Detailed Location:

Ecological:

General: COLLECTED BY CHRIS THOMPSON; ALSO COLLECTED 24 OCT 1954 BY G. FRYMIRE. IN COLLECTION AT CSU FRESNO. PARATYPES.

Owner/Manager: UNKNOWN

Metapogon hurdi

Element Code: IIDIP08010

Hurd's metapogon robberfly

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G1G2
	State:	None		**State:**	S1S2
	Other:				
Habitat:	**General:**	KNOWN ONLY FROM ANTIOCH (DUNES?) AND FRESNO.			
	Micro:	□			

Occurrence No.	2	**Map Index:** 46277	**EO Index:** 60267	**Element Last Seen:**	1922-11-29
Occ. Rank:	Unknown		**Presence:** Possibly Extirpated	**Site Last Seen:**	1922-11-29
Occ. Type:	Natural/Native occurrence		**Trend:** Unknown	**Record Last Updated:**	2005-02-25

Quad Summary: Malaga (3611966), Fresno South (3611967), Clovis (3611976), Fresno North (3611977)

County Summary: Fresno

Lat/Long:	36.77388 / -119.77951	**Accuracy:**	5 miles
UTM:	Zone-11 N4073392 E251931	**Elevation (ft):**	325
PLSS:	T13S, R20E, Sec. 27 (M)	**Acres:**	0.0

Location: FRESNO.

Detailed Location: NO OTHER COLLECTION INFORMATION GIVEN.

Ecological:

General: HISTORICAL SPECIMENS. 4 MALE AND 6 FEMALE PARATYPES.

Owner/Manager: UNKNOWN

Bombus morrisoni

Element Code: IIHYM24460

Morrison bumble bee

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G4G5
	State:	None		**State:**	S1S2
	Other:	IUCN_VU-Vulnerable			
Habitat:	**General:**	FROM THE SIERRA-CASCADE RANGES EASTWARD ACROSS THE INTERMOUNTAIN WEST.			
	Micro:	FOOD PLANT GENERA INCLUDE CIRSIUM, CLEOME, HELIANTHUS, LUPINUS, CHRYSOTHAMNUS, AND MELILOTUS.			

Occurrence No.	84	**Map Index:** 68823	**EO Index:** 98616	**Element Last Seen:**	1957-07-06
Occ. Rank:	Unknown		**Presence:** Presumed Extant	**Site Last Seen:**	1957-07-06
Occ. Type:	Natural/Native occurrence		**Trend:** Unknown	**Record Last Updated:**	2015-08-26

Quad Summary: Orange Cove South (3611953), Reedley (3611954)

County Summary: Tulare

Lat/Long:	36.54365 / -119.38823	**Accuracy:**	1 mile
UTM:	Zone-11 N4046903 E286223	**Elevation (ft):**	350
PLSS:	T16S, R24E, Sec. 17 (M)	**Acres:**	0.0

Location: DINUBA.

Detailed Location: EXACT LOCATION UNKNOWN. MAPPED BY CNDDB IN THE GENERAL VICINITY OF DINUBA.

Ecological:

General: COLLECTED 6 JUL 1957.

Owner/Manager: UNKNOWN

Bombus crotchii

Element Code: IIHYM24480

Crotch bumble bee

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G3G4
	State:	None		**State:**	S1S2
	Other:				
Habitat:	**General:**	COASTAL CALIFORNIA EAST TO THE SIERRA-CASCADE CREST AND SOUTH INTO MEXICO.			
	Micro:	FOOD PLANT GENERA INCLUDE ANTIRRHINUM, PHACELIA, CLARKIA, DENDROMECON, ESCHSCHOLZIA, AND ERIOGONUM.			

Occurrence No.	53	**Map Index:** 46277	**EO Index:** 98701	**Element Last Seen:**	1899-04-29
Occ. Rank:	Unknown		**Presence:** Presumed Extant	**Site Last Seen:**	1899-04-29
Occ. Type:	Natural/Native occurrence		**Trend:** Unknown	**Record Last Updated:**	2015-09-09

Quad Summary: Malaga (3611966), Fresno South (3611967), Clovis (3611976), Fresno North (3611977)

County Summary: Fresno

Lat/Long:	36.77388 / -119.77951	**Accuracy:**	5 miles
UTM:	Zone-11 N4073392 E251931	**Elevation (ft):**	300
PLSS:	T13S, R20E, Sec. 27 (M)	**Acres:**	0.0

Location: FRESNO.

Detailed Location: EXACT LOCATION UNKNOWN. MAPPED BY CNDDB IN THE GENERAL VICINITY OF FRESNO.

Ecological:

General: COLLECTED 29 APR 1899.

Owner/Manager: UNKNOWN

Eryngium spinosepalum

Element Code: PDAPI0Z0Y0

spiny-sepaled button-celery

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G2
	State:	None		**State:**	S2
	Other:	Rare Plant Rank - 1B.2			
Habitat:	**General:**	VERNAL POOLS, VALLEY AND FOOTHILL GRASSLAND.			
	Micro:	SOME SITES ON CLAY SOIL OF GRANITIC ORIGIN; VERNAL POOLS, WITHIN GRASSLAND. 15-1270 M.			

Occurrence No.	68	**Map Index:** 80540	**EO Index:** 81523	**Element Last Seen:**	2007-05-31
Occ. Rank:	Fair		**Presence:** Presumed Extant	**Site Last Seen:**	2007-05-31
Occ. Type:	Natural/Native occurrence		**Trend:** Unknown	**Record Last Updated:**	2010-12-23

Quad Summary: Orange Cove North (3611963), Wahtoke (3611964)

County Summary: Fresno

Lat/Long:	36.71947 / -119.37611	**Accuracy:**	80 meters
UTM:	Zone-11 N4066384 E287791	**Elevation (ft):**	463
PLSS:	T14S, R24E, Sec. 09, SW (M)	**Acres:**	0.0

Location: AT INTERSECTION OF STATE ROUTE 180 WITH CRAWFORD AVE, ABOUT 1.5 AIR MILES WNW OF KAKTUS KORNER.

Detailed Location: MAPPED AT THE CORNER OF SECTIONS 8, 9, 16, AND 17.

Ecological: ROADSIDE DRAINAGE. VALLEY FOOTHILL GRASSLAND WITH A RIPARIAN CORRIDOR ~0.1 MILE TO THE WEST.

General: MORE THAN 10 PLANTS OBSERVED IN 2007; MOST LIKELY E. SPINOSEPALUM ACCORDING TO BISSONNETTE.

Owner/Manager: PVT

Helianthus winteri **Element Code:** PDAST4N260

Winter's sunflower

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G1G2
	State:	None		**State:**	S1S2
	Other:	Rare Plant Rank - 1B.2			
Habitat:	**General:**	CISMONTANE WOODLAND, VALLEY AND FOOTHILL GRASSLAND.			
	Micro:	OPENINGS ON RELATIVELY STEEP SOUTH-FACING SLOPES, GRANITIC, OFTEN ROCKY, OFTEN ROADSIDES. 130-305 M.			

Occurrence No.	18	**Map Index:**	A8678	**EO Index:**	110471	**Element Last Seen:**	2015-11-14
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	2015-11-14
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2018-03-14

Quad Summary:	Wahtoke (3611964)
County Summary:	Fresno

Lat/Long:	36.74182 / -119.47486	**Accuracy:**	80 meters
UTM:	Zone-11 N4069088 E279035	**Elevation (ft):**	400
PLSS:	T14S, R23E, Sec. 4 (M)	**Acres:**	5.0

Location:	EAST SIDE OF RIO VISTA AVE, ABOUT 0.7 MILE NORTH OF STATE HIGHWAY 180.
Detailed Location:	IN THE ~300 BLOCK OF RIO VISTA GROWING ON THE SHOULDER OF THE ROAD ON THE EAST SIDE OF THE ROAD.
Ecological:	
General:	ONE SHRUB OBSERVED FROM THE WINDOW OF THE CAR IN 2015.
Owner/Manager:	PVT, UNKNOWN

Pseudobahia peirsonii **Element Code:** PDAST7P030

San Joaquin adobe sunburst

Listing Status:	**Federal:**	Threatened	**CNDDB Element Ranks:**	**Global:**	G1
	State:	Endangered		**State:**	S1
	Other:	Rare Plant Rank - 1B.1, SB_RSABG-Rancho Santa Ana Botanic Garden			
Habitat:	**General:**	VALLEY AND FOOTHILL GRASSLAND, CISMONTANE WOODLAND.			
	Micro:	GRASSY VALLEY FLOORS AND ROLLING FOOTHILLS IN HEAVY CLAY SOIL. 115-795 M.			

Occurrence No.	13	**Map Index:** 22865	**EO Index:**	21673	**Element Last Seen:**	1927-04-11
Occ. Rank:	None		**Presence:**	Extirpated	**Site Last Seen:**	1990-04-08
Occ. Type:	Natural/Native occurrence		**Trend:**	Unknown	**Record Last Updated:**	2017-03-30

Quad Summary: Reedley (3611954)

County Summary: Tulare

Lat/Long:	36.53234 / -119.39386	**Accuracy:**	1 mile
UTM:	Zone-11 N4045661 E285688	**Elevation (ft):**	
PLSS:	T16S, R24E, Sec. 17 (M)	**Acres:**	0.0

Location: DINUBA.

Detailed Location: STEBBINS NOTES THAT THE MOST LIKELY SITE OF THIS COLLECTION WAS ~0.5 MILES SE OF DINUBA.

Ecological:

General: ONLY SOURCE OF LOCATION INFORMATION IS A 1927 BEVANS COLLECTION. 1990 RECONNAISSANCE LEVEL SURVEYS BY STEBBINS INDICATE THAT POPULATION IS LIKELY EXTIRPATED DUE TO CONVERSION OF LAND TO AGRICULTURE.

Owner/Manager: PVT

Occurrence No.	14	**Map Index:** 15367	**EO Index:**	7979	**Element Last Seen:**	2010-03-21
Occ. Rank:	Fair		**Presence:**	Presumed Extant	**Site Last Seen:**	2010-03-21
Occ. Type:	Natural/Native occurrence		**Trend:**	Unknown	**Record Last Updated:**	2017-03-27

Quad Summary: Wahtoke (3611964)

County Summary: Fresno

Lat/Long:	36.71733 / -119.43147	**Accuracy:**	specific area
UTM:	Zone-11 N4066272 E282840	**Elevation (ft):**	440
PLSS:	T14S, R23E, Sec. 14, NE (M)	**Acres:**	9.0

Location: HWY 180 AT SADDLE BETWEEN JESSE MORROW MTN & CAMPBELL MTN BETWEEN FRIANT-KERN & ALTA-MAIN CANALS.

Detailed Location: WITHIN THE EAST 1/2 OF THE NE 1/4 OF SECTION 14 ON BOTH SIDES OF HWY 180. MAPPED BY CNDDB AS 2 POLYGONS TO ENCOMPASS INFORMATION FROM A 1988 STEBBINS MAP AND 2010 VOLLMAR CONSULTING DIGITAL DATA.

Ecological: ON PORTERVILLE CLAY SOILS. HEAVILY DISTURBED NON-NATIVE GRASSLAND; FORMER VALLEY GRASSLAND, NOW AGRICULTURE AND GRAZING. DOMINATED BY AVENA FATUA, BRASSICA KABER, SILYBUM MARIANUM, AMSINCKIA INTERMEDIA, ERODIUM CICUTARIUM, ET AL.

General: 300 IN 1985. 400 IN 1986, 150 IN 1987, 650 IN 1990, ~11,000 IN 2008, ~600 IN 2010 (400 ON N SIDE OF RD, 200 ON S SIDE). CLAY REMOVAL FOR CONSTRUCTION MAY ALSO BE A THREAT. EARLY SEASON GRAZING IS BENEFICIAL, BEFORE FLOWERING & FRUITING.

Owner/Manager: PVT

Tropidocarpum capparideum

Element Code: PDBRA2R010

caper-fruited tropidocarpum

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G1
	State:	None		**State:**	S1
	Other:	Rare Plant Rank - 1B.1, SB_RSABG-Rancho Santa Ana Botanic Garden, USFS_S-Sensitive			
Habitat:	**General:**	VALLEY AND FOOTHILL GRASSLAND.			
	Micro:	ALKALINE CLAY. 0-360 M.			

Occurrence No.	22	**Map Index:** 46277	**EO Index:** 64783	**Element Last Seen:**	1930-04-12
Occ. Rank:	Unknown		**Presence:** Presumed Extant	**Site Last Seen:**	1930-04-12
Occ. Type:	Natural/Native occurrence		**Trend:** Unknown	**Record Last Updated:**	2006-05-19

Quad Summary: Malaga (3611966), Fresno South (3611967), Clovis (3611976), Fresno North (3611977)

County Summary: Fresno

Lat/Long:	36.77388 / -119.77951	**Accuracy:**	5 miles
UTM:	Zone-11 N4073392 E251931	**Elevation (ft):**	
PLSS:	T13S, R20E, Sec. 27 (M)	**Acres:**	0.0

Location: FRESNO.

Detailed Location: EXACT LOCATION UNKNOWN. MAPPED BY CNDDB CENTERED ON THE CITY OF FRESNO, MAKING THE ASSUMPTION THAT THE SITE DESCRIPTION WAS REFERRING TO THE CITY OF FRESNO, NOT TO THE COUNTY OF FRESNO.

Ecological:

General: ONLY SOURCE OF INFORMATION FOR THIS OCCURRENCE IS A 1930 COLLECTION BY DE FOREST. NEEDS FIELDWORK.

Owner/Manager: UNKNOWN

Caulanthus californicus

Element Code: PDBRA31010

California jewelflower

Listing Status:	**Federal:**	Endangered	**CNDDB Element Ranks:**	**Global:**	G1
	State:	Endangered		**State:**	S1
	Other:	Rare Plant Rank - 1B.1			
Habitat:	**General:**	CHENOPOD SCRUB, VALLEY AND FOOTHILL GRASSLAND, PINYON AND JUNIPER WOODLAND.			
	Micro:	SANDY SOILS. 65-1860 M.			

Occurrence No.	38	**Map Index:** 46277	**EO Index:** 63230	**Element Last Seen:**	XXXX-XX-XX
Occ. Rank:	None		**Presence:** Extirpated	**Site Last Seen:**	1986-XX-XX
Occ. Type:	Natural/Native occurrence		**Trend:** Unknown	**Record Last Updated:**	2016-04-18

Quad Summary: Malaga (3611966), Fresno South (3611967), Clovis (3611976), Fresno North (3611977)

County Summary: Fresno

Lat/Long:	36.77388 / -119.77951	**Accuracy:**	5 miles
UTM:	Zone-11 N4073392 E251931	**Elevation (ft):**	
PLSS:	T13S, R20E, Sec. 27 (M)	**Acres:**	0.0

Location: FRESNO.

Detailed Location: EXACT LOCATION UNKNOWN, MAPPED IN THE GENERAL VICINITY OF FRESNO.

Ecological:

General: SITE IS BASED ON AN UNDATED DAVIDSON COLLECTION, POSSIBLY MADE IN THE LATE 1890'S OR EARLY 1900'S. NO HABITAT REMAINS IN VICINITY OF FRESNO ACCORDING TO TAYLOR (1986).

Owner/Manager: UNKNOWN

Atriplex depressa **Element Code:** PDCHE042L0

brittlescale

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G2
	State:	None		**State:**	S2
	Other:	Rare Plant Rank - 1B.2			
Habitat:	**General:**	CHENOPOD SCRUB, MEADOWS AND SEEPS, PLAYAS, VALLEY AND FOOTHILL GRASSLAND, VERNAL POOLS.			
	Micro:	USUALLY IN ALKALI SCALDS OR ALK. CLAY IN MEADOWS OR ANNUAL GRASSLND; RARELY ASSOCIATED WITH RIPARIAN, MARSHES, OR VERNAL POOLS. 1-325 M.			

Occurrence No.	13	**Map Index:**	24422	**EO Index:**	7077	**Element Last Seen:**	XXXX-XX-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	XXXX-XX-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2011-05-31

Quad Summary: Laton (3611946)

County Summary: Fresno, Kings

Lat/Long:	36.43527 / -119.68698	**Accuracy:**	1 mile
UTM:	Zone-11 N4035584 E259139	**Elevation (ft):**	
PLSS:	T17S, R21E, Sec. 22 (M)	**Acres:**	0.0

Location: LATON.

Detailed Location: EXACT LOCATION UNKNOWN. MAPPED BY CNDDB AS BEST GUESS CENTERED ON LATON.

Ecological:

General: ONLY SOURCE OF INFORMATION IS UNDATED KEARNEY COLLECTION. NEEDS FIELDWORK.

Owner/Manager: UNKNOWN

Occurrence No.	76	**Map Index:**	82784	**EO Index:**	83810	**Element Last Seen:**	1968-05-13
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1968-05-13
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2011-06-06

Quad Summary: Monson (3611943), Traver (3611944)

County Summary: Tulare

Lat/Long:	36.48164 / -119.38907	**Accuracy:**	1 mile
UTM:	Zone-11 N4040025 E285977	**Elevation (ft):**	
PLSS:	T17S, R24E, Sec. 05 (M)	**Acres:**	0.0

Location: 4 MILES S OF DINUBA.

Detailed Location: EXACT LOCATION UNKNOWN. MAPPED BY CNDDB AS BEST GUESS 4 MILES S OF DINUBA FROM SOUTHERN PACIFIC RAILROAD; MULTIPLE ROADS LEAD S OUT OF DINUBA, CENTERED ON ROAD 80 AND ROAD 84.

Ecological:

General: ONLY SOURCE OF INFORMATION IS A 1968 HOOVER COLLECTION. NEEDS FIELDWORK.

Owner/Manager: UNKNOWN

Atriplex minuscula **Element Code:** PDCHE042M0

lesser saltscale

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G2
	State:	None		**State:**	S2
	Other:	Rare Plant Rank - 1B.1			
Habitat:	**General:**	CHENOPOD SCRUB, PLAYAS, VALLEY AND FOOTHILL GRASSLAND.			
	Micro:	IN ALKALI SINK AND GRASSLAND IN SANDY, ALKALINE SOILS. 0-225 M.			

Occurrence No.	15	**Map Index:** 56417	**EO Index:**	56433	**Element Last Seen:**	2002-09-12
Occ. Rank:	Fair		**Presence:**	Presumed Extant	**Site Last Seen:**	2002-09-12
Occ. Type:	Natural/Native occurrence		**Trend:**	Unknown	**Record Last Updated:**	2011-05-11

Quad Summary: Traver (3611944)

County Summary: Tulare

Lat/Long:	36.43828 / -119.39423	**Accuracy:**	specific area
UTM:	Zone-11 N4035226 E285395	**Elevation (ft):**	285
PLSS:	T17S, R24E, Sec. 20, NE (M)	**Acres:**	1.0

Location: ALONG E SIDE OF ROAD 80, N OF COTTONWOOD CREEK, 7 MILES N OF GOSHEN.

Detailed Location: MAPPED AS A SERIES OF 3 POLYGONS FROM 51-307 M N OF LEVEE AND ROAD 80 INTERESECTION. IN THE SW 1/4 NE 1/4 SECTION 20.

Ecological: ROADSIDE DRAINAGE.

General: UNKNOWN NUMBER OF PLANTS IN 2000. 3 SMALL PATCHES OF PLANTS EACH ABOUT 900 SQ FT IN AREA SEEN BY PRESTON IN 2002. 1995 STUTZ COLLECTION FROM "5 MILES N OF GOSHEN" ATTRIBUTED TO THIS OCCURRENCE.

Owner/Manager: UNKNOWN

Occurrence No.	16	**Map Index:** 56419	**EO Index:**	56435	**Element Last Seen:**	2000-07-10
Occ. Rank:	Good		**Presence:**	Presumed Extant	**Site Last Seen:**	2000-07-10
Occ. Type:	Natural/Native occurrence		**Trend:**	Unknown	**Record Last Updated:**	2004-08-18

Quad Summary: Traver (3611944)

County Summary: Tulare

Lat/Long:	36.45164 / -119.39394	**Accuracy:**	specific area
UTM:	Zone-11 N4036708 E285458	**Elevation (ft):**	290
PLSS:	T17S, R24E, Sec. 17, E (M)	**Acres:**	58.5

Location: ALONG ROAD 80 BETWEEN BANKS DITCH AND BUTTON DITCH, S OF DINUBA AND N OF VISALIA.

Detailed Location: MAPPED AT THE CENTER OF SECTION 17 EXTENDING FROM N TO S OF SECTION.

Ecological: ANNUAL GRASSLAND COMMUNITY WITH LOLIUM MULTIFLORUM, HORDEUM MARINUM SSP. GUSSONEANUM, HELIOTROPIUM CURASSAVICUM, CRESSA TRUXILLENSIS, AND DISTICHLIS SPICATA. ALSO WITH CAPSELLA BURSA-PASTORIS, XANTHIUM STRUMARIUM, AND RUMEX CRISPUS.

General: 200 PLANTS SEEN IN 2000. THE RARE ATRIPLEX CORDULATA OR A. ERECTICAULIS MAY ALSO OCCUR AT THIS SITE. SITE NEEDS TO BE REVISITED.

Owner/Manager: UNKNOWN

Atriplex cordulata var. erecticaulis **Element Code:** PDCHE042V0

Earlimart orache

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G3T1
	State:	None		**State:**	S1
	Other:	Rare Plant Rank - 1B.2, BLM_S-Sensitive			
Habitat:	**General:**	VALLEY AND FOOTHILL GRASSLAND.			
	Micro:	60-115 M.			

Occurrence No.	16	**Map Index:** 47221	**EO Index:** 47221	**Element Last Seen:**	2002-09-12
Occ. Rank:	Fair		**Presence:** Presumed Extant	**Site Last Seen:**	2002-09-12
Occ. Type:	Natural/Native occurrence		**Trend:** Unknown	**Record Last Updated:**	2013-08-07

Quad Summary: Traver (3611944)

County Summary: Tulare

Lat/Long:	36.43975 / -119.39421	**Accuracy:**	specific area
UTM:	Zone-11 N4035389 E285400	**Elevation (ft):**	285
PLSS:	T17S, R24E, Sec. 20, NE (M)	**Acres:**	13.0

Location: 7 MILES NORTH OF GOSHEN ON EAST SIDE OF ROAD 80, NORTH OF COTTONWOOD CREEK.

Detailed Location: JUST SOUTH TO 0.5 MILE SOUTH OF AVENUE 360.

Ecological: IN DRAINAGE CHANNEL; DISTURBED AREAS IN ALKALI GRASSLAND WITH SUAEDA MOQUINII, DISTICHLIS SPICATA, CRESSA TRUXILLENSIS, CENTROMADIA PUNGENS, HELIOTROPIUM CURASSAVICUM, FRANKENIA SALINA, A. SERENANA, CYNODON DACTYLON & ANNUAL GRASSES.

General: 1000'S OF PLANTS ESTIMATED IN 2000. 100'S OF PLANTS OBSERVED IN 2002; FEWER PLANTS PROBABLY DUE TO DROUGHT YEAR. ALKALI GRASSLAND IN THE VICINITY OF COTTONWOOD CREEK IS LIKELY SEED SOURCE. THE RARE A. MINUSCULA OBSERVED HERE IN 2000.

Owner/Manager: UNKNOWN

Leptosiphon serrulatus

Element Code: PDPLM09130

Madera leptosiphon

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G3
	State:	None		**State:**	S3
	Other:	Rare Plant Rank - 1B.2, USFS_S-Sensitive			
Habitat:	**General:**	CISMONTANE WOODLAND, LOWER MONTANE CONIFEROUS FOREST.			
	Micro:	DRY SLOPES; OFTEN ON DECOMPOSED GRANITE IN WOODLAND. 300-1300 M.			

Occurrence No.	23	**Map Index:** 46277	**EO Index:** 75591	**Element Last Seen:**	1922-05-XX
Occ. Rank:	Unknown		**Presence:** Presumed Extant	**Site Last Seen:**	1922-05-XX
Occ. Type:	Natural/Native occurrence		**Trend:** Unknown	**Record Last Updated:**	2009-04-20

Quad Summary: Malaga (3611966), Fresno South (3611967), Clovis (3611976), Fresno North (3611977)

County Summary: Fresno

Lat/Long:	36.77388 / -119.77951	**Accuracy:**	5 miles
UTM:	Zone-11 N4073392 E251931	**Elevation (ft):**	
PLSS:	T13S, R20E, Sec. 27 (M)	**Acres:**	0.0

Location: NEAR FRESNO.

Detailed Location: EXACT LOCATION UNKNOWN. MAPPED BY CNDDB AS BEST GUESS AROUND FRESNO.

Ecological: FOOTHILLS.

General: ONLY SOURCE OF INFORMATION FOR THIS SITE IS A 1922 MINTHORN COLLECTION. NEEDS FIELDWORK.

Owner/Manager: UNKNOWN

Sagittaria sanfordii

Element Code: PMALI040Q0

Sanford's arrowhead

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G3
	State:	None		**State:**	S3
	Other:	Rare Plant Rank - 1B.2, BLM_S-Sensitive			
Habitat:	**General:**	MARSHES AND SWAMPS.			
	Micro:	IN STANDING OR SLOW-MOVING FRESHWATER PONDS, MARSHES, AND DITCHES. 0-605 M.			

Occurrence No.	102	**Map Index:** A6486	**EO Index:** 108247	**Element Last Seen:**	2014-11-09
Occ. Rank:	Good		**Presence:** Presumed Extant	**Site Last Seen:**	2014-11-09
Occ. Type:	Natural/Native occurrence		**Trend:** Unknown	**Record Last Updated:**	2017-09-22

Quad Summary: Reedley (3611954)

County Summary: Tulare

Lat/Long:	36.54667 / -119.39944	**Accuracy:**	80 meters
UTM:	Zone-11 N4047263 E285228	**Elevation (ft):**	330
PLSS:	T16S, R24E, Sec. 7, SE (M)	**Acres:**	5.0

Location: BETWEEN EUCLID AVE AND EL MONTE WAY, NEAR THE WEST END OF FRANKLIN WAY, DINUBA.

Detailed Location: MAPPED IN THE SOUTH 1/2 OF THE SE 1/4 OF SECTION 7.

Ecological: GROWING IN A BACKWATER, CONCRETE LINED AND IRRIGATED AGRICULTURAL DITCH. ASSOCIATED WITH CATTAILS AND SMARTWEED.

General: FEWER THAN 100 PLANTS OBSERVED IN 2014. POPULATION SCHEDULED FOR CDFW APPROVED RELOCATION TO A POND WITHIN RIDGE CREEK DINUBA GOLF CLUB, RELOCATION ANTICIPATED IN JANUARY 2015.

Owner/Manager: UNKNOWN

Imperata brevifolia **Element Code:** PMPOA3D020

California satintail

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G4
	State:	None		**State:**	S3
	Other:	Rare Plant Rank - 2B.1, SB_SBBG-Santa Barbara Botanic Garden, USFS_S-Sensitive			
Habitat:	**General:**	COASTAL SCRUB, CHAPARRAL, RIPARIAN SCRUB, MOJAVEAN DESERT SCRUB, MEADOWS AND SEEPS (ALKALI), RIPARIAN SCRUB.			
	Micro:	MESIC SITES, ALKALI SEEPS, RIPARIAN AREAS. 3-1495 M.			

Occurrence No.	20	**Map Index:**	69074	**EO Index:**	69850	**Element Last Seen:**	1933-09-05
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1933-09-05
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2007-04-25

Quad Summary: Reedley (3611954)

County Summary: Fresno

Lat/Long:	36.59535 / -119.45107	**Accuracy:**	1 mile
UTM:	Zone-11 N4052782 E280743	**Elevation (ft):**	300
PLSS:	T15S, R23E, Sec. 27 (M)	**Acres:**	0.0

Location: CANAL BANK NEAR REEDLEY.

Detailed Location: EXACT LOCATION UNKNOWN. MAPPED BY CNDDB AS A BEST GUESS AROUND REEDLEY.

Ecological:

General: ONLY SOURCE OF INFORMATION FOR THIS OCCURRENCE IS A 1933 COLLECTION BY BURG. NEEDS FIELDWORK.

Owner/Manager: UNKNOWN

Occurrence No.	21	**Map Index:**	69077	**EO Index:**	69851	**Element Last Seen:**	1970-12-02
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1970-12-02
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2016-11-28

Quad Summary: Wahtoke (3611964), Piedra (3611974)

County Summary: Fresno

Lat/Long:	36.74952 / -119.47075	**Accuracy:**	4/5 mile
UTM:	Zone-11 N4069933 E279423	**Elevation (ft):**	400
PLSS:	T14S, R23E, Sec. 04 (M)	**Acres:**	0.0

Location: 1.5 MILES NE OF CENTERVILLE. NEAR THE CORNER OF BELMONT AVE AND TRIMMER SPRING ROAD.

Detailed Location: EXACT LOCATION AND FULL EXTENT OF POPULATION UNKNOWN. MAPPED BY CNDDB AS A CIRCULAR FEATURE SINCE IT IS UNCLEAR WHICH 1.4 MILE STRETCH OF CANAL OR DITCH FULLER WAS REFERRING TO IN HIS COLLECTION SITE DESCRIPTIONS.

Ecological:

General: SITE BASED ON A 1965 DAVIS COLLECTION AND TWO FULLER COLLECTIONS FROM 1965 AND 1970. DUPLICATES OF 1965 COLLECTION STATE, "1/4 MI SW OF CORNER OF BELMONT AVE & TRIMMER SPRING RD," AND "ABUNDANT ALONG IRRIGATION DITCH FOR 1.4 MI."

Owner/Manager: UNKNOWN

Occurrence No.	22	**Map Index:** 46277	**EO Index:**	69854	**Element Last Seen:**	1893-07-31
Occ. Rank:	Unknown		**Presence:**	Presumed Extant	**Site Last Seen:**	1893-07-31
Occ. Type:	Natural/Native occurrence		**Trend:**	Unknown	**Record Last Updated:**	2007-04-26

Quad Summary: Malaga (3611966), Fresno South (3611967), Clovis (3611976), Fresno North (3611977)

County Summary: Fresno

Lat/Long:	36.77388 / -119.77951	**Accuracy:**	5 miles
UTM:	Zone-11 N4073392 E251931	**Elevation (ft):**	300
PLSS:	T13S, R20E, Sec. 27 (M)	**Acres:**	0.0

Location: FRESNO.

Detailed Location: EXACT LOCATION UNKNOWN. MAPPED BY CNDDB AS A BEST GUESS AROUND FRESNO.

Ecological:

General: ONLY SOURCE OF INFORMATION FOR THIS OCCURRENCE IS AN 1893 COLLECTION BY WILSON, ET AL. NEEDS FIELDWORK.

Owner/Manager: UNKNOWN

Orcuttia inaequalis

Element Code: PMPOA4G060

San Joaquin Valley Orcutt grass

Listing Status:	**Federal:**	Threatened	**CNDDB Element Ranks:**	**Global:**	G1
	State:	Endangered		**State:**	S1
	Other:	Rare Plant Rank - 1B.1			
Habitat:	**General:**	VERNAL POOLS.			
	Micro:	10-755 M.			

Occurrence No.	20	**Map Index:** 15439	**EO Index:**	22387	**Element Last Seen:**	1936-XX-XX
Occ. Rank:	None		**Presence:**	Extirpated	**Site Last Seen:**	1987-06-01
Occ. Type:	Natural/Native occurrence		**Trend:**	Unknown	**Record Last Updated:**	2010-07-28

Quad Summary: Orange Cove North (3611963), Wahtoke (3611964)

County Summary: Fresno

Lat/Long:	36.62967 / -119.37706	**Accuracy:**	1/5 mile
UTM:	Zone-11 N4056423 E287459	**Elevation (ft):**	380
PLSS:	T15S, R24E, Sec. 17, NE (M)	**Acres:**	0.0

Location: 3 MILES WEST OF ORANGE COVE.

Detailed Location: EXACT LOCATION UNKNOWN.

Ecological:

General: STEBBINS SEARCHED THIS AREA FOR SEVERAL MILES BOTH WEST & SOUTHWEST OF ORANGE COVE. CURRENT LAND USE IS ENTIRELY AGRICULTURAL. THE MOST LIKELY SITE FOR HOOVER'S COLLECTION WAS THE LARGE DEPRESSION JUST SW OF THE INTERSECTION OF ADAMS AVE.

Owner/Manager: UNKNOWN

Tuctoria greenei **Element Code:** PMPOA6N010

Greene's tuctoria

Listing Status:	**Federal:**	Endangered	**CNDDB Element Ranks:**	**Global:**	G1
	State:	Rare		**State:**	S1
	Other:	Rare Plant Rank - 1B.1			
Habitat:	**General:**	VERNAL POOLS.			
	Micro:	VERNAL POOLS IN OPEN GRASSLANDS. 25-1325 M.			

Occurrence No.	17	**Map Index:** 15131	**EO Index:**	22351	**Element Last Seen:** 1954-05-10
Occ. Rank:	None		**Presence:**	Extirpated	**Site Last Seen:** 1987-06-01
Occ. Type:	Natural/Native occurrence		**Trend:**	Unknown	**Record Last Updated:** 2013-04-22

Quad Summary: Sanger (3611965), Round Mountain (3611975)

County Summary: Fresno

Lat/Long:	36.75022 / -119.55597	**Accuracy:**	1/5 mile
UTM:	Zone-11 N4070210 E271816	**Elevation (ft):**	385
PLSS:	T13S, R22E, Sec. 34, SE (M)	**Acres:**	0.0

Location: 3 MILES NORTH OF SANGER.

Detailed Location: EXACT LOCATION UNKNOWN, MAPPED AS BEST GUESS BY CNDDB NEAR INTERSECTION OF BELMONT ROAD AND ACADEMY AVENUE.

Ecological: BED OF DRIED POOL.

General: ONLY SOURCE OF INFORMATION FOR THIS SITE IS A 1954 COLLECTION BY HOWELL AND BARNEBY. AREA SURVEYED BY STEBBINS IN 1987, NO PLANTS FOUND; HABITAT ELIMINATED, SITE EXTIRPATED.

Owner/Manager: UNKNOWN

Appendix C

Cultural Resources Report

Cultural Resource Inventory for the City of Parlier 1,2,3-TCP Mitigation Projects Fresno County, California

Jessica Jones and Mary Baloian

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August 2018
draft

USGS Selma, CA 7.5′ quad
10-acre APE (2.9 acres surveyed)
Keywords: Negative survey

MANAGEMENT SUMMARY

Applied EarthWorks, Inc. (Æ) performed a cultural resources inventory in support of the City of Parlier 1,2,3-TCP Mitigation Projects. The City of Parlier (City) is working to eliminate public exposure to 1,2,3-trichloropropane (TCP) in its water supply. To achieve this, the City must install granular activated carbon (GAC) treatment plants at or near contaminated wells. The construction of the GAC treatment plants requires the installation of pipe connections between the treatment plants and wells, the construction of GAC vessels at two locations, and the rehabilitation of one well site. The City has divided the TCP Maximum Contamination Level work into three separate projects. Combined, these projects will cover 10 acres within the city. Each project will be funded by the Clean Water State Revolving Fund, a joint federal-state program. The project thus requires compliance with Section 106 of the National Historic Preservation Act (NHPA) and the California Environmental Quality Act (CEQA).

To meet state and federal standards, Æ conducted a cultural resource study under contract to Crawford & Bowen Planning, Inc., to determine whether cultural resources are present within the Area of Potential Effects (APE) for the three projects. The investigation included: (1) a records search at the Southern San Joaquin Valley Information Center (SSJVIC) of the California Historical Resources Information System to identify previously recorded cultural resources and prior studies in the APE and within in a 0.5-mile radius of the APE, (2) a search of the Native American Heritage Commission's (NAHC) Sacred Lands File for known sacred resources and request for contact information for individuals and tribal representatives who may have information about the Project, (3) an assessment of the potential for buried resources, and (4) an archaeological and built-environment pedestrian survey of the APE.

The SSJVIC records search did not reveal previously recorded cultural resources or previous cultural studies within the APE. Seventeen previous cultural studies and two historical built environment resources—the Centerville-Kingsburg Canal and the Iseki Labor Camp—were identified within a 0.5-mile radius of the APE. A search of the NAHC's Sacred Lands File and outreach to local tribal representatives did not result in the identification of sacred or special sites within the APE. No cultural resources were identified during Æ's pedestrian survey of the APE.

Æ's buried site assessment of the vertical APE for buried archaeological deposits yielded information to suggest that the APE exhibits moderately low sensitivity for buried soils with archaeological resources within a "natural" context (i.e., undisturbed by modern agricultural practices). However, extensive earthworks in the APE over the last century relating to agriculture and the development of the city of Parlier have most likely destroyed stratigraphic deposits containing in situ archaeological resources. As such, additional archaeological subsurface testing or the presence of an archaeological monitor during construction is not recommended.

Consistent with state and federal statutes, Æ advises that in the event archaeological remains are encountered during project development or ground-moving activities within any portion of the APE, all work in the vicinity of the find should be halted until a qualified archaeologist can

identify the discovery and assess its significance. In addition, if human remains are uncovered during construction, the Fresno County Coroner is to be notified to arrange their 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 requires that the coroner notify the NAHC within 24 hours of discovery. The NAHC will then identify the Most Likely Descendent, who will be afforded the opportunity to recommend means for treatment of the human remains following protocols in California Public Resources Code 5097.98.

A copy of this report and the associated cultural resource records will be transmitted to the SSJVIC for inclusion in the California Historical Resources Information System. Field notes and photographs are on file at Æ's office in Fresno, California.

CONTENTS

FIGURES

1
INTRODUCTION

Applied EarthWorks, Inc. (Æ) performed a cultural resources inventory in support of the City of Parlier 1,2,3-TCP Mitigation Projects in Fresno County, California (Figure 1-1). The proposed projects will help the City of Parlier (City) reduce trichloropropane (TCP) in its water supply to acceptable levels established by the State Water Resources Control Board's (SWRCB) Division of Drinking Water (DDW). Currently, three of four active City wells are out of compliance with maximum contaminant levels for TCP. To comply with these standards, the City proposed three separate projects (referred to as Projects 1–3). Combined, the City plans to construct a granular activated carbon (GAC) treatment plant adjacent to Well 2A and install approximately 3,710 feet of 10-inch pipeline between Well 2A, its associated GAC plant, and Well 4A (Project 1); construct a GAC treatment plant at Well 9A (Project 2); and rehabilitate facilities for Well 5A (Project 3) (Figure 1-2). All three projects areas are depicted on the U.S. Geological Survey (USGS) Selma, CA, 7.5-minute topographic quadrangle. Specifically, Project 1 is in Section 23 of Township 15 South, Range 22 East; Project 2 is in Section 26 of Township 15 South, Range 22 East; and Project 3 is in Section 19 of Township 15 South, Range 23 East.

Because the Project is funded by the SWRCB Clean Water State Revolving Fund, a joint federal-state program, the City must comply with both California Environmental Quality Act (CEQA) and Section 106 of the National Historic Preservation Act (NHPA). Both the NHPA (Chapter 36, Code of Federal Regulations [CFR], Part 800.1[a]) and CEQA (California Public Resources Code [PRC] 21000[g]) mandate that government agencies consider the impacts of their actions on cultural resources. For the purposes of this report, a cultural resource is defined as a prehistoric or historical archaeological site or a historical building, structure, or object; consistent with 36 CFR 60.4, the term "historical" applies to archaeological artifacts and features as well as buildings, structures, or objects that are 50 years or older. The importance or significance of a cultural resource depends on whether it qualifies (at the federal, level) for inclusion in the National Register of Historic Places (NRHP) or (at the state level) for inclusion in the California Register of Historical Resources (CRHR). Cultural resources determined eligible for the NRHP are termed "historic properties," while those eligible for the CRHR are called "historical resources" (36 CFR 800.16[l]; California Code of Regulations [CCR] 15064.5). Under both statutes, the determination of eligibility is in part based on a set of significance criteria (36 CFR 60.4; CCR 15064.5).

To assist the City with its compliance efforts, and under subcontract to Crawford & Bowen Planning, Inc., Æ conducted a cultural resources inventory for the projects to determine whether cultural resources are present within the Area of Potential Effects (APE). An APE is the geographic area within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, should they exist. The APE for the three projects includes all areas proposed for installation of project elements.

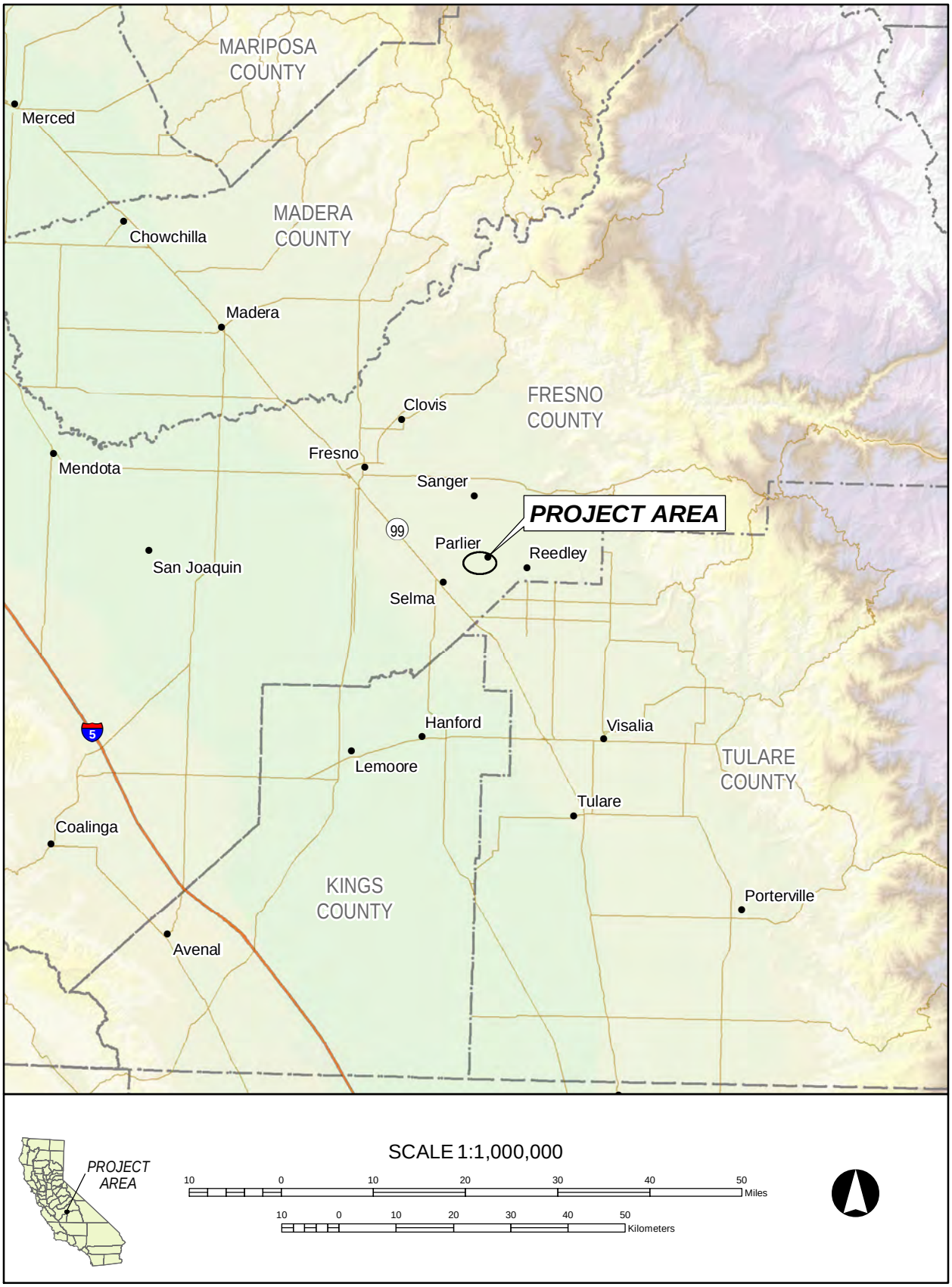

Figure 1-1 Project vicinity in Fresno County, California.

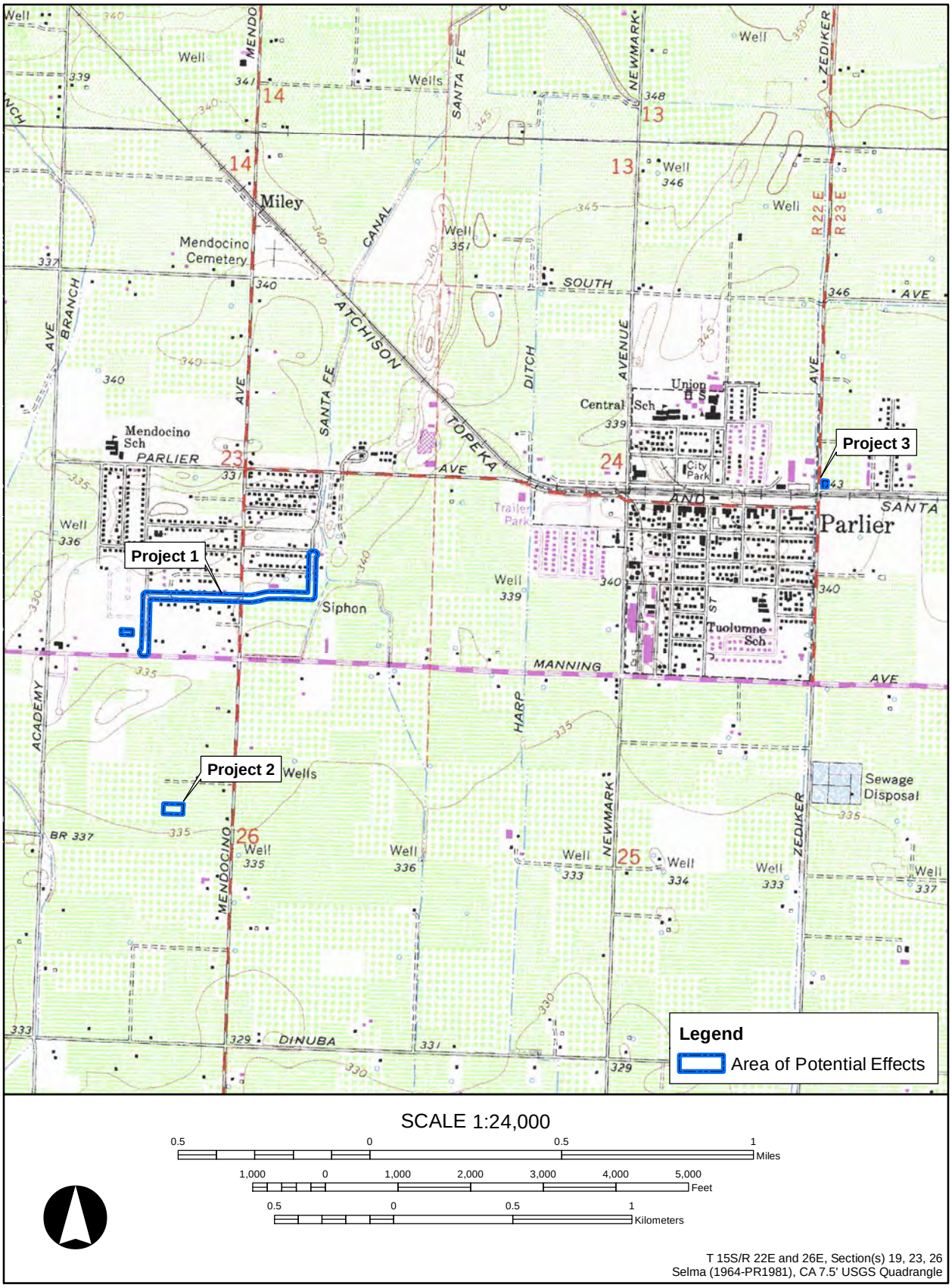

Figure 1-2 Project location on the USGS Selma, CA 7.5-minute topographic quadrangle.

1. **Project 1—Well 2A and 4A Centralized Treatment:** Project 1 will centralize TCP treatment for Well 2A and Well 4A. A new site next to the Milton Lift Station site is the proposed location for the centralized GAC treatment. The project will include centralized treatment site, and approximately 3,370 linear feet of 10-inch pipeline between Well 4A and the proposed centralized treatment site.

2. **Project 2—Well 9A TCP Treatment:** Project 2 will construct a new TCP treatment system at Well 9A.

3. **Project 3—Well 5A Rehabilitation:** Project 3 will rehabilitate Well 5 and convert it from a standby source into an active source.

The APE for Project 1 includes 9.00 acres for the proposed GAC treatment plant site for Wells 2A and 4A on Assessor's Parcel No. (APN) 35503129 and a 3,710-foot-long by 100-foot-wide pipeline corridor along South Milton Avenue, East Mulberry Lane, Tuolumne Street, and South Whitener Avenue (Figure 1-3). The APE for Project 2 encompasses 0.88 acres for the proposed GAC plant site for Well 9A on APN 35839058T (Figure 1-4). The APE for Project 3 at Well 5A on APN 36312039T covers 0.12 acres (Figure 1-5). The APE for the proposed projects totals 10.00 acres. Vertical impacts are not expected to exceed 6 feet in depth for any of the projects. Most of the equipment and work will take place above ground except the piping and a catch basin at each treatment site. The pipe trenches will be excavated to a depth of 3 feet and the catch basin, which is similar to a manhole, is 3 feet in diameter and 6 feet deep.

Æ's inventory included a records search at the Southern San Joaquin Valley Information Center (SSJVIC) of the California Historical Resources Information System (CHRIS); a search of the Native American Heritage Commission's (NAHC) Sacred Lands File and contact with local Native American individuals and tribal representatives; a geoarchaeological assessment of the vertical APE for the potential to uncover buried resources; an archaeological and built environment pedestrian survey of the APE; and preparation of this technical report following the California Office of Historic Preservation (1990) standards outlined in *Archaeological Resource Management Reports (ARMR): Recommended Contents and Format.*

Æ Principal Archaeologist Mary Clark Baloian (Ph.D.), a Registered Professional Archaeologist (RPA 15189), served as project manager providing technical and administrative oversight for all aspects of the inventory effort. She meets the Secretary of the Interior's Standards for Professional Qualifications in Archaeology. Staff Archaeologists Kathleen Jernigan and Eric Kowalski performed the pedestrian archaeological survey. Staff Archaeologist and Geographic Information Systems Technician Jessica Jones (B.A.) served as primary author of the report and prepared all maps and report graphics. Résumés for key personnel are provided in Appendix A.

Figure 1-3 Aerial view of the Project 1 APE showing proposed locations of GAC treatment facilities and pipeline corridors.

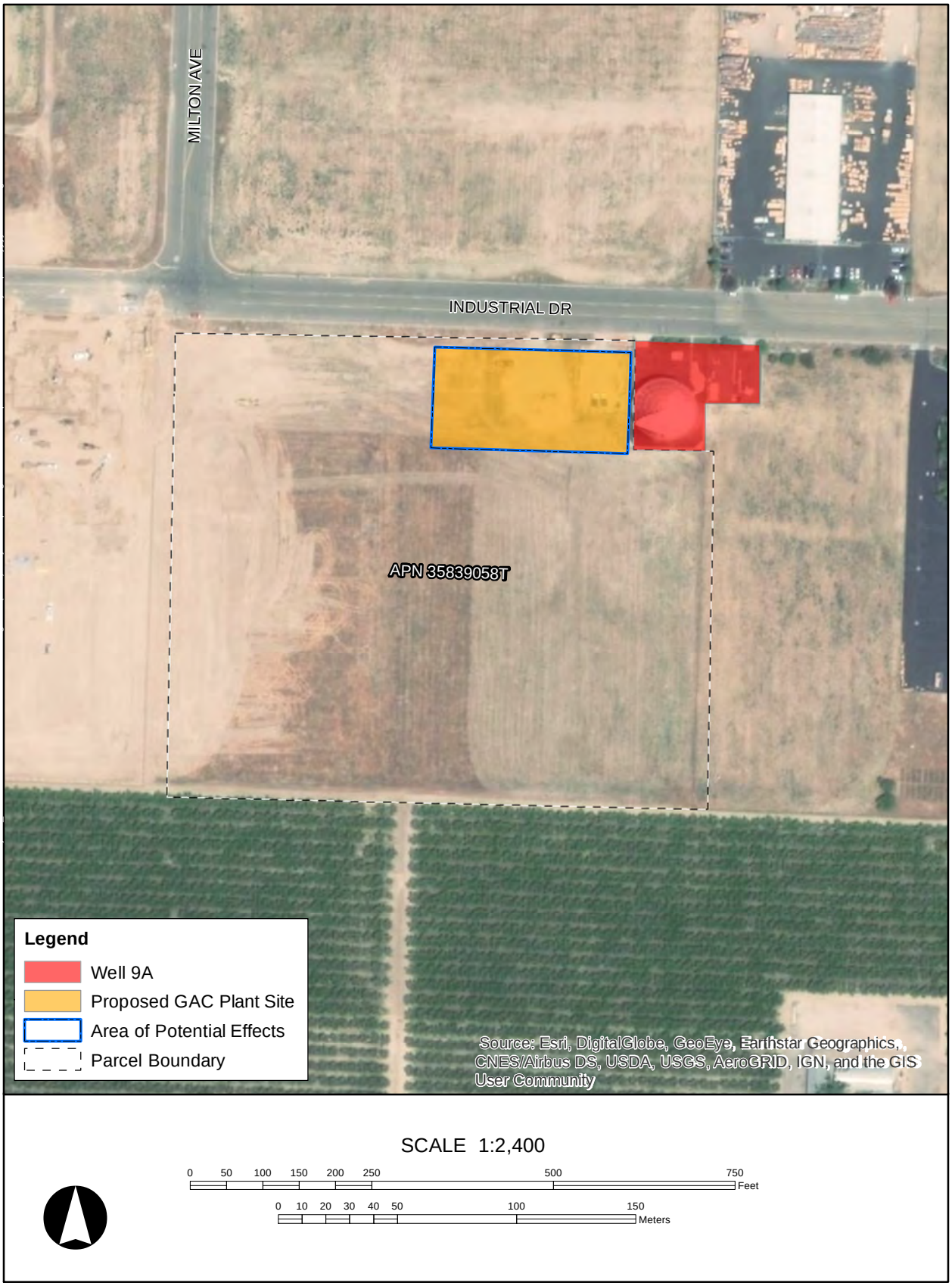

Figure 1-4 Aerial view of the Project 2 APE showing proposed location of GAC treatment facilities south of Manning Avenue.

Figure 1-5 Aerial view of the Project 3 APE showing location of Well 5A.

2
PROJECT SETTING

2.1 PHYSICAL ENVIRONMENT

The project area is on the eastern periphery of the San Joaquin Valley near the base of the Sierra Nevada foothills, approximately 6 miles west of the Kings River. The San Joaquin Valley is the southern half of an elongated trough called the Great Valley, a 50-mile-wide lowland that extends approximately 500 miles south from the Cascade Range to the Tehachapi Mountains (Norris and Webb 1990:412). The San Joaquin Valley parallels the 400-mile stretch of the Sierra Nevada geomorphic province, which encompasses a 40- to 100-mile-wide area ranging in elevation from 400 feet above mean sea level (amsl) along the western boundary to more than 14,000 feet amsl in the east (Norris and Webb 1990:63).

Between the Mesozoic and Cenozoic eras, the Great Valley served as a shallow marine embayment containing numerous lakes, primarily within the San Joaquin Valley (Norris and Webb 1990:412). As a result, the upper levels of the Great Valley floor are composed of alluvium and flood materials. Below these strata are layers of marine and nonmarine rocks, including claystone, sandstone, shale, basalt, andesite, and serpentine. Waters began to diminish about 10 million years ago, eventually dwindling to the drainages, tributaries, and small lakes that exist today (Hill 1984:28). Playas, remnants of the extinct lakes, are currently used for agricultural activities in the valley (Norris and Webb 1990:431).

The San Joaquin River is the prominent hydrologic feature that drains the southern half of the Great Valley into San Francisco Bay. The tall steep peaks of the Sierra Nevada effectively block moisture moving eastward from the coast, resulting in a higher level of precipitation on the western slopes. Smaller east-west–trending rivers, like the Kings River just west of the project area, drain the Sierra Nevada range before converging on the San Joaquin River. The Kings River and its smaller tributaries would have provided habitat for an abundance of food resources such as aquatic plants, fish, beaver, and other animals hunted prehistorically and historically. The annual rainfall for this area averages about 6–14 inches. Winters are cool and wet with average low temperatures between 40° and 50°F; snow is uncommon (Hill 1984:29). Summers are generally hot and dry, with temperatures often exceeding 100°F.

The development of agriculture within the Great Valley has resulted in the replacement of native plants and animals with domesticated species. Common native plants would have included white, blue, and live oak as well as walnut, cottonwood, salix, and tule, many of which still occur along the Kings River drainage east of the project. The project area specifically occupies the Lower Sonoran life zone, marked by prairie grassland communities that cover the plains and low rolling hillocks that border the Sierra Nevada. These grasslands are interspersed with narrow bands of riparian woodland that follow the valley stream corridors. The land in and around the project area has been intensively farmed for many years. No areas of original grassland remain within the project area.

The previously swampy valley floor provided a lush habitat for a variety of animals. Large herds of mule deer, tule elk, and pronghorn once roamed the valley. Historical accounts indicate that, due to their vast numbers, the tule elk and pronghorn were a major food source for the Yokuts Indians, explorers, trappers, and others (Clough and Secrest 1984:27–28; Wallace 1978a:449). Grizzly and black bears, wolves, and mountain lions also were once prominent valley species (Preston 1981:245–247). Other mammals noted are the valley coyote, bobcat, gray and kit foxes, and rabbits. The valley's large variety of birds consists of the American osprey, redwing blackbird, marsh hawk, willow and Nuttall's woodpeckers, western meadowlark, and quail. Water sources such as the Kings River supported anadromous and freshwater fish species that include salmon, golden trout, river lamprey eel, and white sturgeon.

2.2 ETHNOGRAPHY

The study area was occupied by the Wet-chi-kit Yokuts, one of the many autonomous tribes that made up the Northern Valley Yokuts. The Northern Valley Yokuts inhabited the marshy regions of the upper half of the San Joaquin Valley (Wallace 1978b). The Yokuts language belongs to the broader Penutian family, which includes a relatively diverse group of languages including Miwok, Costanoan, Maiduan, and Wintuan (Silverstein 1978). Their linguistically related brethren, the Southern Valley Yokuts, lived to the south, and the Miwok occupied areas to the north and east.

Figure 2-1 Lucy Charlie gathering and processing plant materials near Sanger in 1946 (photo courtesy of Lorrie Planas Beck).

The San Joaquin River and its tributaries provided food (fish and waterfowl), riparian plants for building and basket making (Figure 2-1), and avenues of travel for small watercraft. Yokuts

villages were situated near major waterways and built on low mounds to prevent spring flooding. Ethnographic evidence indicates that these villages were occupied for the majority of the year and abandoned for short periods as the residents left to engage in seasonal resource gathering (McCarthy 1995). The Northern Valley Yokuts were defined by individual autonomous villages (Latta 1949:3) composed of single-family structures (Moratto 1988:174; Wallace 1978b:451). The structures were small and usually built from woven tule mats. Other structures included sweathouses and ceremonial chambers. Most stone artifacts were fashioned from cherts, although obsidian was imported from other locations (Wallace 1978a:465). Mortars and pestles were the dominant ground stone tools; bone was used to manufacture awls for making coiled baskets. The Northern Valley Yokuts did not manufacture ceramic items, although given the presence of ceramics in the nearby hills and reportedly at some San Joaquin Valley sites, it is likely that ceramics were brought to the region via trade.

The material culture of the Wet-chi-kit was largely consistent with that of the Yokuts in general, although McCarthy (1995) has pointed out that the tendency to treat all Northern Valley Yokuts people as a whole in the ethnographic literature may mask regional variations. For this reason, the notes of Oscar Noren are of great value in describing the local archaeological and ethnographic record.

Noren (1988) found a variety of artifacts at several sites along the Kings River, including stone gaming balls, beads, and pendants along with such functional items as net weights, arrow shaft straighteners, milling stones, handstones, mortars, and pestles. The presence of *Olivella*, clam shell, and abalone shell from the coast as well as obsidian and steatite from the Sierra Nevada indicate that the Wet-chi-kit were part of the regional trade network. Among the 20 habitation sites that Noren identified were *Wewayo*, located 5 miles northeast of Reedley, *Mosahau*, which translates to “sweathouse place,” and a site named “Noren-76” located northwest of the project area (Noren 1988).

As with other Indian groups in California, the lifeway of the Northern Valley Yokuts was dramatically altered as a result of contact with Spanish explorers and missionaries, miners, ranchers, and other European immigrants who entered the San Joaquin Valley after 1700. The introduction of European culture and new diseases proved devastating to the native population. Traditional lifestyles were diminished, and numerous people died from disease (Moratto 1988:174).

2.3 PREHISTORY

Archaeological studies in the San Joaquin Valley began in the early 1900s with a series of investigations primarily in the Stockton and Kern County areas (Gifford and Schenck 1926; Schenck and Dawson 1929). By the late 1930s, efforts were made to link the more well-known southern and northern valley areas through an exploration of the central San Joaquin Valley. University of California Berkeley’s Gordon Hewes surveyed the central valley region and discovered 107 sites, most near streams and marshes on the east side of the valley (Moratto 1984:186).

Archaeological investigations in the San Joaquin Valley intensified during the 1960s with the advent of cultural resources management work (Olsen and Payen 1968, 1969; Riddell and Olsen

1969; Treganza 1960). Based on these and other archaeological investigations conducted throughout the valley (Latta 1977; McCarthy 1995; McGuire 1995; Moratto 1988; Price 1992; Roper 2005), it is apparent that the Yokuts occupied most of the San Joaquin Valley over a period extending as long as 2,000 years (Spier 1978; Wallace 1978a, 1978b).

Prehistoric sequences developed from these excavations provide a fairly clear understanding of culture change during the last 2,000–3,000 years; however, archaeological investigations in the Tulare Lake and Buena Vista Lake localities south of the project vicinity suggest that people occupied the San Joaquin Valley as early as 11,000–12,000 years ago (Fredrickson and Grossman 1977; Riddell and Olson 1969).

Archaeological evidence suggests that the valley's initial occupants settled in lakeshore and streamside environments, visiting the foothills periodically to harvest seasonally available resources. These early Paleoindian sites are typified by fluted points, stemmed dart points, scrapers, and crescents. As compared with their predecessors, the Archaic groups in the middle and late Holocene utilized a broader resource base, supplementing their subsistence with small game and hard seeds. Handstones, milling slabs, mortars, and pestles are common in Archaic assemblages, as are atlatl dart points. Favorable climatic conditions between 3,000 and 3,500 years ago instigated widespread settlement along the western Sierran slopes. The late Holocene witnessed various technological and social changes, including the adoption of the bow and arrow, expansion of trade, increasing use of acorns, and improved food storage techniques. As populations grew, social relations became more complex. Violence among many Sierran and foothill groups was common as economic stress and social instability became more pronounced during a period of xeric climates between circa A.D. 450 and 1250. Thereafter, new levels of population growth were achieved, resulting in part from movement of new Sierran groups. By circa A.D. 1600–1700, most groups claimed the territories that would identify them ethnographically.

2.4 HISTORY

The first Europeans known to have entered the San Joaquin Valley were Spanish soldiers led by Pedro Fages, who came to the valley through Tejon Pass in 1772 (Wallace 1978a:459). Other Europeans followed in 1806 when Lieutenant Gabriel Moraga led a group of Spanish explorers into the San Joaquin Valley to locate new lands for missions (Clough and Secrest 1984:25–27). The expansion of missions in California had ceased by the early 1820s as a result of Mexico's independence from Spain (Clough and Secrest 1984:26). Fur trappers discovered the California interior soon after and began their forays into the San Joaquin Valley. Jedediah S. Smith may have been the first to enter the area during a fur trapping expedition in 1827. Smith's adventures included friendly encounters with the Yokuts while trapping and camping along the San Joaquin River (Clough and Secrest 1984:27). After Smith's visit, other trappers followed until about 1837 when fur-bearing animals were nearly gone from the valley. These trappers included Kit Carson, Peter Skene Ogden of the Hudson's Bay Company, and Joseph Reddeford Walker.

Compared to the California coastal regions, Euro-Americans settled in the Central Valley relatively late. The Mexican government issued land grants in the Fresno County area on three occasions in the 1840s (Clough and Secrest 1984:32–36). In order to satisfy the conditions of the contract and receive full ownership of the property, the grantee had to fulfill certain residency

and improvement requirements; however, this was easier said than done. Early Euro-American efforts to settle the Central Valley often met with resistance from the indigenous tribes, who were probably aware of the harsh treatment given to their coastal brethren by Spanish missionaries. In addition, most regions of the valley were not well suited either for agriculture or cattle ranching and required a certain level of development (e.g., transportation routes, irrigation) before their potential could be realized. As part of the terms of the Treaty of Guadalupe Hidalgo, which formally concluded the Mexican-American War and ceded California to the United States, the claims on grants would be respected by the federal government provided that they complied with Mexican colonization laws. After the war, a series of legal disputes ensued that extended into the 1860s. Testimonies from these cases demonstrated that in only very few instances did the grantee actually reside on the land long enough to satisfy his contractual obligations (Clough and Secrest 1984:32–39). Aside from a small Hispanic presence located primarily in the western part of the Fresno County area (Clough and Secrest 1984:39–43), it was not until after 1849 and the early stages of the gold rush that Euro-Americans seriously considered establishing permanent residence in the valley.

The Central Valley has long been synonymous with agriculture, but the early settlers in the 1850s could not have imagined the extent and diversity of crops presently covering the valley floor. With the gold rush in decline, most miners descended from the foothills to pursue other professions. The town of Centerville—located along the Kings River in a relatively lush portion of the valley—became an early agricultural and cattle center in the 1850s and 1860s. During this time, farms were generally located near a perennial water source. This constraint on early agriculture kept the valley's two major industries—farming and ranching—in balance. Competition for real estate was minimized since agricultural interests had little reason to expand into pasturelands that were unsuitable for farming. The successful development of irrigation systems led to the agricultural boom as more tracts of land became suitable for crops. The increase in agricultural products also spurred the development of related industries, including nurseries and farm implement manufacturers. The immigration of a large number of farmers also promoted expansion of commercial ventures that offered food, clothing, and other staples.

Although a variety of crops were grown on the small farms, the majority of the valley was covered in wheat fields in the 1870s. However, when several small grape growers began turning huge profits on raisin production in the 1880s, wheat fields were quickly overtaken by vineyards. This trend gained steam when a nationwide glut in the grain market and attendant drop in the price of wheat caused valley farmers to shift their attention to these newer crops. Although many fields were covered with vineyards, citrus, apricot, peach, and fig orchards became more common in Fresno County.

The Reclamation Act of 1902 facilitated the further proliferation of smaller farms. This law granted subsidized irrigation water to farmers, provided that the agricultural lands did not exceed 160 acres and that the recipient of the water resided on the property. The bill was intended to assist small farmers while at the same time establish a legal structure to restrain the accumulation of agricultural lands by wealthy property owners. However, difficulties in enforcing the act, loopholes inherent within the statute, and changes to the law over the years have allowed individual farmers to receive cheap irrigation water well beyond the 160-acre limitation. Much of the San Joaquin Valley has been converted into arable land under the 1902 Reclamation Act.

The ever-increasing expanses of agricultural fields required vast quantities of water for irrigation. By 1920, the rate of water being pumped from the aquifer was greater than the recharge rate. During the 1920s, a state water plan that called for the construction of dams, canals, and other water facilities was drafted. Because of this plan, the San Joaquin Valley received assistance through the Central Valley Project (CVP) Act of 1933. The CVP was a massive water conveyance system constructed to alleviate local shortages and balance water supply throughout much of the state (JRP Historical Consulting Services and California Department of Transportation 2000). Construction of the CVP was delayed by World War II, but by the early 1950s the project, which includes the Delta-Mendota Canal, the Madera Canal, the Friant-Kern Canal, and Friant Dam, was functioning as an integrated system.

2.4.1.1 Growth of Parlier and Its People

The City of Parlier's history extends back to the late 1800s. The town is named after the I. N. Parlier family, who moved from Springfield, Illinois, to Modesto in 1873 and eventually made their way to present-day Parlier by means of horse and wagon. The family homesteaded about 1,000 feet north of the present Santa Fe railroad track at the end of L Street and began dry-farming several acres. As other families settled nearby, Parlier established a general store, trading post, and post office near his home (City of Parlier 2017; Nickel 1961:62). Parlier was officially incorporated in 1921, and by 1930 had a population of 564 (California Department of Finance 2012; City of Parlier 2017). Parlier continued to grow throughout the twentieth century. The community was founded on an economy dominated by wheat production that later diversified to include grapes, fruit, and other crops (City of Parlier 2017). Parlier lies northwest of Reedley on the Santa Fe rail line, which was integral in the shipment of produce and goods out of town.

The first Japanese arrived in Fresno County in the 1880s and 1890s, and most provided field labor for the growing agricultural enterprises (Temple 1986). By the turn of the century, thousands had immigrated to Fresno attracted to the agricultural and work opportunities. Many settled in smaller communities in rural Fresno County, particularly in the areas in and around Parlier, Selma, and Reedley. A labor camp was established at the J. H. Eymann ranch located west of what is now West Avenue in Reedley. A man named Yasui was the labor camp boss and figured prominently in securing jobs for many of the Japanese workers on farms in Reedley (Nickel 1961). The Japanese, like other labor groups, came for seasonal work; however, those who made their homes in the area had a hand in planting and played a role in diversifying the types of crops and the style of farming used to grow these crops. The Japanese farmers contributed greatly to the production of berries and different types of vegetables in the San Joaquin Valley (Nickel 1961).

3
METHODS

3.1 NATIVE AMERICAN OUTREACH

On May 8, 2018, Æ sent an e-mail to the Native American Heritage Commission (NAHC) requesting a search of its Sacred Lands File and the contact information for local Native American representatives who may have information about the study area. The NAHC responded on May 15, 2018, with its findings and attached a list of Native American tribes and individuals culturally affiliated with the study area. Æ prepared and sent a letter to each of the contacts identified by the NAHC and kept a log of all responses. This record of correspondence is included in Appendix B.

3.2 RECORDS SEARCH

Æ requested a records search of the CHRIS from the SSJVIC at California State University, Bakersfield on May 8, 2018. The records search encompassed the APE for the three projects and all land within a 0.5-mile radius of the APE. Sources consulted included archaeological site and survey base maps, reports of previous investigations, cultural resource records, the listings of the Historic Properties Directory of the Office of Historic Preservation, Archaeological Determinations of Eligibility, and the California Inventory of Historic Resources (Appendix C).

3.3 ARCHIVAL RESEARCH

The purpose of archival research for archaeological studies is to provide information regarding the potential for historical deposits to exist within a project APE. The investigation compiled information from several sources, including:

- Map Aerial Locator Tool (MALT), Henry Madden Library, California State University, Fresno (http://malt.lib.csufresno.edu/MALT/);
- Various online resources for historical maps and documents; and
- Applied EarthWorks' in-house library, which includes maps and local histories.

3.4 BURIED SITE SENSITIVITY ASSESSMENT

Æ conducted a geologic review of the APE to identify the potential for buried cultural resources. Æ consulted geological maps, historical maps, geologic/sediment databases, geoarchaeological studies, and soil surveys that overlie the APE. These sources provided information regarding the natural water courses in the area as well as data about local soils and sediments, parent rock formations, and historical vegetation. This information was used to estimate the age of the sediments surrounding the APE, consider the hydrologic and geologic forces that created and placed these sediments, and assess the probability of encountering buried cultural resources during Project activities.

3.5 PEDESTRIAN SURVEY

On June 13, 2018, *Æ* Staff Archaeologists Kathleen Jernigan and Eric Kowalski conducted a pedestrian survey of the APE for each project. Jernigan and Kowalski surveyed unpaved portions of the APE using parallel and meandering transects spaced no more than 15–20 meters apart. Pedestrian survey of Project 1 and Project 3 extended beyond APE boundaries, resulting in an additional 1.9 acres of survey coverage. Areas covered in concrete and asphalt were subject to opportunistic pedestrian or windshield survey. Opportunistic survey refers to surveyors examining the ground surface in areas not covered by pavement, concrete, or manicured landscaping. The surveyors took photographs of the project areas using an Olympus TG-860 digital camera and recorded observations on a Survey Field Record. All photographs and field notes are on file at *Æ*'s Fresno office.

4
FINDINGS

4.1 NATIVE AMERICAN OUTREACH

In its May 15, 2018 response to Æ's request, the NAHC stated that its search of the Sacred Lands File did not indicate the presence of resources in the immediate project areas (see Appendix B). The NAHC also supplied a list of parties to be contacted for information regarding locations of sacred or special sites of cultural and spiritual significance in the study locale, including:

- Chairperson Elizabeth Kipp of the Big Sandy Rancheria of Western Mono Indians
- Chairperson Carol Bill of the Cold Springs Rancheria
- Chairperson Robert Ledger Sr. of the Dumna Wo-Wah Tribal Government
- Chairperson of the Dunlap Band of Mono Indians
- Stan Alec of the Choinumni Farm Tribe
- Chairperson Ron Goode of the North Fork Mono Tribe
- Chairperson Rueben Barrios Sr. of the Santa Rosa Indian Community of the Santa Rosa Rancheria
- Chairperson Leanne Walker-Grant of the Table Mountain Rancheria of California
- Cultural Resources Director of the Table Mountain Rancheria of California
- Chairperson David Alvarez of the Traditional Choinumni Tribe
- Rick Osborne of the Traditional Choinumni Tribe
- Chairperson Kenneth Woodrow of the Wuksache Indian Tribe/Eshom Valley Band

On July 2, 2018, Æ sent a letter describing the projects to each of the individuals and groups identified in the NAHC response. Follow up contact by telephone and email was completed on July 30, 2018. Stan Alec of the Choinumni Farm Tribe responded by telephone, stating that he has no information regarding special Native American resources within the project APE. No additional responses have been received to date.

4.2 RECORDS SEARCH

The SSJVIC responded to Æ's records search request on May 21, 2018, with an inventory of previous studies conducted within the project APE as well as a 0.5-mile search radius (Records Search File No. 18-219). The SSJVIC reported that no previous investigations have been conducted within the project APE, although there have been 17 studies within a 0.5-mile radius of the APE (see Appendix C). There are no previously recorded resources listed within the project APE. Two historical built environment resources—the Centerville-Kingsburg Canal (P-10-005812) and the Iseki Labor Camp (P-10-004427)—are recorded within a 0.5-mile radius of the projects.

4.3 ARCHIVAL RESEARCH

Aerial photographs dated from 1937 through 1998 demonstrate that land in and around the proposed GAC treatment plant sites, pipeline corridor, and Well 5A has been utilized for agriculture for most of the twentieth century. Notable structures, such as the Santa Fe Canal and the Santa Fe Line of the Southern Pacific Railroad (also known as the Atchison-Topeka Line), are visible immediately north and east of the project areas as early as 1937. However, it was not until the mid-to-late 1950s that urban-residential structural development in the project vicinity began to increase. By 1970, a sizable portion of the land between Manning Avenue and Parlier Avenue had been converted from cropland into residential neighborhoods.

Aerial photographs suggest that roadways are the only historical structures within the proposed GAC treatment plant sites, the pipeline corridor, and Well 5A; however, a 1937 aerial photograph depicts structures immediately south of the proposed GAC treatment facility for Wells 2A and 4A, on what is now APN 35503129. The U.S. Geological Survey Selma 7.5-minute topographic quadrangle corroborates the existence of structures at this location as early as 1924. Modern aerial photographs suggest that the structures were removed sometime in the late 1970s or early 1980s. Modern aerial photographs also demonstrate that the site of Well 5A remained active cropland until the early 1980s when the well site was constructed, and that the location of Well 9A and its proposed GAC treatment plant remained undeveloped until the well was built in 2009.

Cursory investigations into historical property ownership within the APE did not suggest that any of these areas are clearly associated with significant individuals or events. The 1909 Fresno County Atlas lists “Geo. F. Zediker” as the property owner of what is now the location of Well 5A. This parcel is on the northeast corner of the intersection of North Zediker Avenue and East Parlier Avenue. According to historical documents, George F. Zediker is the son of David Samuel Zediker, a well-known and admired bee keeper and orchardist who worked as a farmer in Parlier during the late nineteenth and early twentieth centuries (Vandor 1919).

References for all maps, atlases, and photographs discussed above are provided in Appendix C.

4.4 BURIED SITE SENSITIVITY ASSESSMENT

4.4.1 Geomorphic Context

The APE is within the San Joaquin Valley of central California, which is bounded by the Sierra Nevada to the east and California Coast Ranges to the west. Sedimentation in the valley is dominated by cycles of erosion from the high mountains, producing granitic parent material deposited within the floor of the valley below, forming vast alluvial fans and piedmont landforms. Local hydrology moves granitic sediments throughout the valley and deposits these sediments into existing basins. During periods of high effective moisture, rivers overflow and deposit fine-grained and often organic-rich sediments across the valley floodplain. The accumulation of these fine organic sediments along with periods of stability resulted in a soil-rich region, making the San Joaquin Valley a prime landscape for agricultural practices. The Kings River east of the project and its tributaries are an important part of the valley’s hydrology. These tributaries provided a reliable water source that was channeled, accessed, and divided amongst the early homesteaders within the surrounding communities.

4.4.1.1 Landscape Chronology

The valley floor is largely composed of older Pleistocene (prior to 25,000 calibrated years before present [cal B.P.]) alluvial fan deposits originating from the Sierra Nevada that form a large piedmont to the east where the valley margins join the Sierra Nevada. These margins have undergone episodes of stability as well as erosion by channel incision. Eroded material is later redeposited, which results in an accumulation of buried deposits within the center of the valley. Smaller alluvial fans are present along the western margins of the valley, but the bulk of these landforms is buried by younger deposits dating from 31,340 and 26,352 cal B.P. (Meyer et al. 2010).

During the glacial conditions of the late Pleistocene (approximately 25,000–15,000 cal B.P.), the valley experienced a period of landscape stability, allowing soils to form, although channel incision continued from 25,000 to 20,000 cal B.P. during episodes of glacial outwash. After 20,000–19,000 cal B.P., channels and streams began to exceed their carrying capacity, resulting in the infilling of channels and existing basins. Infilling was then followed by a lateral spread of sediments across existing alluvial fans and throughout the floodplain. The entrainment, transportation, and deposition of these glacial sediments appear to have ceased between 18,500 and 16,500 years ago. Landforms of late Pleistocene age are small, often isolated, and far less prevalent than older Pleistocene landforms within the valley (Meyer et al. 2010).

The transition to nonglacial conditions during the latest Pleistocene (15,000–11,500 cal B.P.) brought on pronounced changes in hydrologic, geomorphic, and biotic systems. During this time, the environment experienced rapid climatic fluctuations, most notably during the onset of the Younger Dryas (12,900–11,500 cal B.P.) when the climate abruptly, yet briefly, returned to glacial conditions. The latest Pleistocene was a period of greater climatic variability compared to prior time periods, and the subsequent disequilibrium is evident in the stratigraphic deposits. The increased variability and rapidly fluctuating conditions led to an increase in both erosion and deposition throughout the valley. As such, landforms generated during this period of environmental instability are more prevalent today than late Pleistocene-age landforms (Meyer et al. 2010).

The early Holocene (11,500–7000 cal B.P.) saw more stable conditions than the latest Pleistocene and experienced a warmer and drier climate. A reduction in effective moisture promoted stabilization of existing landforms, continued soil development, and confinement of erosion and transport to existing channels. The most notable example of landscape stability during this time is seen in the alluvial landforms along the valley's western margins where well-developed early Holocene soils are present (Meyer et al. 2010).

Early Holocene stability was followed by pronounced climatic variability in the middle Holocene (7000–4000 cal B.P.). Middle Holocene landforms within California are typically rare. There is a lack of consensus surrounding whether the climatic conditions of the middle Holocene were markedly warmer and drier or cooler and wetter than today. Although there is a gap in the middle Holocene stratigraphic record throughout California, this is not the case for the San Joaquin Valley, as buried soils of this age have been documented within alluvial fans, floodplains, and basins within the valley with dates ranging from 6400 to 4500 cal B.P. These middle Holocene deposits sometimes bury early Holocene surfaces within the confines of the valley; however, the

middle Holocene surfaces are still the least prevalent when compared to the abundance of landforms from other periods (Meyer et al. 2010).

The cooler and wetter conditions of the late Holocene (4000–2000 cal B.P.) are characterized by episodes of increased precipitation and runoff. Multiple episodes of deposition can been seen in the alluvial fans and floodplains of the valley. The increase in wetness allowed vegetation to flourish, stabilizing new deposits as well as existing landforms and slowing the rate of landscape change prior to 2000 cal B.P. These late Holocene surfaces are best observed on the east and west margins of the valley (Meyer et al. 2010).

The onset of the latest Holocene (2000–150 cal B.P.) brought increased shifts in rainfall, episodic droughts, and the Little Ice Age. This increase in variability contributed to rapid and extensive landscape modification, which is observable on exposed landforms. Large-scale flooding led to large-scale deposition. The majority of the valley is capped by these vast latest Holocene alluvial deposits. The climate oscillations between wet and dry also contributed to the destabilization of large portions of the landscape, contributing to the widespread deposition that spans the valley floor (Meyer et al. 2010).

The historic and modern (150–0 cal B.P.) period is characterized by extensive landscape development and erosion throughout the valley due to agriculture, logging, livestock grazing, dredging, mining, quarrying, irrigation, and landscape reclamation. Changes in vegetation from native to nonnative species as well as a reduction in ground cover due to drought and livestock grazing fueled erosion. Large expanses of Fresno County were used in the early historic period for grazing until the late 1800s when canals and levees were constructed to prevent flooding and to transport water for farming. Additionally, portions of the landscape were subjected to artificial cut and fill episodes to support modern urbanization and development. Much of the natural topography (e.g., mounds and natural levees) that may have harbored prehistoric archaeological sites was truncated and destroyed by this development. Modern deposits continue to form within the valley, but these are human-made deposits resulting from continued landscape modification (Meyer et al. 2010).

4.4.1.2 Buried Site Sensitivity

Review of the geologic and soils literature for the project area indicates that the APE exhibits moderately low sensitivity for buried soils containing archaeological resources (Meyer et al. 2010: Appendix G) within a “natural” context (i.e., undisturbed by modern agricultural and construction activities). According to Meyer et al. 2010, the APE lies on landform mapped to the latest Holocene (2000–150 cal B.P.). USDA soil survey maps show that most of the APE lies within the Tujunga soil series which is formed on the lower terrace of the Kings River (Soil Survey Staff 2018). This series is an Entisol, which is a young soil (historic and modern in age) derived largely of recent deposits with little to no soil development (Soil Survey Staff 1999). In the case of this soil, continued deposition of new sediments prevents pedogenesis and development of soil horizons. Also present within the APE are Delhi and Hanford series soils (Soil Survey Staff 2018). These soil types are formed in wind modified material from weathered granitic rock sources on floodplains, alluvial fans and terraces. They are natural supporters of grass and forbs and typically date to the latest Holocene.

The proposed sensitivity of an area is based on distance to water, landform slope, and the distribution and age of geological deposits present at modern ground surface. The Kings River lies between 4 and 5 miles east of the APE. It contains both floodplain and river sediments. The floodplain, including upper river terraces, hosts young soils that are generally highly sensitive for buried archaeological sites. However, sediments within the river bed and immediate river floodplain have low sensitivity for buried sites. Cultural resources found in this area are likely to occur on stable portions of the environment such as floodplain surfaces and are very young. Early inhabitants who exploited the complexity of the riverine ecosystem established their camps on the drier portions of the floodplain. Often during floods, artifacts are entrained into the river flow and redeposited in secondary contexts. Also, Holocene period sediments were deposited under much lower energy flow, leading to the preservation of sites during periods of aggradation. Thus, the Kings River floodplain as whole is highly sensitive for well-preserved complex buried sites.

The proximity of the APE, on the edge of the Kings River upper river terrace and near its marshlands rich in plant, animal, and aquatic resources; suggests there may have been a moderate potential to uncover intact buried archaeological sites at one time. However, extensive earthwork within the proposed project area over the last century has greatly reduced the likelihood of finding any intact archaeological deposits within the APE. Historic landscape modifications caused by development of the City of Parlier, particularly its neighborhoods and infrastructure, suggest that any remaining archaeological deposits near the surface (i.e., within 6 feet below ground surface) are likely to be within a highly disturbed context.

4.4.2 Conclusions

All three of the projects are outside the floodplain along the Kings River, which has a moderate to high potential to contain buried archaeological remains because the soils are young (Holocene age), fine-grained, and deep, and the floodplain environment is rich in resources exploited by prehistoric people. Although the project area would normally have a moderately low potential to harbor archaeological materials, much of the “natural” vertical APE has been disturbed by extensive agricultural practices and the development of the city of Parlier. Thus, the likelihood of encountering buried soils with extensive in situ cultural deposits within the APE is low.

4.5 PEDESTRIAN SURVEY RESULTS

On June 13, 2018, Æ Staff Archaeologists Kathleen Jernigan and Eric Kowalski conducted a pedestrian survey of the project APE. Unpaved areas in the APE were subject to intensive pedestrian survey using parallel and meandering transects spaced no more than 10–15 meters apart. Private property was excluded from survey. Areas where the ground surface was obscured by concrete or asphalt were subject to opportunistic pedestrian or windshield survey (Figures 4-1 to 4-3). Approximately 4.8 acres of the APE and immediate vicinity were intensively surveyed, and 6.9 acres within and surrounding the APE were opportunistically examined on foot or from a vehicle. Only 2.9 acres of the APE was intensively surveyed.

Ground visibility within unpaved portions of the APE ranged from excellent (95 percent) to poor (less than 20 percent). Grasses, weeds, and ornamental landscaping were the primary factors limiting surface visibility in these areas. Soils within the APE are a light brown sandy alluvium.

Figure 4-1 Survey coverage within Project 1 proposed pipeline corridors and GAC facility site north of Manning Avenue.

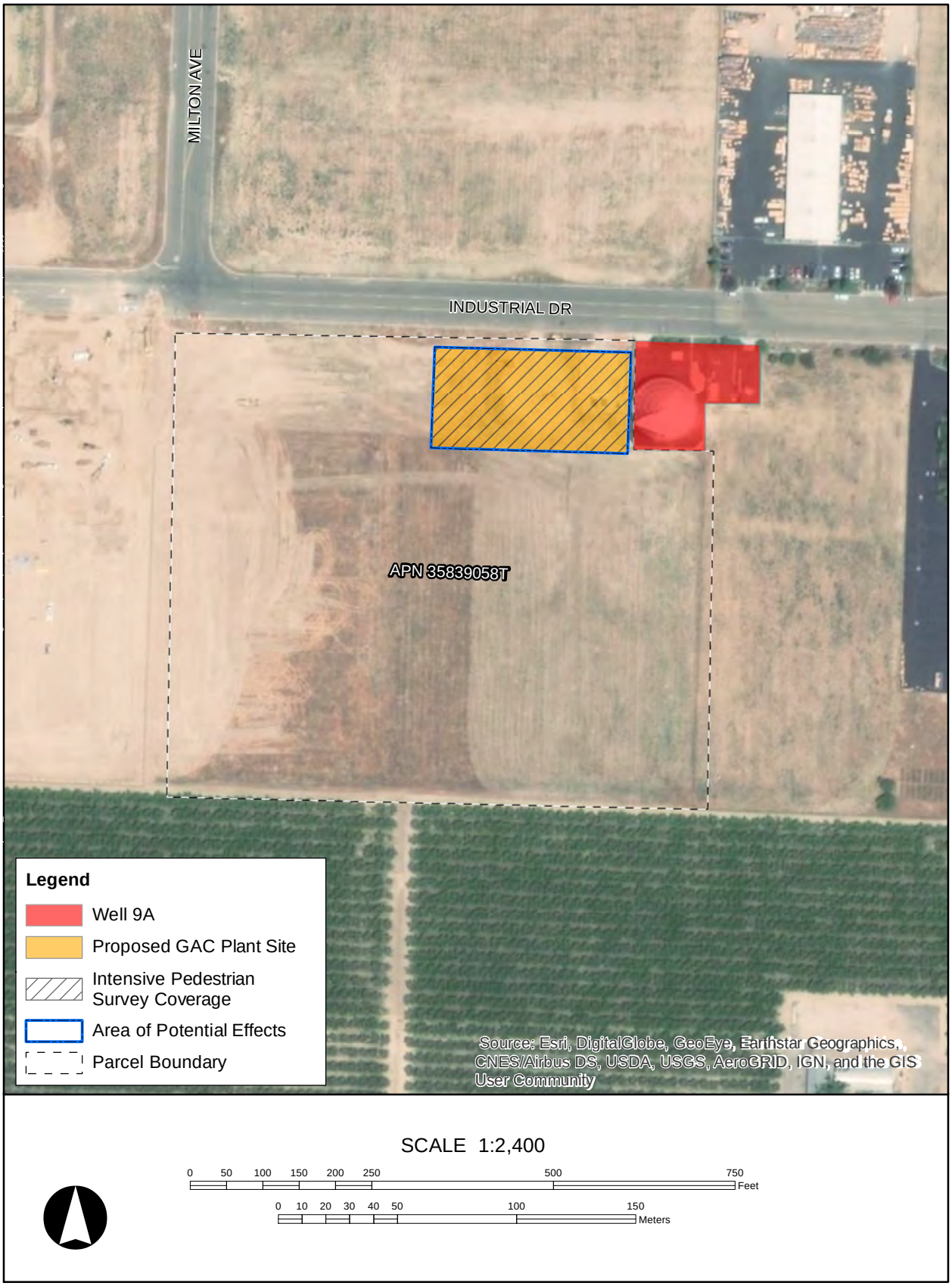

Figure 4-2 Survey coverage for Project 2 within proposed GAC facility area south of Manning Avenue.

Figure 4-4 Survey coverage for Project 3 at Well 5A.

Ground surface visibility in and around the proposed GAC facility for Project 1 north of Manning Avenue (Figure 4-1) ranged from excellent to poor. Some portions of the survey area provided 100 percent surface visibility; the majority of the ground surface was at least 90 percent obscured by dry seasonal grasses and weeds (Figure 4-4). No resources were identified within the proposed GAC facility boundaries; however, three historic-era features were observed approximately 10–15 feet south of the proposed facility. The features include a water pump, wood utility pole, and the remains of a concrete/asphalt slab. The resources were not formally recorded as they exist outside of the project APE. The staff examined most of the proposed Project 1 pipeline route (8.57 acres) from a vehicle because more than 95 percent of the corridor is paved with asphalt or concrete.

Figure 4-4 Representative overview of Project 1 survey conditions at the proposed GAC facility for Wells 2A and 4A, facing north.

Ground visibility was excellent at the proposed Project 2 GAC plant location for Well 9A south of Manning Avenue—only 5 percent of the ground surface was obscured by weeds and seasonal grasses (Figures 4-2 and 4-5). No cultural resources were observed at this location.

Well 5A was fenced and inaccessible at the time of survey. Æ archaeologists made observations of the Project 3 well facility from outside the cyclone fence and intensively surveyed 0.12 acres around the well site (Figures 4-3 and 4-6). Ground visibility at the perimeter of the wells site was moderate to poor, and no cultural resources were identified.

Figure 4-5 Overview of Project 2 survey conditions adjacent to Well 9A, facing south.

Figure 4-6 Overview of Project 3 survey area at Well 5A, facing north-northeast.

5
SUMMARY AND RECOMMENDATIONS

Æ performed a cultural resource inventory in support of the City of Parlier 1,2,3-TCP Mitigation Projects. The City is working to eliminate public exposure to TCP in its water supply. To achieve this, the City proposed three separate projects. Combined, the proposed plans include constructing two GAC treatment facilities adjacent to contaminated Wells 2A and 9A, installing a 3,710-foot-long pipeline between Wells 2A and 4A, and rehabilitating Well 5A. The proposed pipeline corridors, GAC facilities, and well rehabilitation will cover 9.8 acres within the city. The projects are funded by the SWRCB Clean Water State Revolving Fund, a joint federal-state program. The Project thus requires compliance with Section 106 of the NHPA) and the CEQA.

Æ conducted a cultural resource inventory of the three project APE to determine if historic properties/historical resources are present that could be affected by the proposed project. Accordingly, Æ performed background research, obtained a records search from the SSJVIC of the CHRIS, requested a search of the NAHC Sacred Lands File, contacted local Native American tribal representatives, and conducted an intensive pedestrian survey of the APE.

The SSJVIC records search revealed that no previous investigations have been conducted within the project APE, and there are no previously recorded sites within the APE. The search identified 17 previous cultural studies and two previously recorded resources—the Centerville-Kingsburg Canal (P-10-005812) and the Iseki Labor Camp (P-10-004427). No other cultural resources were identified in the APE as a result of the NAHC Sacred Lands File search, Native American outreach, or archival research.

Æ did not identify any prehistoric or historic-era sites, isolates, or features in the APE as part of this inventory. The surveyors noted a historic-era water pump, wood utility pole, and the remains of a large asphalt pad just south of Well 2A; however, because the items were outside the APE, they were not documented as part of this project.

Finally, Æ's geoarchaeological assessment of the vertical APE for buried archaeological deposits yielded information to suggest that there is a low potential to encounter buried cultural resources within the project APE. Although much of the floodplain and upper river terraces of the Kings River has a moderate to high potential to contain buried archaeological remains, the project APE are just outside the area of high sensitivity. Although the APE contains young to modern soils which typically have a moderate potential for buried resources, much of the "natural" vertical APE has been disturbed by extensive agricultural practices and urban development. The potential to encounter buried soils with extensive in situ cultural deposits within the APE is low. As such, additional archaeological subsurface testing or the presence of an archaeological monitor during construction is not recommended.

Consistent with state and federal statutes, Æ advises that in the event archaeological remains are encountered during project development or ground-moving activities within any portion of the APE, all work in the vicinity of the find should be halted until a qualified archaeologist can

identify the discovery and assess its significance. In addition, if human remains are uncovered during construction, the Fresno County Coroner is to be notified to arrange their 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 requires that the coroner notify the NAHC within 24 hours of discovery. The NAHC will then identify the Most Likely Descendent, who will be afforded the opportunity to recommend means for treatment of the human remains following protocols in California Public Resources Code 5097.98.

6
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APPENDIX A

Personnel Qualifications

MARY CLARK BALOIAN

President/Senior Archaeologist

Areas of Expertise

- Cultural resource management
- Prehistoric archaeology
- Project management

Years of Experience

- 26

Education

Ph.D., Anthropology, Southern Methodist University, 2003

M.A., Anthropology, Southern Methodist University, 1995

B.A., Anthropology, University of California, Davis, 1989

Registrations/Certifications

- Register of Professional Archaeologists (2004)

Permits/Licensure

- Principal Investigator, California BLM Statewide Cultural Resources Use Permit CA-15-29
- Crew Chief, Nevada BLM Statewide Cultural Resources Use Permit N-85878

Professional Affiliations

- Society for American Archaeology
- Society for California Archaeology

Professional Experience

2000–	President (2015–), Regional Manager (2012–2014), Assistant Division Manager (2010–2011), Senior Archaeologist (2000–), Applied EarthWorks, Inc., Fresno, California
1998–2001	Adjunct Faculty Member, Fresno City College, Fresno, California
1995–1996	Staff Archaeologist, Applied EarthWorks, Inc., Fresno, California
1994–1995	Staff Archaeologist, INFOTEC Research, Inc., Fresno, California
1992–1994	Teaching Assistant, Southern Methodist University, Dallas, Texas
1989–1991	Archaeological Project Leader, California Department of Transportation, Sacramento

Technical Qualifications

Dr. Clark Baloian has been involved in archaeology in California and the western United States since 1987. Her areas of expertise include the prehistory of the San Joaquin Valley, Sierra Nevada, Great Basin, central California coast, and the Iron Age of West Africa. Dr. Baloian has served as Project Manager, Field Supervisor, Crew Chief, or Field Technician for projects throughout California, Oregon, Nevada, New Mexico, Texas, Hawaii, and West Africa. Her experience in cultural resources management includes research design, data acquisition, laboratory analysis, and preparation of technical reports and compliance documents; she also has completed the Advisory Council on Historic Preservation course in National Historic Preservation Act Section 106 compliance policies and procedures. Her analytic skills include lithic and ceramic analyses as well as settlement pattern studies and spatial analysis, which were the foci of her doctoral research. As a Senior Archaeologist for Applied EarthWorks, Dr. Baloian directs professional staff and subcontractors and provides quality assurance for all project work. She has directed numerous surveys, testing and data recovery excavations as well as prepared dozens of technical reports and compliance documents. She administers both large, complex, multiyear, multiphase projects as well as smaller.

JESSICA JONES

GIS Technician/Staff Archaeologist

Areas of Expertise

- Geographic Information Systems (GIS) in archaeology
- Computer-generated maps and graphics
- Archaeological survey and excavation

Years of Experience

- 5

Education

B.A., Anthropology, California State University, Sacramento, 2013

Archaeological Technician Certificate, Anthropology Department, Fresno City College, Fresno, California, 2011

Professional Experience

2015–	Geographic Information Systems (GIS) Technician/Staff Archaeologist, Applied EarthWorks, Inc., Fresno, California
2012–2013	Laboratory Technician (volunteer), Archaeological Research Center, California State University, Sacramento
2009–2010	Laboratory Technician (volunteer), Fresno City College, Fresno, California

Technical Qualifications

As a staff archaeologist, Ms. Jones performs archival research, pedestrian archaeological and built environment survey, site recordation, and excavation on projects throughout the Central Valley and Sierra Nevada foothills. She also is a primary author or contributor for cultural resource inventory reports and is familiar with the preparation of California Department of Parks and Recreation cultural resource record forms (DPR 523 series) and California Department of Transportation documents. In her role as a GIS technician, Ms. Jones serves as cartographer and has participated in large and small projects involving both prehistoric and historic-era cultural resources. Using ESRI ArcGIS software, she has prepared maps and illustrations for documentation and technical reports encompassing archaeological and built environment resources for a variety of projects in California and Oregon. Additionally, she assists in the management and maintenance of the company's GPS data/units and cultural resources database system. She has extensive experience volunteering in archaeological repositories and is well versed in laboratory methodology related to the processing, cataloging, and management of archaeological collections.

APPENDIX B

Native American Outreach

Native American Outreach

City of Parlier TCP Mitigation

Organization	Name	Position	Letter	E-mail	Phone	Summary of Contact
Native American Heritage Commission						
Big Sandy Rancheria	Elizabeth D. Kipp	Chairperson	07/02/18	07/30/18		Outreach letter sent-JJ; follow-up email sent-JJ
Cold Springs Rancheria of Mono Indians	Carol Bill	Chairperson	07/02/18	07/30/18		Outreach letter sent-JJ; follow-up email sent-JJ
Dumna Wo-Wah Tribal Government	Robert Ledger Sr.	Tribal Chairperson	07/02/18	07/30/18		Outreach letter sent-JJ; follow-up email sent-JJ
Dunlap Band of Mono Indians	Dick Charley	Chairperson	07/02/18		07/30/18	Outreach letter sent-JJ; called and left message-JJ
Kings River Choinumni Farm Tribe	Stan Alec		07/02/18		07/30/18	Outreach letter sent-JJ; Called and spoke with Mr. Alec. He said he has no interest in or information on this project-JJ
North Fork Mono Tribe	Ron Goode	Chairperson	07/02/18	07/30/18		Outreach letter sent-JJ; follow-up email sent-JJ
Santa Rosa Rancheria Tachi Yokut Tribe	Rueben Barrios Sr.	Chairperson	07/02/18		07/30/18	Outreach letter sent-JJ; called and left message-JJ
Table Mountain Rancheria	Leanne Walker-Grant	Chairperson	07/02/18		07/30/18	Outreach letter sent-JJ; called and left message-JJ
Table Mountain Rancheria	Bob Pennell	Cultural Resources Director	07/02/18	07/30/18		Outreach letter sent-JJ; follow-up email sent-JJ
Traditional Choinumni Tribe	David Alvarez	Chairperson	07/02/18	07/30/18	07/30/18	Outreach letter sent-JJ; email address not functioning, called instead-JJ
Wuksache Indian Tribe/Eshom Valley Band	Kenneth Woodrow	Chairperson	07/02/18	07/30/18		Outreach letter sent-JJ; follow-up email sent-JJ
Traditional Choinumni Tribe	Rick Osborne	Cultural Resources	07/02/18			Outreach letter sent-JJ; follow-up email sent-JJ

Applied EARTHWORKS Inc.

EXAMPLE

1391 W. Shaw Ave., Suite C
Fresno, CA 93711-3600
O: (559) 229-1856 | F: (559) 229-2019

July 2, 2018

Elizabeth D. Kipp, Chairperson
Big Sandy Rancheria
P.O. Box 337/37387
Auberry, CA 93602

RE: City of Parlier 1, 2, 3-TCP Mitigation Project, City of Parlier, Fresno County, California

Dear Ms. Elizabeth D. Kipp,

Applied EarthWorks, Inc. (*Æ*), under contract to Crawford and Bowen Planning, is providing cultural resources services in support of the City of Parlier's (City) 1, 2, 3-TCP Mitigation Project (Project). The City plans to construct water treatment plants near existing city wells. In general, ground disturbance will occur within industrial and agricultural areas. The Project will comply with both the California Environmental Quality Act (CEQA), Assembly Bill 52 (Gatto, 2014), and Section 106 of the National Historic Preservation Act (NHPA).

The Project's Area of Potential Effects (APE) is within Township 15 South, Range 22 East, Sections 19, 23, and 26 of the Selma, CA 7.5-minute USGS quadrangle (see attached map). A search of the Native American Heritage Commission's (NAHC*) Sacred Lands File* failed to indicate the presence of Native American cultural resources in the immediate Project area. *Æ* also requested a records search of the APE at the California Historic Resources Information System (CHRIS), Southern San Joaquin Valley Information Center (SSJVIC) located at the California State University, Bakersfield. No previously recorded resources were identified within the Project APE. *Æ* completed an intensive pedestrian survey of the APE to identify and record cultural resources present at the ground surface level. A historic-era well and pump site were recorded by field staff; no prehistoric resources were identified.

The NAHC provided your name and address as someone who might have information regarding sacred sites, tribal cultural resources, or other resources of importance in the project area. If you have any information that you wish to share, have questions, or would like more information about the project, please contact me by phone (559) 229-1856 x 11, email (mbaloian@appliedearthworks.com), or send a letter to my attention using the address in the header above.

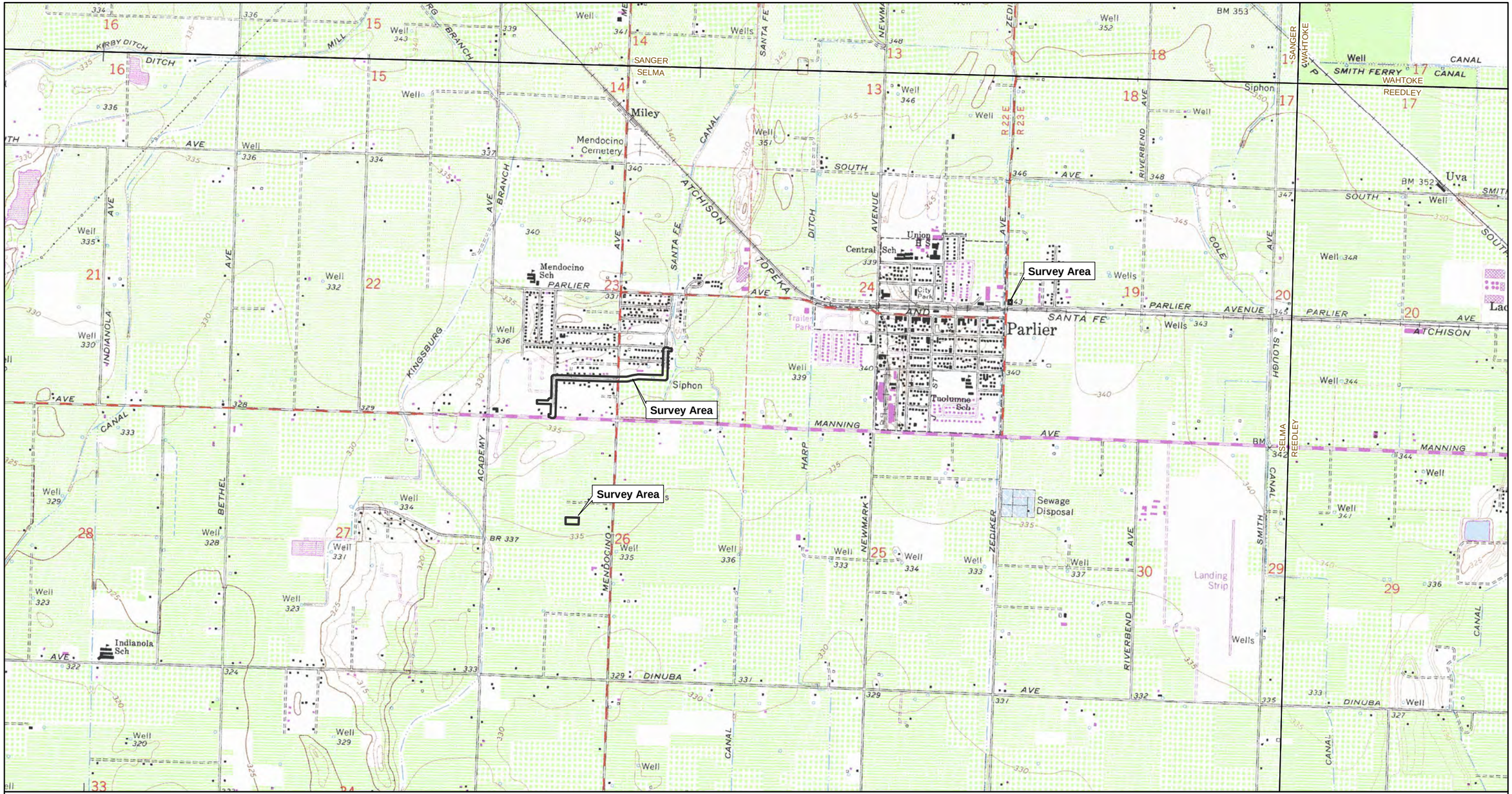
I would appreciate any information you might provide to assist us with our inventory efforts. Be assured that any locations of archaeological sites, cemeteries, or sacred places will be treated confidentially, as required by law, and will not be disclosed in any document available to the general public.

Sincerely,

Mary Clark Baloian

Mary Baloian
President and Principal Archaeologist

encl.: Project Location Map



SCALE 1:24,000

1 0.5 0 1 Miles

1,000 0 1,000 2,000 3,000 4,000 5,000 6,000 7,000 Feet

1 0.5 0 1 Kilometers

T 15S/R 22E and 23E; Section(s) 19, 23, 26
Selma (1964-PR1981), CA 7.5' USGS Quadrangle

NAHC map for the *Parlier TCP Mitigation Project - AE3868*.

NATIVE AMERICAN HERITAGE COMMISSION
Environmental and Cultural Department
1550 Harbor Blvd., Suite 100
West Sacramento, CA 95691
(916) 373-3710

May 15, 2018

Mary Baloian
Applied Earth Works

Sent by Email: mbaloian@appliedearthworks.com
Number of Pages: 2

RE: Parlier TCP Mitigation, Selma, Fresno County

Dear Ms. Boloian:

A record search of the Native American Heritage Commission (NAHC) *Sacred Lands File* was completed for the area of potential project effect (APE) referenced above with negative results. **Please note that the absence of specific site information in the *Sacred Lands File* does not indicate the absence of Native American cultural resources in any APE.**

I suggest you contact all of those listed, if they cannot supply information, they might recommend others with specific knowledge. The list should provide a starting place to locate areas of potential adverse impact within the APE. **By contacting all those on the list, your organization will be better able to respond to claims of failure to consult**. If a response has not been received within two weeks of notification, the NAHC requests that you follow-up with a telephone call to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from any of these individuals or groups, please notify me. With your assistance we are able to assure that our lists contain current information. If you have any questions or need additional information, please contact via email: sharaya.souza@nahc.ca.gov or (916) 573-0168.

Sincerely,

Sharaya Souza
Staff Services Analyst
(916) 573-0168

Native American Heritage Commission
Native American Contacts
5/15/2018

Big Sandy Rancheria of Western Mono Indians
Elizabeth D. Kipp, Chairperson
PO. Box 337 37387 Auberry Mission Rd.
Auberry , CA 93602
lkipp@bsrnation.com
(559) 374-0066
(559) 374-0055
Western Mono

Cold Springs Rancheria
Carol Bill, Chairperson
P.O. Box 209
Tollhouse , CA 93667
(559) 855-5043
(559) 855-4445 Fax
Mono

Dumna Wo-Wah Tribal Goverment
Robert Ledger SR., Chairperson
2191 West Pico Ave.
Fresno , CA 93705
ledgerrobert@ymail.com
(559) 540-6346
Dumna/Foothill Yokuts
Mono

Dunlap Band of Mono Indians
Chairperson
Box 44
Dunlap , CA 93621
(559) 338-2545
Mono

Kings River Choinumni Farm Tribe
Stan Alec
3515 East Fedora Avenue
Fresno , CA 93726
(559) 647-3227 Cell
Foothill Yokuts
Choinumni

North Fork Mono Tribe
Ron Goode, Chairperson
13396 Tollhouse Road
Clovis , CA 93619
rwgoode911@hotmail.com
(559) 299-3729 Home
(559) 355-1774 - cell
Mono

Santa Rosa Indian Community of the Santa Rosa Rancheria
Rueben Barrios Sr., Chairperson
P.O. Box 8
Lemoore , CA 93245
(559) 924-1278
(559) 924-3583 Fax
Tache
Tachi
Yokut

Table Mountain Rancheria of California
Leanne Walker-Grant, Chairperson
P.O. Box 410
Friant , CA 93626
(559) 822-2587
(559) 822-2693 Fax
Yokuts

Table Mountain Rancheria of California
Bob Pennell, Cultural Resources Director
P.O. Box 410
Friant , CA 93626
rpennell@tmr.org
(559) 325-0351
(559) 325-0394 Fax
Yokuts

Traditional Choinumni Tribe
David Alvarez, Chairperson
2415 E. Houston Avenue
Fresno , CA 93720
dave@davealvarez.com
(559) 217-0396 Cell
Choinumni

This list is current only as of the date of this document and is based on the information available to the Commission on the date it was produced.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Code, or Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native American Tribes for the proposed:
Parlier TCP Mitigation, Selma, Fresno County.

Native American Heritage Commission
Native American Contacts
5/15/2018

Traditional Choinumni Tribe
Rick Osborne, Cultural Resources
2415 E. Houston Avenue
Fresno , CA 93720
(559) 324-8764
lemek@att.net

Choinumni

Wuksache Indian Tribe/Eshom Valley Band
Kenneth Woodrow, Chairperson
1179 Rock Haven Ct.
Salinas , CA 93906
kwood8934@aol.com
(831) 443-9702

Foothill Yokuts
Mono
Wuksache

This list is current only as of the date of this document and is based on the information available to the Commission on the date it was produced.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Code, or Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native American Tribes for the proposed:
Parlier TCP Mitigation, Selma, Fresno County.

APPENDIX C

Records Search and Archival Research Results

California Historical Resources Information System

Fresno
Kern
Kings
Madera
Tulare

Southern San Joaquin Valley Information Center
California State University, Bakersfield
Mail Stop: 72 DOB
9001 Stockdale Highway
Bakersfield, California 93311-1022
(661) 654-2289
E-mail: ssjvic@csub.edu
Website: www.csub.edu/ssjvic

5/21/2018

Mary Baloian
Applied EarthWorks, Inc.
1391 W. Shaw Ave., Suite C
Fresno, CA 93711

Re: Parlier TCP Mitigation
Records Search File No.: 18-219

The Southern San Joaquin Valley Information Center received your record search request for the project area referenced above, located on the Selma USGS 7.5's quad. The following reflects the results of the records search for the project area and the 0.5 mile radius:

As indicated on the data request form, the locations of resources and reports are provided in the following format: ☐ custom GIS maps ☒ shapefiles ☐ hand-drawn maps

Resources within project area:	None
Resources within 0.5 mile radius:	P-10-004427, 005812
Reports within project area:	None
Reports within 0.5 mile radius:	FR-00173, 00562, 00564, 01042, 01626, 01832, 02082, 02097, 02185, 02263, 02277, 02278, 02493, 02626, 02787, 02795, 02865

Resource Database Printout (list):	☒ enclosed	☐ not requested	☐ nothing listed
Resource Database Printout (details):	☒ enclosed	☐ not requested	☐ nothing listed
Resource Digital Database Records:	☒ enclosed	☐ not requested	☐ nothing listed
Report Database Printout (list):	☒ enclosed	☐ not requested	☐ nothing listed
Report Database Printout (details):	☒ enclosed	☐ not requested	☐ nothing listed
Report Digital Database Records:	☒ enclosed	☐ not requested	☐ nothing listed
Resource Record Copies:	☒ enclosed	☐ not requested	☐ nothing listed
Report Copies:	☐ enclosed	☒ not requested	☐ nothing listed
OHP Historic Properties Directory:	☒ enclosed	☐ not requested	☐ nothing listed
Archaeological Determinations of Eligibility:	☐ enclosed	☐ not requested	☒ nothing listed
CA Inventory of Historic Resources (1976):	☐ enclosed	☐ not requested	☒ nothing listed

Caltrans Bridge Survey: Not available at SSJVIC; please see http://www.dot.ca.gov/hq/structur/strmaint/historic.htm

Ethnographic Information: Not available at SSJVIC

Historical Literature: Not available at SSJVIC

Historical Maps: Not available at SSJVIC; please see http://historicalmaps.arcgis.com/usgs/

Local Inventories: Not available at SSJVIC

GLO and/or Rancho Plat Maps: Not available at SSJVIC; please see http://www.glorecords.blm.gov/search/default.aspx#searchTabIndex=0&searchByTypeIndex=1 and/or http://www.oac.cdlib.org/view?docId=hb8489p15p;developer=local;style=oac4;doc.view=items

Shipwreck Inventory: Not available at SSJVIC; please see http://www.slc.ca.gov/Info/Shipwrecks.html

Soil Survey Maps: Not available at SSJVIC; please see http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx

Please forward a copy of any resulting reports from this project to the office as soon as possible. Due to the sensitive nature of archaeological site location data, we ask that you do not include resource location maps and resource location descriptions in your report if the report is for public distribution. If you have any questions regarding the results presented herein, please contact the office at the phone number listed above.

The provision of CHRIS Data via this records search response does not in any way constitute public disclosure of records otherwise exempt from disclosure under the California Public Records Act or any other law, including, but not limited to, records related to archeological site information maintained by or on behalf of, or in the possession of, the State of California, Department of Parks and Recreation, State Historic Preservation Officer, Office of Historic Preservation, or the State Historical Resources Commission.

Due to processing delays and other factors, not all of the historical resource reports and resource records that have been submitted to the Office of Historic Preservation are available via this records search. Additional information may be available through the federal, state, and local agencies that produced or paid for historical resource management work in the search area. Additionally, Native American tribes have historical resource information not in the CHRIS Inventory, and you should contact the California Native American Heritage Commission for information on local/regional tribal contacts.

Should you require any additional information for the above referenced project, reference the record search number listed above when making inquiries. Invoices for Information Center services will be sent under separate cover from the California State University, Bakersfield Accounting Office.

Thank you for using the California Historical Resources Information System (CHRIS).

Sincerely,

Celeste M. Thomson
Coordinator

Report List

SSJVIC Record Search 18-219

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
FR-00173		1978	Varner, Dudley M.	Historical Property Survey Report for Manning Avenue Between McCall Avenue and Academy Avenue	Individual Consultant	
FR-00562		1989	Napton, L. Kyle	Cultural Resource Investigation of the Poposed Mendocino Apartments, Fresno, California	California State University, Stanislaus	
FR-00564		1990	Napton, L. Kyle	Cultural Resource Investigations of the Proposed Parlier Garden Apartments, 6.0 Acres in Parlier, Fresno County, California	California State University, Stanislaus	
FR-01042		1990	Wren, Donald G.	An Archaeological Survey: Junior High School Site, Parlier Unified School District	individual consultant	
FR-01626		1999	Wren, Donald G.	An Archaeological Study: Parlier Unified School District, New Elementary School Project	Individual Consultant	
FR-01836	Submitter - Nextel Site No. CA-0361A/Parlier	2000	Billat, Lorna	Nextel Communications Wireless Telecommunications Service Facility, Fresno County	EarthTouch, LLC.	
FR-02082		2005	Thal, Sean M. and Billat, Lorna	Request for SHPO Review of FCC Undertaking (Parlier/CA-0361A)	EarthTouch, Inc.	
FR-02097		2005	Bonner, Wayne H.	Records Search Results and Site Visit for Cricket Telecommunications Facility Candidate FAT-059A (Parlier), 12949 East Manning Avenue, Parlier, Fresno County, California	Michael Brandman Associates	
FR-02185		2005	Hatoff, Brian W.	New Tower Submission Packet, FCC Form 620 for 7988 South Whitener Avenue	URS Corporation	
FR-02263		2006	Roper, C. Kristina	A Cultural Resources Survey for the 468.40-Acre Parlier Parcels, Parlier, Fresno County, California	Sierra Valley Cultural Planning	
FR-02277		2006	Busby, Colin I.	Cultural Resources Assessment - 13173 East South Avenue, (APN 355-020-02), Parlier, Fresno County	Basin Research Associates	
FR-02278		2006	Busby, Colin I.	Cultural Resources Assessment - 13075 East South Avenue, (APN 355-020-01), Parlier, Fresno County	Basin Research Associates	

Report List

SSJVIC Record Search 18-219

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
FR-02493		2009	Gold (Garfinkel), Alan P.	Cultural Resource Survey of a 1.51 Acre Parcel, Parcel D, Parcel Map 75-02, 439 East Manning Ave, Adjacent to the UHC Administration Building, Between Academy Avenue and Zediker Avenue, Parlier, Fresno County, Califoronia	Archaeological Associates of Kern County	
FR-02626		2007	Brady, Jon L.	Phase I Archaeological Survey for the Proposed City of Parlier Industrial Park Improvements Project, Parlier, Fresno County, California	J & R Environmental Services	
FR-02787	Submitter - 6116001977	2016	Wilk, Elizabeth and Etheridge, Johni	Cultural Resources Survey Parlier CA/411135 South Whitener Avenue, Parlier, Fresno County, California	EBI Consulting	
FR-02795		2016	Patterson, Brandon	Cultural Resources Monitoring Summary Report for 31002222 Parlier 1103, Parlier, Fresno County, California	Garcia and Associates	10-006964, 10-006965, 10-006966
FR-02865		2016	Pearson, Jeffrey	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	Environmental Assessment Specialists, Inc.	

Resource List

SSJVIC Record Search 18-219

Primary No.	Trinomial	Other IDs	Type	Age	Attribute codes	Recorded by	Reports
P-10-004427		OHP PRN - 3648-0001-0000; Resource Name - Iseki Labor Camp; Resource Name - Japanese Community Hall	Building	Historic	HP13 (Community center/social hall)	1979 (Isami Arifuku Waugh, Ethnic Minority Cultural Resources)	
P-10-005812	CA-FRE-003527H	Resource Name - JFR-059; Resource Name - Centerville-Kingsburg Canal System; Resource Name - Mill Ditch	Structure	Historic	HP20 (Canal/aqueduct)	1991 (JRP Consulting, JRP Consulting); 1995 (Carrie D. Willis, Allen Estes, William Self Associates); 2001 (Tracy Bakic, PAR Environmental Services); 2009 (Joseph Freeman, Rebecca Flores, JRP Historical Consulting, LLC.); 2011 (Ric Windmiller, Individual Consultant)	

PROPERTY-NUMBER	PRIMARY-#	STREET.ADDRESS.....	NAMES.....	CITY.NAME.....	OWN	YR-C	OHP-PROG..	PRG-REFERENCE-NUMBER	STAT-DAT	NRS	CRIT
							PROJ.REVW.	BUR980616A	07/27/98	2S2	B
155406		424 DERRICK BLVD	RIOS TERRACE	MENDOTA	C	1952	PROJ.REVW.	HUD050829I	09/26/05	6Y	
137157		1297 OLLER ST	GONZALES PROPERTY	MENDOTA	P	1949	HIST.RES.	DOE-10-03-0002-0000	02/10/03	6Y	
							PROJ.REVW.	FHWA030121B	02/10/03	6Y	
156834		1125 PUCHEU ST		MENDOTA	P	1947	PROJ.REVW.	HUD051103B	11/28/05	6Y	
052434		SR 33	BRIDGE #42-37	MENDOTA	S		HIST.SURV.	3640-0001-0000		7R	
137163		16100 W WHITEBRIDGE RD		MENDOTA	P	1925	HIST.RES.	DOE-10-03-0008-0000	02/10/03	6Y	
							PROJ.REVW.	FHWA030121B	02/10/03	6Y	
137159		SR 180	KINGS SLOUGH OVERFLOW / BRIDGE #42	(VIC) MENDOTA	S	1946	HIST.RES.	DOE-10-03-0004-0000	02/10/03	6Y	
							PROJ.REVW.	FHWA030121B	02/10/03	6Y	
137160		SR 180	KINGS SLOUGH BRIDGE #42-0041	(VIC) MENDOTA	S	1952	HIST.RES.	DOE-10-03-0005-0000	02/10/03	6Y	
							PROJ.REVW.	FHWA030121B	02/10/03	6Y	
137158		SR 180	KINGS SLOUGH OVERFLOW / BRIDGE #42	(VIC) MENDOTA	S	1946	HIST.RES.	DOE-10-03-0003-0000	02/10/03	6Y	
							PROJ.REVW.	FHWA030121B	02/10/03	6Y	
107192		49039 ORCHARD DR	MIRAMONTE ADULT CONSERVATION CAMP	MIRAMONTE	S	1949	ST.AG.5024	ST.AG.-3540-0201	04/03/97	4CM	AD
140842		DUNLAP RD	MILL CREEK BRIDGE / BRIDGE #42C-02	(VIC) MIRAMONTE	S		HIST.RES.	DOE-10-03-0015-0000	06/12/03	6Y	
							PROJ.REVW.	FHWA030428A	06/12/03	6Y	
103414			SHADEQUARTER MOUNTAIN FIRE LOOKOUT	(VIC) MIRAMONTE	S	1964	ST.AG.5024	ST.AG.-3540-0008	09/18/96	4CM	AD
090706		SR 180	MILWOOD TOWNSITE	(VIC) MIRAMONTE	U		HIST.RES.	SPHI-FRE-001	08/05/66	7L	
105684		50601 SR 245	BADGER FOREST FIRE STATION BARRACK	(VIC) MIRAMONTE	S	1935	ST.AG.5024	ST.AG.-3540-0181	12/05/96	4CM	AD
105685		50601 SR 245	BADGER FOREST FIRE STATION 2-BAY E	(VIC) MIRAMONTE	S	1938	ST.AG.5024	ST.AG.-3540-0181	12/05/96	4CM	AD
154825		700 CENTER ST	HARDING & LEGGETT WATER TOWER	ORANGE COVE	P	1946	PROJ.REVW.	FCC050524C	06/21/05	6Y	
052435		633 E RAILROAD AVE	ORANGE COVE SANTA FE RAILROAD DEPO	ORANGE COVE	P	1913	FED.FND.PR	629.0-79-HPF-10-01	01/01/79	7L	
							HIST.RES.	NPS-78000668-0000	08/29/78	1S	
							HIST.SURV.	3646-0001-0000	08/29/78	1S	
155401		791 I ST	KUFFEL TERRACE	ORANGE COVE	C	1952	PROJ.REVW.	HUD050829D	09/26/05	6Y	
066537		2ND ST	PARLIER ST RECONSTRUCTION	PARLIER	U		PROJ.REVW.	HUD880304D	04/06/88	6Y	
188235		13673 E BELLA VISTA		PARLIER	P	1960	PROJ.REVW.	HUD100419A	05/05/10		
							PROJ.REVW.	HUD100419A	05/05/10	6Y	
147579		13251 E MULBERRY LANE		PARLIER	P	1940	HIST.RES.	DOE-10-04-0007-0000	01/22/04	6Y	
							PROJ.REVW.	HUD031216A	01/22/04	6Y	
184290		600 KING ST		PARLIER	P	1930	PROJ.REVW.	HUD110808K	08/12/11	6Y	
066536		PARLIER	W COMMUNITY PUBLIC WORKS	PARLIER	U		PROJ.REVW.	HUD880304A	04/06/88	6Y	
170085		322 STANISLAUS ST		PARLIER	P	1932	PROJ.REVW.	HUD080229A	03/06/08	6Y	
182631		529 TULARE ST		PARLIER	P	1923	PROJ.REVW.	HUD110401J	04/11/11	6Y	
052438		755 TULARE ST	JAPANESE COMMUNITY HALL, ISEKI LAB	PARLIER	P	1917	HIST.SURV.	3648-0001-0000		7R	
182065		650 ZEDIKER AVE	UNITED HEALTH CENTERS OF SJVALLEY-	PARLIER	P	1935	PROJ.REVW.	HRSA110222A	04/15/11	6Y	
091574			PINEDALE ASSEMBLY CENTER--TEMPORAR	PINEDALE	U	1942	HIST.RES.	SHL-0934-0004	05/13/80	1CL	
170183		9153 S ORMUS AVE		RAISIN CITY	P	1935	PROJ.REVW.	HUD080115B	03/10/08	6Y	
053414		10TH ST	WATER TOWERS	REEDLEY	M	1923	HIST.SURV.	3654-0026-0018		3S	
053415		10TH ST	ROYAL VALLEY SERVICE DEPARTMENT	REEDLEY	P		HIST.SURV.	3654-0026-0019		7R	
052634		1410 10TH ST		REEDLEY	P		HIST.SURV.	3654-0021-0104		7R	
052635		1425 10TH ST		REEDLEY	P	1947	HIST.SURV.	3654-0021-0105		7R	
052636		1452 10TH ST		REEDLEY	P		HIST.SURV.	3654-0021-0106		7R	
052637		1455 10TH ST		REEDLEY	P	1947	HIST.SURV.	3654-0021-0107		7R	
052638		1456 10TH ST		REEDLEY	P	1920	HIST.SURV.	3654-0021-0108		7N	
052639		1475 10TH ST		REEDLEY	P	1947	HIST.SURV.	3654-0021-0109		7R	

Historical Maps and Aerial Images Consulted

Date	Name	Source	Reference	Notes
1937	Fresno County Aerial Survey 1937 13-ABI 66-27	Agricultural Adjustment Administration	1937 Fresno County, California, Aerial Survey 1937 13-ABI 66-27, http://cdmweb.lib.csufresno.edu/cdm/singleitem/collection/aerial/id/819, accessed through Map and Aerial Locator Tool (MALT), Henry Madden Library, California State University, Fresno, July 5, 2018.	Land within the study area is primarily agricultural. A few small building/structures are present adjacent to the study pipeline corridor. The Santa Fe canal runs Perpendicular to the eastern terminus of the pipeline corridor. The southern most study area is in the middle of an agricultural field. The northeastern study area is on the southwest corner of an agricultural field, immediately north of the Atchinson-Topeka portion of the Santa Fe railroad.
1942	Fresno County Aerial Survey 1942 ABI-10B-130	Agricultural Adjustment Administration	1942 Fresno County, California, Aerial Survey 1942 ABI-10B-130, http://cdmweb.lib.csufresno.edu/cdm/singleitem/collection/aerial/id/22085, accessed through Map and Aerial Locator Tool (MALT), Henry Madden Library, California State University, Fresno, July 5, 2018.	See notes on 1937 aerial.
1950	Fresno County Aerial Survey 1950 ABI-5G-160	U.S. Dept. of Agriculture	1950 Fresno County, California, Aerial Survey 1950 ABI-5G-160, http://cdmweb.lib.csufresno.edu/cdm/singleitem/collection/aerial/id/24104, accessed through Map and Aerial Locator Tool (MALT), Henry Madden Library, California State University, Fresno, July 5, 2018.	See notes on 1937 aerial. Santa Fe canal has undergone realignment.
1957	Fresno County Aerial Survey 1957 ABI-54T-70	U.S. Commodity Stabilization Service	1957 Fresno County, California, Aerial Survey 1957 ABI-54T-70, http://cdmweb.lib.csufresno.edu/cdm/ref/collection/aerial/id/4273, accessed through Map and Aerial Locator Tool (MALT), Henry Madden Library, California State University, Fresno, July 5, 2018.	Surge of residential and commercial development north of the intersection of Manning Avenue and Mendocino Avenue. However, the development hasn't reached the pipeline corridor or the other two study areas, which remain agricultural.
1965	Fresno County Aerial Survey 1965 FRE-1-35	U.S. Agricultural Stabilization and Conservaition Service	1965 Fresno County, California, Aerial Survey 1965 FRE-1-35, http://cdmweb.lib.csufresno.edu/cdm/ref/collection/aerial/id/5373, accessed through Map and Aerial Locator Tool (MALT), Henry Madden Library, California State University, Fresno, July 5, 2018.	Continued residential growth around pipeline corridor. The land within the eastern portion of the pipeline corridor appears to have been graded and is mostly undeveloped. The western portion of the pipeline corridor is bordered by residences to the north and south. The town grid is expanding and new roads are being graded. The other study areas have not undergone significant changes in land use or topography
1970	Fresno County Aerial Survey 1970 2866-13-24	U.S. Commodity Stabilization Service	1970 Fresno County, California, Aerial Survey 1970 2866-13-24, http://cdmweb.lib.csufresno.edu/cdm/singleitem/collection/aerial/id/6148, accessed through Map and Aerial Locator Tool (MALT), Henry Madden Library, California State University, Fresno, July 5, 2018.	Additional structural development in the general area. Observations for the study areas are unchanged.
1977	Fresno County Aerial Survey 1977 FRE CO 17-6 R	Agricultural Adjustment Administration	1977 Fresno County, California, Aerial Survey 1977 FRE FRE CO 17-6 R, http://cdmweb.lib.csufresno.edu/cdm/singleitem/collection/aerial/id/34299, accessed through Map and Aerial Locator Tool (MALT), Henry Madden Library, California State University, Fresno, July 5, 2018.	Eastern portion of the pipeline corridor is being used for cultivation. Other study areas remain agricultural with little structural development occuring around them.
1987	Fresno County Aerial Survey 1987 NAPP 472-167	Agricultural Adjustment Administration	1987 Fresno County, California, Aerial Survey 1987 NAPP 463-78, http://cdmweb.lib.csufresno.edu/cdm/singleitem/collection/aerial/id/8992, accessed through Map and Aerial Locator Tool (MALT), Henry Madden Library, California State University, Fresno, July 5, 2018.	Structure appears at site of current well/pump area (northeastern study area). Structure appears immediately north of southwestern study area.
1998	Fresno County Aerial Survey 1998 NAPP 10560-106	Agricultural Adjustment Administration	1998 Fresno County, California, Aerial Survey 1998 NAPP 10560-106, http://cdmweb.lib.csufresno.edu/cdm/singleitem/collection/aerial/id/17685, accessed through Map and Aerial Locator Tool (MALT), Henry Madden Library, California State University, Fresno, July 5, 2018.	No majaor changes to landscape.
1924	Selma, CA, 1:31,680	U.S. Geological Survey	1924 Selma, Calif., 1:31,680 scale. U.S. National Geologic Map Database, Historical Topographic Map Collection (topoView), https://ngmdb.usgs.gov/topoview/, accessed July 5, 2018.	No structures or natural features within study areas. Santa Fe Canal and railroad present.

Historical Maps and Aerial Images Consulted

Date	Name	Source	Reference	Notes
1947	Selma, CA, 1:24,000	U.S. Geological Survey	1947 Selma, Calif., 1:24,000 scale. U.S. National Geologic Map Database, Historical Topographic Map Collection (topoView), https://ngmdb.usgs.gov/topoview/, accessed July 5, 2018.	No structures or natural features within study areas. Santa Fe Canal realigned.
1946 (1958)	Selma, CA, 1:24,000	U.S. Geological Survey	1958 Selma, Calif., 1:24,000 scale. U.S. National Geologic Map Database, Historical Topographic Map Collection (topoView), https://ngmdb.usgs.gov/topoview/, accessed July 5, 2018.	No structures or natural features within study areas. No significant changes noted in vicinity of study areas.
1965	Selma, CA, 1:24,000	U.S. Geological Survey	1965 Selma, Calif., 1:24,000 scale. U.S. National Geologic Map Database, Historical Topographic Map Collection (topoView), https://ngmdb.usgs.gov/topoview/, accessed July 5, 2018.	Surge in residential and commercial development west of Parlier proper. No structures, other than paved roads within the pipeline corridor, are within the study areas.
1964 (PI1981)	Selma, CA, 1:24,000	U.S. Geological Survey	1981 Selma, Calif., 1:24,000 scale. U.S. National Geologic Map Database, Historical Topographic Map Collection (topoView), https://ngmdb.usgs.gov/topoview/, accessed July 5, 2018.	Additional residendial development in the vicinity of study areas, but none within them.
1907	Atlas of Fresno County, California	Harvey Sr., William		
1891	Atlas of Fresno County, California	Thompson, Thomas H.		Santa Fe railroad not present on plat.
1909	Atlas of Fresno County, California	Guard, W.C.		