

Pixley Public Utility District Water Main Extension Project

Draft Initial Study / Mitigated Negative Declaration

March 2021

Prepared for:
Pixley Public Utility District
Tulare County, CA

Prepared by:
Provost & Pritchard Consulting Group
130 N. Garden Street
Visalia, CA 93291



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Report Prepared for:

Pixley Public Utility District

PO Box 535
Pixley, CA 93256

Contact:

Roger Ward, Pixley Public Utility District, Board President
(559) 757-3878

Report Prepared by:

Provost & Pritchard Consulting Group

Mary Beatie, Senior Planner, QA/QC
Amy Wilson, Associate Planner, Environmental Project Manager
Dena Giacomini, Principal Planner/Biologist, Biological Resources Evaluation
Jarred Olsen, Associate Planner, Writer
Wyatt Czesinski, Assistant Planner, Writer
Lizbeth Avitia, Assistant Planner, Writer
Mallory Serrao, Associate GIS Specialist, Data Collection, Figures
Jackie Lancaster, Project Administrator, Writer/Administrative Support

Contact:

Amy Wilson
(559) 636-1166

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Acronyms and Abbreviations

AB	Assembly Bill
APE	Area of Potential Effect
APN	Assessor's Parcel Number
ARB	Air Resources Board
BPM	Best Management Practices
BPS	Best Performance Standards
CalFire	California Department of Forestry and Fire Protection
Cal/OSHA	California Occupational Safety and Health Administration
CalEEMod	California Emissions Estimator Modeling (software)
CalEPA	California Environmental Protection Agency
CalTrans	California Department of Transportation
CAP	Climate Action Plan
CARB	California Air Resources Board
CCAA	California Clean Air Act
CCR	California Code of Regulations
CDFW	California Fish and Wildlife
CEQA	California Environmental Quality Act
CFC	Chlorofluorocarbons
CH ₄	Methane
CHL	California Historical Landmarks
CHRIS	California Historical Resources Information System
CNDDDB	California Department of Fish and Wildlife Natural Diversity Database
CO ₂	Carbon Dioxide
CO ₂ e	Carbon Dioxide-Equivalents
County	Tulare County
CPhi	California Points of Historical Interest
CRHR	California Register of Historical Resources
District	Pixley Public Utilities District
DOC	California Department of Conservation
DTSC	(California) Department of Toxic Substances Control
DWR	Department of Water Resources
EIR	Environmental Impact Report

Acronyms and Abbreviations

Water Main Extension Project

EPA	Environmental Protection Agency
FEMA	Federal Emergency Management Agency
FMMP	Farmland Mapping and Monitoring Program
GC	Government Code
GHG	Greenhouse Gas
GIS	Geographic Information System
GP	General Plan
GWP	Global Warming Potential
HCP	Habitat Conservation Plans
HFC	Hydrofluorocarbons
HUC	Hydrologic Unit Code
IPaC	U.S. Fish and Wildlife Service’s Information for Planning and Consultation system
IS	Initial Study
IS/MND	Initial Study/Mitigated Negative Declaration
km	kilometers
LUST	Leaking Underground Storage Tank Sites
MMRP	Mitigation Monitoring and Reporting Program
MND	Mitigated Negative Declaration
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
ND	Negative Declaration
Nox	Nitrogen Oxides
NO ₂	Nitrogen Dioxide
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
O ₃	Ozone
PFC	Perfluorocarbons
PM ₁₀	particulate matter 10 microns in size
PM _{2.5}	particulate matter 2.5 microns in size
ppb	parts per billion
ppm	parts per million
PPUD	Pixley Public Utility District
PUSD	Pixley Union School District
Project	Pixley Public Utility District Water Main Extension Project

Acronyms and Abbreviations

Water Main Extension Project

ROG.....	Reactive Organic Gases
SF ₆	Sulfur hexafluoride
SHPO.....	State Office of Historic Preservation
SJVAB.....	San Joaquin Valley Air Basin
SJVAPCD.....	San Joaquin Valley Air Pollution Control District
SLIC	Spills-Leaks-Investigations-Cleanups
SMARA	Surface Mining and Reclamation Act
SO ₂	Sulfur Dioxide
Sox	Sulfur Oxide
SR	State Route
SRA	State Responsibility Area
SSJVIC.....	Southern San Joaquin Valley Information Center
SWPPP.....	Storm Water Pollution Prevention Plan
SWRCB.....	State Water Resources Control Board
TAC	Toxic Air Contaminants
TJUHSD.....	Tulare Joint Union High School District
TPY	Tons Per Year
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
USGS	United States (U.S.) Geological Survey
UST	Underground Storage Tank
µg/m ³	micrograms per cubic meter
WEAP.....	Worker Environmental Awareness Program

Chapter 1 Introduction

Provost & Pritchard Consulting Group (Provost & Pritchard) has prepared this Initial Study/Mitigated Negative Declaration (IS/MND) on behalf of Pixley Public Utility District (PPUD) to address the environmental effects of the proposed Water Main Extension Project (Project). This document has been prepared in accordance with the California Environmental Quality Act (CEQA), Public Resources Code Section 21000 *et seq.* The PPUD is the CEQA lead agency for this proposed Project.

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

1.1 Regulatory Information

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

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

1.2 Document Format

This IS/MND contains four chapters and four appendices, **Chapter 1 Introduction**, provides an overview of the proposed Project and the CEQA process. **Chapter 2 Project Description**, provides a detailed description of proposed Project components and objectives. **Chapter 3 Impact Analysis**, 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 proposed 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 3** concludes with the Lead Agency's determination based upon this initial evaluation. **Chapter 4 Mitigation Monitoring and Reporting Program** (MMRP), provides the proposed mitigation measures, implementation timelines, and the entity/agency responsible for ensuring implementation.

Chapter 1 Introduction

Water Main Extension Project

The CalEEMod Output Files, Biological Resources Evaluation Report, Cultural Resources Information, and Natural Resources Conservation Service Soil Resources Report are provided as technical **Appendix A**, **Appendix B**, **Appendix C** and **Appendix D**, respectively, at the end of this document.

Chapter 2 Project Description

2.1 Project Background and Objectives

2.1.1 Project Title

Pixley Public Utility District: Water Main Extension Project (Project)

2.1.2 Lead Agency Name and Address

Pixley Public Utility District
PO Box 535
Pixley, CA 93256

2.1.3 Contact Person and Phone Number

Lead Agency Contact

Pixley Public Utility District

Roger Ward, Pixley Public Utility District, Board President
(559) 757-3878

CEQA Consultant

Provost & Pritchard Consulting Group
Amy Wilson, Environmental Project Manager
(559) 636-1166

2.1.4 Project Location

The Project is located in Pixley California, approximately 205 miles southeast of Sacramento and 38 miles north of Bakersfield (see **Figure 2-1** and **Figure 2-2**). The proposed pipeline crosses the following Assessor's Parcel Numbers (APNs):

Table 2-1. List of APN's Crossed by Project Pipeline

APN	Latitude	Longitude
299-011-009	-119.294462	35.973967
299-011-011	-119.294696	35.974451

2.1.5 Latitude and Longitude

The centroid of various Project areas, including pipeline alignments and crossings, listed below.

	APE		Alignment	
N Extent	-119.2950621	35.9818551	-119.2950478	35.9817312
SW Extent	-119.293985	35.971491	-119.2940519	35.9716169
SE Extent	-119.2921853	35.973794	-119.2923406	35.9738621
Hwy 99 Crossing @ Highway Median			-119.2942571	35.9744929

2.1.6 General Plan Designation

A majority of the Project area is designated as road rights-of-way and is not designated. However, a small portion of the pipeline will lie within land that is designated Industrial.

2.1.7 Zoning

A majority of the Project area is designated as road right-of-way and is unzoned. However, a small portion of the pipeline will lie within land that is zoned M-1 (Industrial commercial/manufacturing).

See **Figure 2-4** and **Figure 2-5** for the zoning and general plan designations, respectively.

2.1.8 Description of Project

2.1.8.1 Project Background and Purpose

The PPUD, a domestic water purveyor, proposes to construct the Water Main Extension Project (Project) to better serve the unincorporated community of Pixley, in Tulare County, California. The PPUD is the Project proponent and CEQA Lead Agency.

Currently the community is served by aging and under-sized-diameter water distribution system suffering from low water pressure issues; fire service capacity of the existing water main is non-existent due to the small pipeline sizes. The existing water distribution system only has three lines that cross State Route 99; an eight-inch (8-inch) line in Bradbury Avenue, a ten-inch (10-inch) line in Davis Avenue, and a 4-inch crossing near the proposed crossing location, north of Howard Avenue. This 4-inch line is the only line that serves the northeastern properties in the community and is not looped into the remainder of the system, further exacerbating pressure issues in particular, to this portion of the community.

2.1.8.2 Project Description

Based upon a Feasibility Study prepared by Provost & Pritchard in August of 2020, the Project would consist of the following improvements:

- A new 12-inch diameter pipeline crossing installed in a 24-inch diameter steel casing, in accordance with Caltrans Specifications under State Route 99 (SR 99), replacing an existing 4-inch pipeline crossing. Crossing will utilize jack & bore method. The existing 4-inch pipeline will be abandoned in place.
- Interconnection of this new 12-inch undercrossing pipeline to existing distribution pipelines west of SR 99, at Main Street and East Court Avenue, utilizing open trench method.
- A new 12-inch diameter water main installed east of SR 99 in North Park Drive replacing the existing 4-inch distribution line serving existing connections in the northeast area of Pixley. Installation will utilize open trench method.
- Interconnection of the new 12-inch main east of SR 99 to existing pipelines serving the eastern area of Pixley, at North Park Drive and East Howard Avenue, utilizing open trench method.

The interconnections of the new larger diameter crossing of State Route 99 would complete a “loop” which would allow for additional potable water supply reliability and reduce pressure issues which will benefit the water service.

2.1.8.3 Construction

Construction of the Project is anticipated to be completed within four months, which will include grading, site preparation, and installation of new pipeline. Construction equipment will likely include a pipeline jack and bore rig, excavators, backhoes, graders, skid steers, loaders, and hauling trucks.

Generally, construction will occur between the hours of 7am and 5pm, Monday through Friday, excluding holidays. Post-construction activities will include system testing, commissioning, and site clean-up. Construction will require temporary staging and storage of materials and equipment. Staging areas will be located onsite.

Although construction is not expected to generate hazardous waste, field equipment used during construction has the potential to contain various hazardous materials such as diesel fuel, hydraulic oil, grease, solvents, adhesives, paints, and other petroleum-based products.

2.1.8.4 Operation and Maintenance

Operation and maintenance of the new pipeline will continue to be performed by the PPUD's existing maintenance staff.

2.1.9 Site and Surrounding Land Uses and Setting

The Project area is mainly within local road rights-of-way and is surrounded by SR 99, ruderal vacant lots, residential, commercial, and industrial development, Pixley Park, and agricultural lands. See **Figure 2-4** and **Figure 2-5** for the zoning and general plan designations, respectively.

2.1.10 Other Public Agencies Whose Approval May Be Required

- County of Tulare (County) – Encroachment Permit
- California Department of Transportation (CalTrans) – Encroachment Permit
- State Water Resources Control Board, Division of Drinking Water (DDW) – Water Supply Permit
- State Water Resources Control Board – National Pollutant Discharge Elimination System (NPDES) Construction General Permit
- San Joaquin Valley Air Pollution Control District (SJVAPCD)– rules and regulations (Regulation VIII, Rule 9510; Regulation IV, Rule 4702)

2.1.11 Consultation with California Native American Tribes

Public Resources Code Section 21080.3.1, *et seq.* (*codification of AB 52, 2014*)) requires that a lead agency, within 14 days of determining that it will undertake a project, must notify in writing any California Native American Tribe traditionally and culturally affiliated with the geographic area of the project if that Tribe has previously requested notification about projects in that geographic area. The notice must briefly describe the project and inquire whether the Tribe wishes to initiate request formal consultation. Tribes have 30 days from receipt of notification to request formal consultation. The lead agency then has 30 days to initiate the consultation, which then continues until the parties come to an agreement regarding necessary mitigation or agree that no mitigation is needed, or one or both parties determine that negotiation occurred in good faith, but no agreement will be made.

PPUD has not received any written correspondence from a Tribe pursuant to Public Resources Code Section 21080.3.1 requesting notification of proposed Project.

Chapter 2 Project Description

Water Main Extension Project

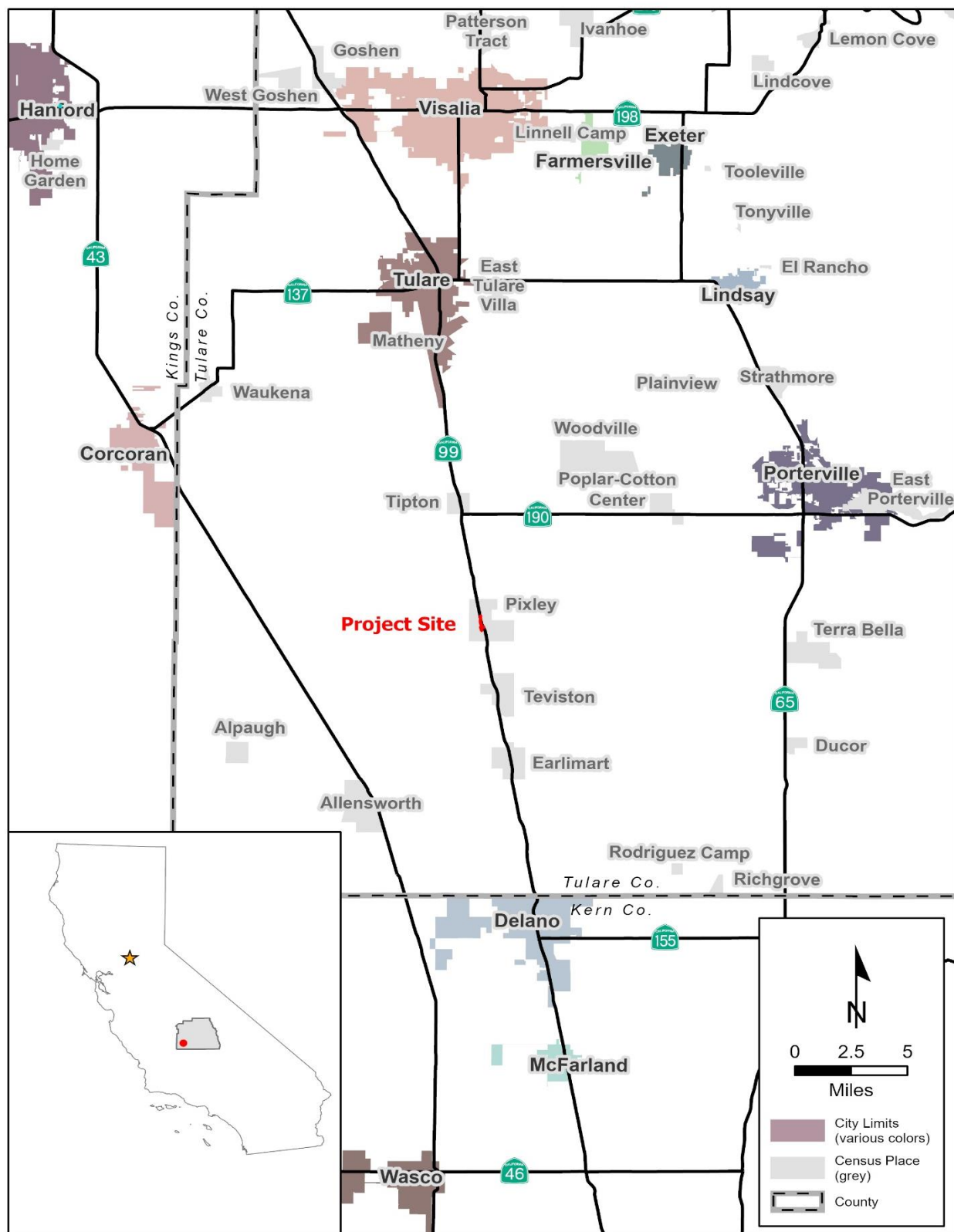


Figure 2-1. Regional Location

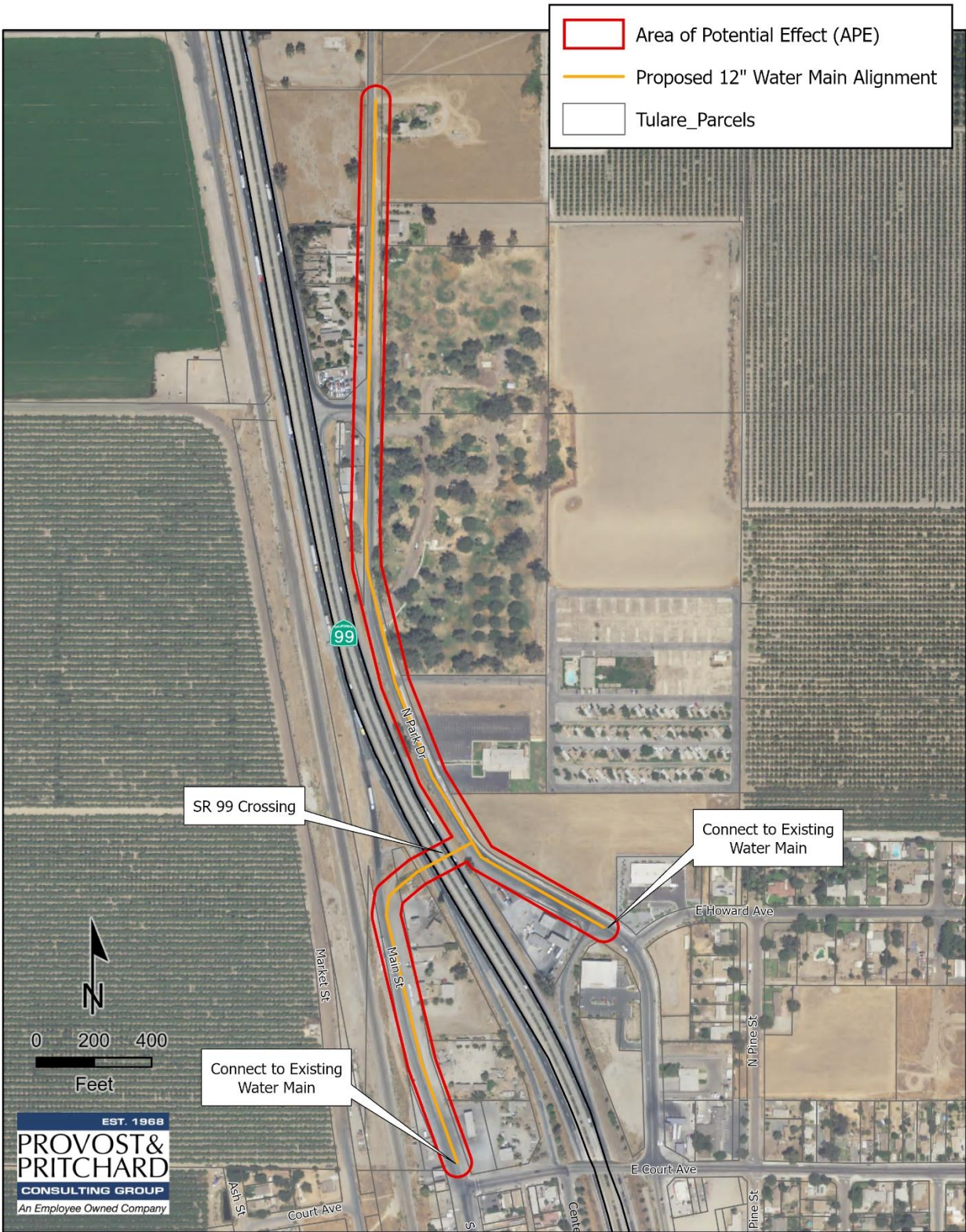


Figure 2-2. Area of Potential Effect Map

Chapter 2 Project Description

Water Main Extension Project

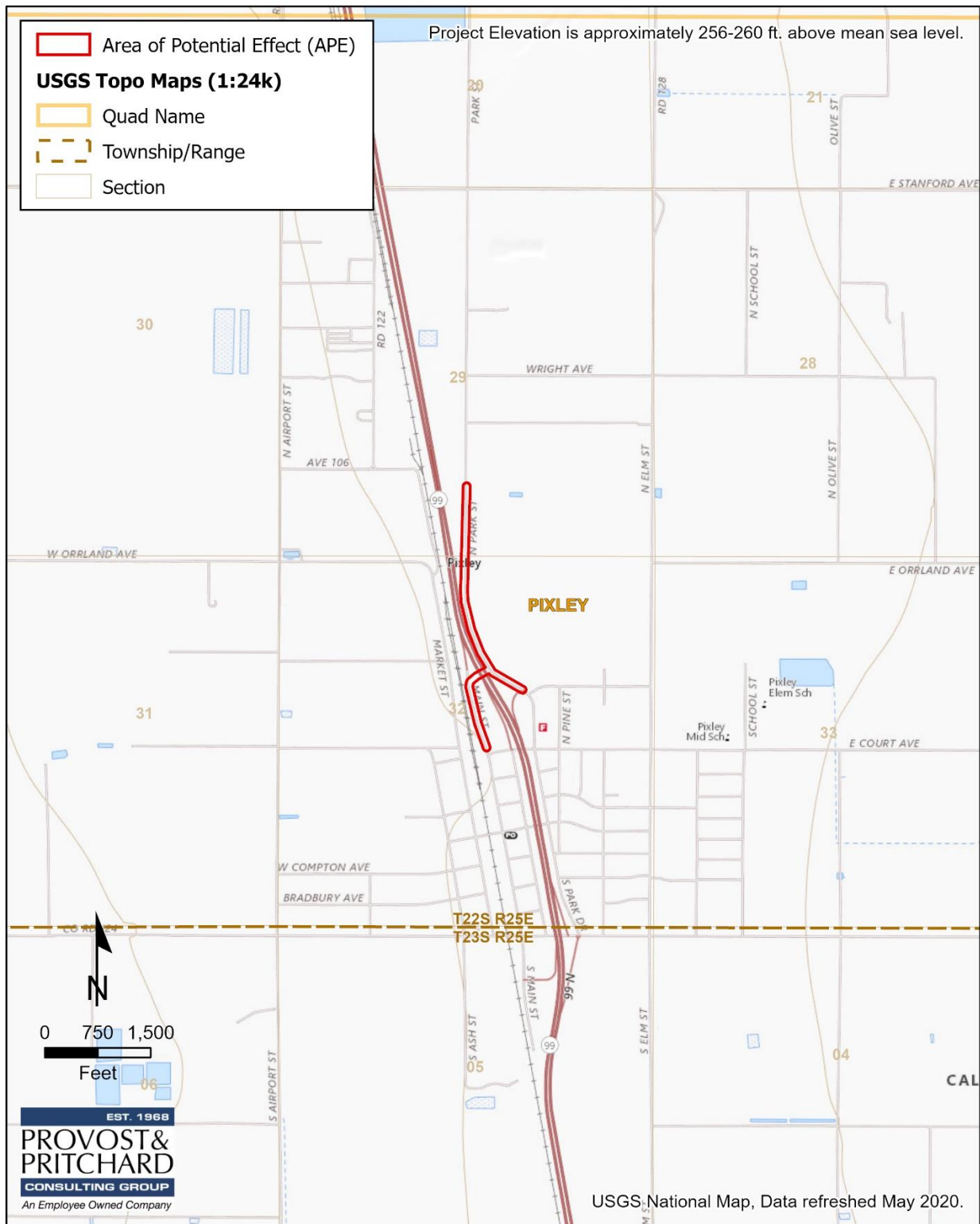


Figure 2-3. Topographic Quadrangle Map

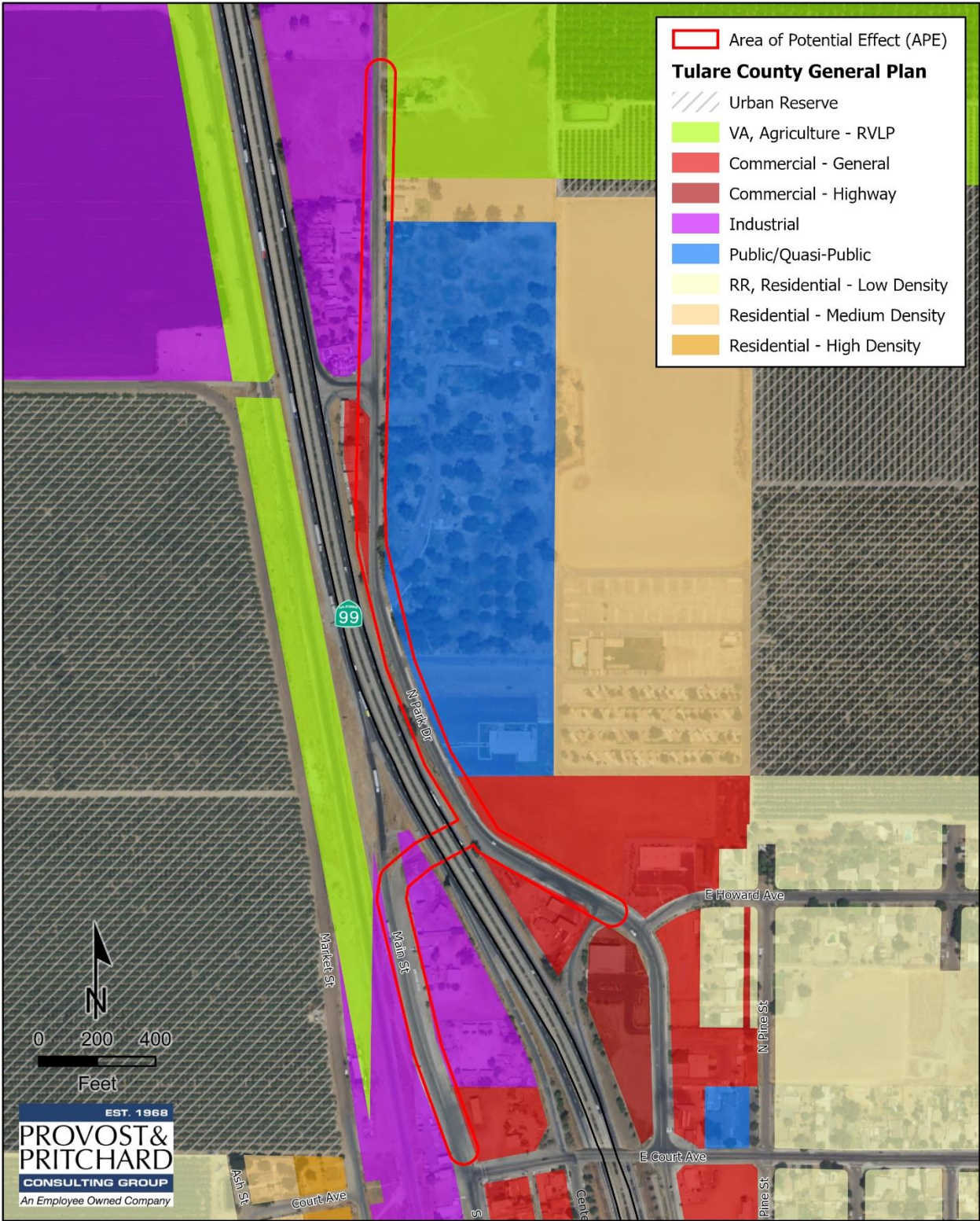


Figure 2-4. Tulare County General Plan Land Use Designation Map

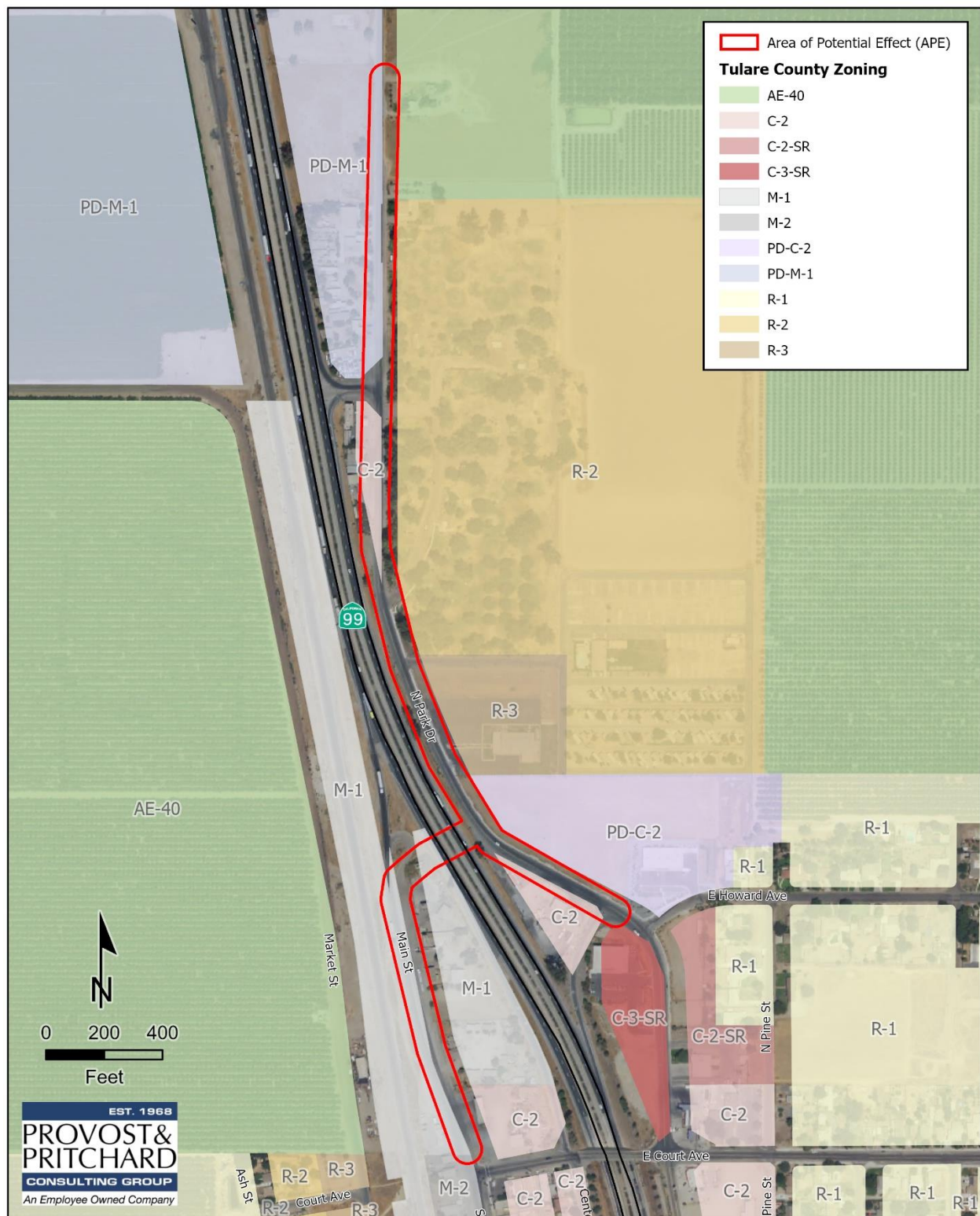


Figure 2-5. Tulare County Zone District Map

Chapter 3 Impact Analysis

3.1 Environmental Factors Potentially Affected

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

- | | | |
|--|---|--|
| ☐ Aesthetics | ☐ Agriculture & Forestry 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 |

The analyses of environmental impacts here in **Chapter 3** and in **Chapter 4 Mitigation Monitoring and Reporting Program** 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 with Mitigation Incorporated. This category applies where the incorporation of mitigation measures would reduce an effect from a “Potentially Significant Impact” to a “Less than Significant Impact.” The lead agency must describe the mitigation measure(s), and briefly explain how they would reduce the effect to a less than significant level (mitigation measures from earlier analyses may be cross-referenced).

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

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

3.2 Aesthetics

Table 3-1. Aesthetics Impacts

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

3.2.1 Environmental Setting and Baseline Conditions

The Project would take place in the community of Pixley, California in Tulare County. The Project site would be composed of a section of North Park Drive east of SR 99 to the west of Pixley Park, a crossing underneath SR 99, and a section of Main Street west of SR 99 running south. The Project proposes to upgrade pipelines and interconnect to two existing water mains within Pixley, one near the intersection of North Park Drive and East Howard Ave, and the other near the intersection of Main Street and East Court Ave. Construction would occur within the existing local road rights of way, a couple of private easements and under SR 99. The Project would not result in the introduction of new permanent lighting that would be a new source of glare in the area.

Pixley is an urban built-up community that is surrounded by agriculture and open space. The Project area is found in parts of the community that are characterized by commercial and manufacturing buildings, with some residential housing. Part of the Project site would be adjacent to Pixley Park, a 22-acre open space area. The local roads that would be affected by construction activities during the Project serve many businesses including car dealerships, restaurants, tire shops, as well as homes. Pixley Park not only serves the nearly 3,800 residents¹ of Pixley, but also travelers of SR 99, as a rest stop.

The nearest scenic resource to Pixley is the Pixley National Wildlife Refuge 6.5 miles to the southwest, but it cannot be seen from the Project site. The Project site is relatively flat, with the nearest significant topographic reliefs being the coastal range foothills 60 miles to the west with elevations up to 3,000 feet, and the Sierra Nevada Mountain Range approximately 40 miles to the east with elevations reaching over 14,000 feet and containing national forest and park lands. The Sierra Nevada Range is visible on clear weather days from the Project site. According to Caltrans² there are no designated scenic highways in or near Pixley. In addition, according to Rivers.org³ there are no scenic rivers in or near Pixley.

¹ Pixley, California Population 2021 (Demographics, Maps, Graphs) (worldpopulationreview.com) . Accessed February 2021.

² California State Scenic Highway System Map (arcgis.com). Accessed February 2021.

³ <https://www.rivers.gov/river-app/index.html?state=CA>. Accessed February 2021.

3.2.2 Impact Assessment

a) Would the project have a substantial adverse effect on a scenic vista?

No Impact. The Project would not have a substantial adverse effect on a scenic vista. The Project would result in temporary construction to replace existing subterranean pipelines and to interconnect to two existing water mains. The Project would be buried within land that has previously been disturbed. In addition, the work that would be done for this Project would be done underground and covered up to pre-construction conditions and would not be visible during operations. Therefore, there would be no impact.

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

No Impact. The Project would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway. As mentioned above, the Project would not be located near a state scenic highway or river. The Project would upgrade pipelines on land that has already been disturbed. As a result, no scenic resources would be substantially damaged during this Project. Therefore, there would be no impact.

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

No Impact. The Project is in an urbanized area and would not conflict with applicable zoning and other regulations governing scenic quality. The Project would not conflict with the policies regarding scenic resources set forth in the Pixley Community Plan⁴. Construction would be temporary, and the roadways affected would be returned to pre-construction quality after the pipe is installed. As a result, there would be no conflict with applicable scenic quality regulations for the area. Therefore, there would be no impact.

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

No Impact. The Project would not create a new source of substantial light or glare which would adversely affect day or nighttime views in the area. The Project would result in temporary construction of a new pipeline. Pipe would be laid underground and covered up to pre-construction conditions. The Project would not introduce any new permanent source of lighting that would cause glare for the area. Therefore, there would be no impact.

⁴ [GPA 14-002 PIXLEY COMMUNITY PLAN.pdf \(tulare.ca.us\)](#). Accessed February 2021.

3.3 Agriculture and Forestry Resources

Table 3-2. Agriculture and Forest Impacts

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

3.3.1 Environmental Setting and Baseline Conditions

The Project site is located in Pixley, California. Pixley is an urban community in Tulare County that is surrounded by rural, agricultural lands outside of the urban development boundary. Like the rest of the San Joaquin Valley, Pixley's economy is reliant on the production of agriculture products. While the Project is not located near an agriculturally zoned area, farming is a large part of what drives the community. In addition, the California Department of Fish and Wildlife⁵ and the US Forest Service⁶ do not recognize any area adjacent to or on the Project site as being a forest or timberland.

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

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

⁵ [Timberland Conservation Program \(ca.gov\)](https://www.cdwr.ca.gov/). Accessed February 2021.

⁶ <https://www.fs.usda.gov/visit/maps>. Accessed February 2021.

statewide importance, unique farmland, farmland of local importance, and grazing land – rated according to soil quality and irrigation status. Each is summarized below⁷:

- **PRIME FARMLAND (P):** Farmland with the best combination of physical and chemical features able to sustain long term agricultural production. This land has the soil quality, growing season, and moisture supply

needed to produce sustained high yields. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.

- **FARMLAND OF STATEWIDE IMPORTANCE (S):** Farmland similar to Prime Farmland but with minor shortcomings, such as greater slopes or less ability to store soil moisture.

Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.

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

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

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

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

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

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

As demonstrated in **Figure 3-1**, the FMMP shows that the Project site is located on land designated as “Urban and Built-Up Land”. A small portion of the northern end of the APE is Farmland of Local Importance, however actual ground disturbance work in that area of the Project would take place in road right of way (Urban and Built-Up Land) and would not take place on farmland. The Project would not be in conflict with land designated for Prime Farmland, Farmland of Statewide Importance, or Unique Farmland.

Williamson Act: There are several properties located within five miles of the Project site that are designated as Williamson Act properties. According to the California Department of Conservation⁸ Williamson Act program lands are agreements between landowners and local governments to specify lands for agricultural or open space

⁷ [Department of Conservation Map Server \(ca.gov\)](#). Accessed February 2021.

⁸ [Williamson Act Program \(ca.gov\)](#). Accessed January 2021.

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use over a length of time. The agreement locks land use for the length of the contract and landowners receive property reduced tax assessments in exchange for agreeing to use the space for agricultural and/or open space purposes. While the Project site is not a Williamson Act land, the surrounding area is zoned for agricultural and open space use resulting in many Williamson Act properties.

3.3.2 Impact Assessment

a) Would the project 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?

No Impact. The Project would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use (**Figure 3-1**). The Project site is also not designated as an area of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance according to the mapping service provided by the DOC. The Project Site is designated as “Urban and Built-up Land”, with a small portion of the northern end of the APE designated as “Farmland of Local Importance” by the DOC. The Project would upgrade pipelines in the right of way of existing roads and cross underneath SR 99. All of the construction areas are not farmland and would be places that have already been disturbed. Therefore, there would be no impact.

The Project FMMP farmland designations are shown in **Figure 3-1**.

b) Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?

No Impact. The Project would not conflict with existing zoning for agricultural use, or a Williamson Act contract. The areas affected by construction for the Project have already been disturbed and are not designated as farmland of any kind. Additional land acquisition would not be required as a part of the Project. While some land in the Pixley area is designated as a Williamson Act participant, the Project site would not cause a change to a Williamson Act property. As a result, the proposed changes brought about by the Project would not conflict with existing zoning or with any Williamson Act contracts within the area. Therefore, there would be no impact.

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

No Impact. The Project would not conflict with existing zoning for, or cause rezoning of, forest land, timberland, or timberland zoned Timberland Production. The Pixley Community Plan⁹ has not designated any place in the Project area or surrounding lands as Forest Land, Timberland, or timberland zoned for Timberland Production. The Project would have construction activities in areas that have previously been disturbed and would not be in or near a forest or timberland environment. Therefore, there would be no impact.

d) Would the project result in the loss of forest land or conversion of forest land to non-forest use?

No Impact. The Project is not located in or near any forest land. Therefore, the Project would not result in the loss of forest land or conversion of forest land to non-forest use. There would be no impact.

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

No Impact. The Project would not involve changes in the existing environment and would not result in the conversion of farmland to non-agricultural use or the conversion of forest land to non-forest use. The land that

<http://generalplan.co.tulare.ca.us/documents/GP/001Adopted%20Tulare%20County%20General%20Plan%20Materials/120Part%20III%20Community%20Plans%201%20of%207/009Pixley/GPA%2014-002%20PIXLEY%20COMMUNITY%20PLAN.pdf>

Accessed February 2021

would be worked on during Project activities is not designated as farmland or forest land. In addition, no land acquisition would be required for the completion of the Project. Therefore, there would be no impact.

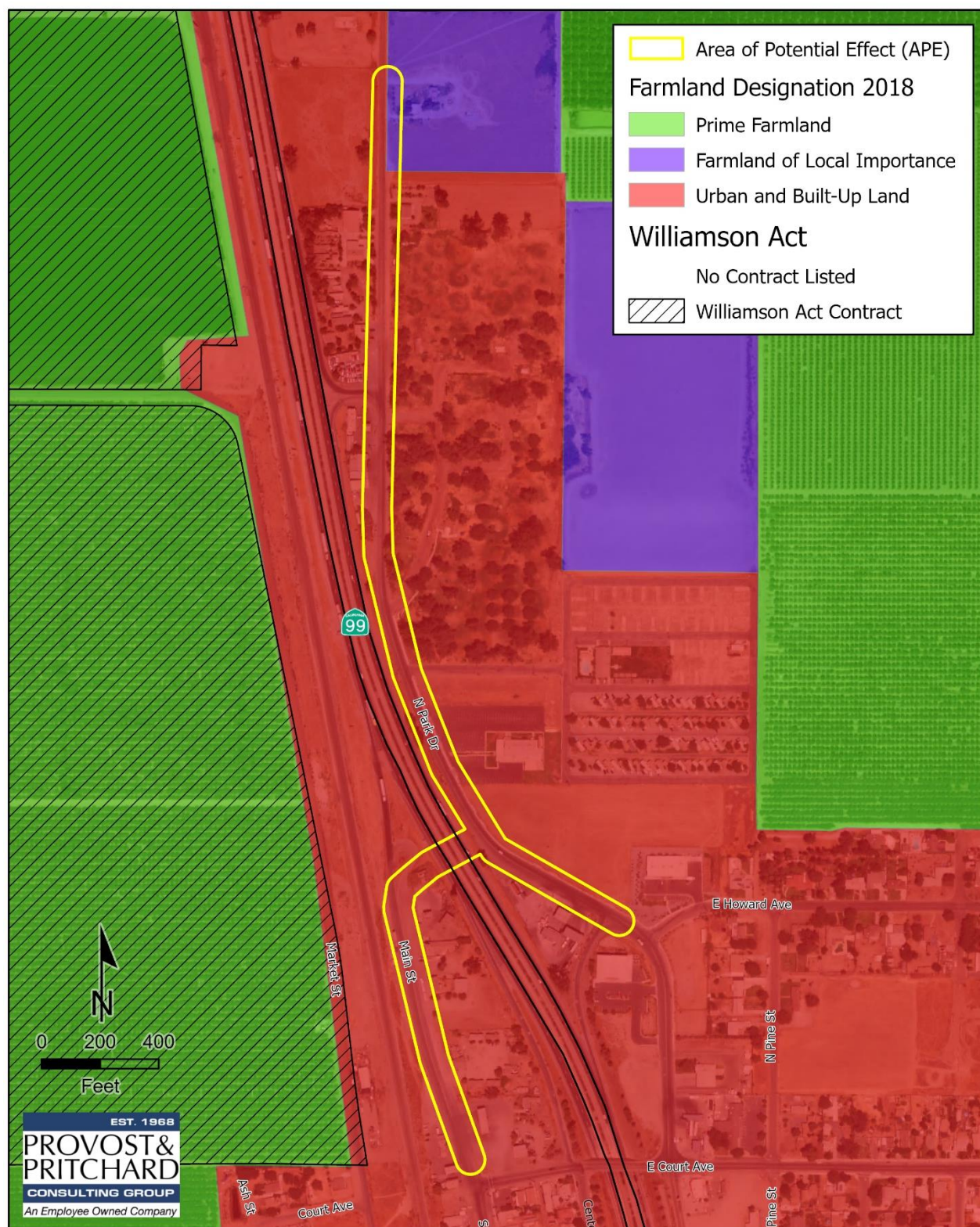


Figure 3-1. Farmland Designation Map

3.4 Air Quality

Table 3-3. Air Quality Impacts

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

3.4.1 Environmental Setting and Baseline Conditions

3.4.1.1 Regulatory Attainment Designations

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

The EPA designates areas for ozone, CO, and NO₂ as “does not meet the primary standards,” “cannot be classified,” or “better than national standards.” For SO₂, areas are designated as “does not meet the primary standards,” “does not meet the secondary standards,” “cannot be classified,” or “better than national standards.” However, the CARB terminology of attainment, nonattainment, and unclassified is more frequently used. The EPA uses the same sub-categories for nonattainment status: serious, severe, and extreme. In 1991, EPA assigned new nonattainment designations to areas that had previously been classified as Group I, II, or III for PM₁₀ based on the likelihood that they would violate national PM₁₀ standards. All other areas are designated “unclassified.”

The State and national attainment status designations pertaining to the SJVAB are summarized in [Appendix A](#). The SJVAB is currently designated as a nonattainment area with respect to the State PM₁₀ standard, ozone, and PM_{2.5} standards. The SJVAB is designated nonattainment for the NAAQS 8-hour ozone and PM_{2.5} standards. On September 25, 2008, the EPA re-designated the San Joaquin Valley to attainment status for the PM₁₀ NAAQS and approved the PM₁₀ Maintenance Plan.

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California's ambient air monitoring network is one of the most extensive in the world, with more than 250 sites and 700 individual monitors measuring air pollutant levels across a diverse range of topography, meteorology, emissions, and air quality. Existing levels of ambient air quality and historical trends and projections in the Project are best documented by measurements made by these monitoring sites. The nearest monitoring site to the Project is approximately 14 miles northeast of the Project in the City of Porterville at 1839 Newcomb Street.

The site measures O₃, PM₁₀, and PM_{2.5}. Data presented in **Table 3-4** summarize monitoring data from the CARB's Aerometric Data Analysis and Management System for the Porterville-1839 Newcomb Street (Porterville Station) published from 2017 to 2019. PM₁₀ data was taken from the Visalia-Church Street location as the Porterville Station does not provide this data.

Table 3-4. Ambient Air Quality Monitoring Summary

Air Pollutant	Averaging Time	Item	2017	2018	2019
Ozone	1-hour	Max 1 Hour (ppm)	.100	.093	.081
		Days > State Standard (0.09 ppm)	4	0	0
	8-hour	Max 8 Hour (ppm)	.090	.085	.073
		Days > State Standard (0.070 ppm)	34	38	7
		Days > National Standard (0.070 ppm)	34	36	6
Inhalable coarse particles (PM10)	Annual	Days > National Standard (0.075 ppm)	17	9	0
		National Annual Average (µg/m3)	47.4	52.5	45.7
	24-hour	National 24 Hour (µg/m3) ¹	144.8	153.4	411.1
		Days > State Standard (50 µg/m3)	0	0	5
		Days > National Standard (150 µg/m3) ¹	135.9	164.4	115.8
Fine particulate matter (PM2.5)	Annual	National Annual Average (µg/m3) ¹	16.2	17.3	12.9
	24-hour	24 Hour (µg/m3)	72.3	77.4	50.7
		Days > National Standard (35 µg/m3) ¹	26.7	42.3	19.9

¹Data was provided by the Visalia-Church Street location.

Table 3-5. Summary of Ambient Air Quality Standards and Attainment Designation

Pollutant	Averaging Time	California Standards*		National Standards*	
		Concentration*	Attainment Status	Primary	Attainment Status
Ozone (O ₃)	1-hour	0.09 ppm	Nonattainment/ Severe	–	No Federal Standard
	8-hour	0.070 ppm	Nonattainment	0.075 ppm	Nonattainment (Extreme)**
Particulate Matter (PM ₁₀)	AAM	20 µg/m ³	Nonattainment	–	Attainment
	24-hour	50 µg/m ³		150 µg/m ³	
Fine Particulate Matter (PM _{2.5})	AAM	12 µg/m ³	Nonattainment	12 µg/m ³	Nonattainment
	24-hour	No Standard		35 µg/m ³	
Carbon Monoxide (CO)	1-hour	20 ppm	Attainment/ Unclassified	35 ppm	Attainment/ Unclassified
	8-hour	9 ppm		9 ppm	
	8-hour (Lake Tahoe)	6 ppm		–	
Nitrogen Dioxide (NO ₂)	AAM	0.030 ppm	Attainment	53 ppb	Attainment/ Unclassified
	1-hour	0.18 ppm		100 ppb	
Sulfur Dioxide (SO ₂)	AAM	–	Attainment	--	Attainment/ Unclassified
	24-hour	0.04 ppm		--	
	3-hour	–		0.5 ppm	
	1-hour	0.25 ppm		75 ppb	
Lead (Pb)	30-day Average	1.5 µg/m ³	Attainment	–	No Designation/ Classification
	Calendar Quarter	–		--	
	Rolling 3-Month Average	–		0.15 µg/m ³	
Sulfates (SO ₄)	24-hour	25 µg/m ³	Attainment	No Federal Standards	
Hydrogen Sulfide (H ₂ S)	1-hour	0.03 ppm (42 µg/m ³)	Unclassified		
Vinyl Chloride (C ₂ H ₃ Cl)	24-hour	0.01 ppm (26 µg/m ³)	Attainment		
Visibility-Reducing Particle Matter	8-hour	Extinction coefficient: 0.23/km-visibility of 10 miles or more due to particles when the relative humidity is less than 70%.	Unclassified		

* For more information on standards visit: <https://ww3.arb.ca.gov/research/aags/aags2.pdf>

** No Federal 1-hour standard. Reclassified extreme nonattainment for the Federal 8-hour standard.

***Secondary Standard

Source: CARB 2021; SJV-APCD 2021

3.4.2 Impact Assessment

3.4.2.1 Short-Term Construction-Generated Emissions

Short-term construction emissions associated with the Project were calculated in February 2021 using the Road Construction Emissions Model, version 9.0.0, developed by the Sacramento Metropolitan Air Quality Management District. The emissions modeling includes emissions generated by off-road equipment, haul trucks, and worker commute trips. Emissions were quantified based on anticipated construction schedules and construction equipment requirements provided by the Project applicant. All remaining assumptions were based on the default parameters contained in the model. Localized air quality impacts associated with the Project would be minor and were qualitatively assessed. Modeling assumptions and output files are included in [Appendix A](#).

3.4.2.2 Long-Term Operational Emissions

Long-term operational emissions associated with the Project are estimated to be minimal in nature. Maintenance will be provided on an as needed basis by existing staff, and the operational equipment will be similar to the existing system which results in negligible emissions. As such, long-term operational emissions were not analyzed.

3.4.2.3 Thresholds of Significance

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

Short-Term Emissions of Particulate Matter (PM₁₀): Construction impacts associated with the proposed Project would be considered significant if the feasible control measures for construction in compliance with Regulation VIII as listed in the SJVAPCD guidelines are not incorporated or implemented, or if project-generated emissions would exceed 15 tons per year (TPY).

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

Long-Term Emissions of Particulate Matter (PM₁₀): Operational impacts associated with the proposed Project would be considered significant if the project generates emissions of PM₁₀ that exceed 15 TPY.

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

Conflict with or Obstruct Implementation of Applicable Air Quality Plan: Due to the region's nonattainment status for ozone, PM_{2.5}, and PM₁₀, if the project-generated emissions of either of the ozone precursor pollutants (i.e., ROG and NO_x) or PM₁₀ would exceed the SJVAPCD's significance thresholds, then the project would be considered to conflict with the attainment plans. In addition, if the project would result in a change in land use and corresponding increases in vehicle miles traveled, the project may result in an increase in vehicle miles traveled that is unaccounted for in regional emissions inventories contained in regional air quality control plans.

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

Exposure to toxic air contaminants (TAC) would be considered significant if the probability of contracting cancer for the Maximally Exposed Individual (i.e., maximum individual risk) would exceed 20 in 1 million or would result in a Hazard Index greater than 1.

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

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

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

Less than Significant Impacts. Estimated construction-generated emissions are summarized in **Table 3-6** below and will be less than the SJVAPCD established thresholds of significance. Construction-related air quality emissions are below the SJVAPCD Rule 9510 threshold to reduce construction emissions. Impacts will be less than significant.

Table 3-6. Unmitigated Short-Term Construction-Generated Emissions of Criteria Air Pollutants

Source	Annual Emissions (Tons/Year) ⁽¹⁾					
	ROG	NO _x	CO	PM ₁₀	PM _{2.5}	SO _x
2021	0.03	0.29	0.36	0.02	0.01	<0.01
SJVAPCD Significance Thresholds:	10	10	100	15	15	27
Exceed SJVAPCD Thresholds?	No	No	No	No	No	No

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

c) Would the project expose sensitive receptors to substantial pollutant concentrations?

Less than Significant Impact. The Project would result in the emission of diesel particulate matter, which consists of a variety of chemicals, can reach deep into the lung, where they can contribute to a range of health problems. These include irritation to the eyes, throat and nose, heart and lung disease, and lung cancer. The Project is estimated to emit approximately 0.41 pounds of diesel particulate matter per day, or 25.5 pounds for the entirety of the construction schedule. A prioritization score of 0.03, based on a nearest sensitive receptor located less than 100 meters, which indicates that a Health Risk Assessment is not needed. Impacts will be temporary and less than significant.

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

Less than Significant Impact. The Project is anticipated to require the combustion of diesel and application of chemical such as lubricants, sealants, and adhesives. Quantities of these chemicals will be minor and will be stored in necessary containers. Impacts will be less than significant.

3.5 Biological Resources

Table 3-7. Biological Resources Impacts

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

3.5.1 Environmental Setting and Baseline Conditions

A reconnaissance-level field survey of the APE (See **Figure 2-2**) and surrounding areas was conducted on February 26, 2021, by Provost & Pritchard's biologist, Dena Giacomini. The full written report of biological findings is contained in **Appendix B**. The Project's APE is illustrated in **Figure 2-2**. The field survey consisted of walking and driving the APE while identifying and noting land uses, biological habitats and communities, and plant and animal species encountered. Furthermore, the APE was assessed for suitable habitats of various wildlife species.

The Project site is located in the southwestern portion of Tulare County within the lower San Joaquin Valley, part of the Great Valley of California (**Appendix B**). The Valley is bordered by the Sierra Nevada Mountain

Ranges to the east, the Coast Ranges to the west, the Klamath Mountains and Cascade Range to the north, and the Transverse Ranges and Mojave Desert to the south.

According to CNDDDB, there are no recorded observations of natural communities of special concern with potential to occur within the Project area or vicinity. Furthermore, biological communities observed onsite during the field survey were significantly disturbed, degraded by the presence of invasive species, and therefore provide relatively low-quality habitat for most native wildlife species. Photographs of the Project areas and vicinity are available in **Appendix B** at the end of this document.

Special Status Plants and Animals

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

A thorough search of the CNDDDB and IPaC for published accounts of special status plant and animal species was conducted for *Pixley* 7.5-minute quadrangle that contains the APE in its entirety, and for the eight surrounding quadrangles: *Taylor Weir*, *Tipton*, *Woodville*, *Alpaugh*, *Sausalito School*, *Allensworth*, *Delano West* and *Delano East*. These species, and their potential to occur within the Project area are listed in **Table 3-8** and **Table 3-9** on the following pages. Raw data obtained from CNDDDB and IPaC are available in **Appendix B** at the end of this document. All relevant sources of information, as discussed in the Study Methodology section of this report (above), were used to determine if any special status species are known to be within the Project APE. **Figure 2-3** shows the Project’s 7.5-minute quadrangle, according to USGS Topographic Maps.

Table 3-8. List of Special Status Animals with Potential to Occur Onsite and/or in the Vicinity

Species	Status	Habitat	Occurrence on Project Site
American badger (<i>Taxidea taxus</i>)	CSC	Grasslands, savannas, and mountain meadows near timberline are preferred. Most abundant in drier open spaces of shrub and grassland. Burrows in soil.	Absent. The APE is surrounded by existing SR 99, roadways, urban businesses, and residential homes and small disturbed agricultural lands. The area is lacking in undisturbed grassland open spaces.
Bakersfield Legless Lizard (<i>Anniella grinnelli</i>)	CSC	General habitat is sandy with herbaceous cover and scattered shrubs in grassland, sand/dune, or chaparral. Burrows in soil. Fallen logs, woody debris, and leaf litter under trees and bushes in sunny areas often indicate suitable habitat.	Unlikely. The APE is a highly disturbed area, and the surrounding lands are unsuitable for this species. This species is presumed extant and last seen over 4.75 miles southwest from the APE.
blunt-nosed leopard lizard (<i>Gambelia sila</i>)	FE, CE, CFP	Inhabits semi-arid grasslands, alkali flats, low foothills, canyon floors, large washes, and arroyos, usually on sandy, gravelly, or loamy substrate, sometimes on	Unlikely. Although there are many observations in the within a few miles of the APE, the project activities would be located within the road and is located in a highly

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Species	Status	Habitat	Occurrence on Project Site
		hardpan. Often found where there are abundant rodent burrows in dense vegetation or tall grass. Cannot survive on lands under cultivation. Known to bask on kangaroo rat mounds and often seeks shelter at the base of shrubs, in small mammal burrows, or in rock piles. Adults may excavate shallow burrows but rely on deeper pre-existing rodent burrows for hibernation and reproduction.	disturbed area. This species is presumed extant and last seen 1-mile west of the APE in 2018.
burrowing owl (<i>Athene cunicularia</i>)	CSC	Resides in open, dry annual or perennial grasslands, deserts, and scrublands with low growing vegetation. Nests underground in existing burrows created by mammals, most often ground squirrels.	Unlikely. The highly disturbed habitats of the APE and surrounding lands are unsuitable for this species. Nesting and foraging habitat is absent due to busy roads and/or lack of vegetative cover. At most, a burrowing owl individual could potentially pass over or through the site but would not be expected to nest or forage within or adjacent to the APE.
coast horned lizard (<i>Phrynosoma blainvillii</i>)	CSC	Found in grasslands, coniferous forests, woodlands, and chaparral, primarily in open areas with patches of loose, sandy soil and low-lying vegetation in valleys, foothills, and semi-arid mountains. Frequently found near ant hills and along dirt roads in lowlands along sandy washes with scattered shrubs.	Absent. The highly disturbed habitats of the APE and surrounding lands are unsuitable for this species. This species is presumed extant and last seen in 1992.
Kern Brook Lamprey (<i>Entosphenus hubbsi</i>)	CSC	Silty backwaters of large rivers in the foothills region. Requires slight flow and shallow pools with sand, gravel, rubble, and mud substrate in areas where summer temperatures rarely exceed 77 degrees Fahrenheit.	Absent. The APE does not contain any water sources. The nearest water source is Deer Creek located approximately 4-miles south of the APE.
loggerhead shrike (<i>Lanius ludovicianus</i>)	CSC	Frequents open habitats with sparse shrubs and trees, other suitable perches, bare ground, and low herbaceous cover. In the Central Valley, nests in riparian areas, desert scrub, and agricultural hedgerows.	Unlikely. Suitable nesting habitat is absent from the APE and surrounding lands. The only regional observation of this species occurred approximately 30 years ago in riparian habitat along Cottonwood Creek. At

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Species	Status	Habitat	Occurrence on Project Site
			most, this species could occasionally fly over the APE.
Nelson's antelope squirrel (<i>Ammospermophilus nelsoni</i>)	CT	Found in the western San Joaquin Valley on dry, sparsely vegetated loamy soils. Relies heavily on existing small mammal burrows.	Absent. The APE and surrounding is located in a highly disturbed, urban area. Although presumed extant, that last known sighting in Tulare County was in 1991.
San Joaquin coachwhip (<i>Masticophis flagellum ruddocki</i>)	CSC	Found in open dry habitats with little or no tree cover in valley grassland and saltbush scrub communities in the San Joaquin Valley. Relies on mammal burrows for refuge and oviposition sites.	Unlikely. The APE and surrounding area is highly disturbed and lacking associated habitat for this species. This species may be found in outlier areas outside of the APE in rodent burrows.
San Joaquin kit fox (<i>Vulpes macrotis mutica</i>)	FE, CT	Underground dens with multiple entrances in alkali sink, valley grassland, and woodland in valleys and adjacent foothills.	Unlikely. Although some populations of San Joaquin Kit Fox in other parts of California have adapted to an urbanized environment, modern kit fox occurrences are locally scarce. The APE is also adjacent to SR 99 with little to no protected habitat. At most, this species could conceivably pass through the APE during dispersal movements.
Swainson's hawk (<i>Buteo swainsoni</i>)	CT	Nests in large trees in open areas adjacent to grasslands, grain or alfalfa fields, or livestock pastures suitable for supporting rodent populations.	Possible. Although there are countless eucalyptus trees that would provide nesting habitat around the APE, no nests were observed during the survey. Additionally, foraging habitat is lacking due to the urban, highly disturbed area.
Tipton kangaroo rat (<i>Dipodomys nitratoideus nitratoideus</i>)	FE, CE	Burrows in soil. Often found in grassland and shrubland.	Unlikely. Suitable habitat for this species is absent from the APE. Presumed extant and last seen near Pixley in 1995.
tricolored blackbird (<i>Agelaius tricolor</i>)	CT, CSC	Nests colonially near fresh water in dense cattails or tules, or in thickets of riparian shrubs. Forages in grassland and cropland. Large colonies are often found on dairy farm forage fields.	Absent. Suitable habitat for this species is absent from the APE. Additionally, this species does not nest or breed in or near disturbed areas.
vernal pool fairy shrimp (<i>Branchinecta lynchi</i>)	FT	Occupies vernal pools, clear to tea-colored water, in grass or mud-bottomed swales, and basalt depression pools.	Absent. Suitable vernal pool habitat for this species is absent from the APE and surrounding lands. The APE is mostly

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Species	Status	Habitat	Occurrence on Project Site
			impermeable surfaces and/or subject to frequent ground disturbance. Further the soil in the area is sandy and well drained which would not allow pooling water necessary for this species.

Explanation of Occurrence Designations and Status Codes

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

Status Codes

FE	Federally Endangered	CE	California Endangered
FT	Federally Threatened	CT	California Threatened
CSC	California Species of Special Concern	CWL	California Watch List
CCE	California Endangered (Candidate)	CR	California Rare

CNPS Listing

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

Table 3-9. List of Special Status Plants with Potential to Occur Onsite and/or in the Vicinity

Species	Status	Habitat	Occurrence on Project Site
alkali mariposa-lily <i>(Calochortus striatus)</i>	CNPS 1B	Found in the Sierra Nevada Foothills, the Desert Mountains, and the Mojave Desert in alkaline meadows, ephemeral washes, and creosote-bush scrub in chaparral, alkali scrub communities, meadows, and seeps at elevations between 230 feet and 5300 feet. Sometimes associated with vernal pools. Blooms April–June.	Absent. Vernal pool habitat is absent from APE and surrounding areas. The disturbed habitats and soils onsite are unsuitable for this species.
alkali-sink goldfields <i>(Lasthenia chrysantha)</i>	CNPS 1B	Found in vernal pool and wet saline flat habitats. Occurrences documented in the San Joaquin and Sacramento Valleys at elevations below 656 feet. Blooms February - April.	Absent. Vernal pool habitat is absent from APE and surrounding areas. The disturbed habitats and soils onsite are unsuitable for this species.
brittlescale <i>(Atriplex depressa)</i>	CNPS 1B	Found in the San Joaquin Valley and Sacramento Valley in alkaline or clay soils, typically in meadows or annual grassland in at elevations below 1050 feet. Sometimes associated with vernal pools. Blooms June–October.	Absent. The disturbed habitats and soils onsite are unsuitable for this species.
California alkali grass <i>(Puccinellia simplex)</i>	CNPS 1B	Found in the San Joaquin Valley and other parts of California in saline flats and mineral springs within valley grassland and wetland-riparian communities at elevations below 3000 feet. Blooms March–May.	Absent. Wetland habitat is absent from APE and surrounding areas. The disturbed habitats and soils onsite are unsuitable for this species.
California jewelflower <i>(Caulanthus californicus)</i>	FE, CE, CNPS 1B	Found in the San Joaquin Valley and Western Transverse Ranges in sandy soils. Occurs on flats and slopes, generally in non-alkaline grassland at elevations between 230 feet and 6100 feet. Blooms February–April.	Unlikely. Although the soils in this area may provide possible habitat, this is a highly disturbed area, and this species is possible extirpated from Tulare County. The last observation was in 1986.
Coulter's goldfields <i>(Lasthenia glabrata ssp. coulteri)</i>	CNPS 1B	Found on alkaline or saline soils in vernal pools and playas in grassland at	Absent. Vernal pool habitat is absent from APE and surrounding areas. The disturbed

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Species	Status	Habitat	Occurrence on Project Site
		elevations below 4500 feet. Blooms April–May.	habitats and soils onsite are unsuitable for this species.
Earlimart orache (<i>Atriplex cordulata</i> var. <i>erecticaulis</i>)	CNPS 1B	Found in the San Joaquin Valley in saline or alkaline soils, typically within valley and foothill grassland at elevations below 375 feet. Blooms August–September.	Absent. The disturbed habitats and soils onsite are unsuitable for this species.
Kern Mallow (<i>Eremalche parryi</i> ssp. <i>kernensis</i>)	CNPS 1B, FE	Occurs in the San Joaquin Valley and the Inner South Coast Ranges in eroded hillsides and alkali flats; often on dry, open, sandy to clay soils and within alkali scrub communities. Occurs at elevations between 200 feet and 4250 feet. Blooms March–May.	Unlikely. The disturbed habitats onsite are unsuitable for this species. Presumed extant but has not been seen in the area since 1988.
lesser saltscale (<i>Atriplex minuscula</i>)	CNPS 1B	Found in the San Joaquin Valley in sandy, alkaline soils in alkali scrub, valley and foothill grassland, and alkali sink communities at elevations below 750 feet. Blooms April–October.	Absent. The disturbed habitats onsite are unsuitable for this species. All regional recorded observations of this species have occurred in vernal pool habitat or alkali grasslands, both of which are absent from the APE and surrounding area.
Lost Hills crownscale (<i>Atriplex coronata</i> var. <i>vallicola</i>)	CNPS 1B	Found in the San Joaquin Valley in dried ponds and alkaline soils in alkali scrub, valley and foothill grassland, and vernal pools at elevations below 2900 feet. Blooms April–September.	Absent. Vernal pool habitat is absent from APE and surrounding areas. The disturbed habitats and soils onsite are unsuitable for this species.
recurved larkspur (<i>Delphinium recurvatum</i>)	CNPS 1B	Occurs in poorly drained, fine, alkaline soils in grassland and alkali scrub communities at elevations between 100 feet and 2600 feet. Blooms March–June.	Absent. The disturbed habitats and soils onsite are unsuitable for this species. This species is presumed extant. The last observation was in 1995.
San Joaquin woollythreads (<i>Monolopia congdonii</i>)	FE, CNPS 1B	Occurs in the San Joaquin Valley in sandy soils on alkaline or loamy plains in valley and foothill grassland and alkali scrub communities at elevations between 180 feet and 2750 feet. Blooms February–May.	Absent. The disturbed habitats and soils onsite are unsuitable for this species. This species is possibly extirpated. The last observation was in 1881.
spiny-sealed button-celery (<i>Eryngium spinosepalum</i>)	CNPS 1B	Found in the Sierra Nevada Foothills and the San Joaquin Valley. Occurs in	Absent. Vernal pool habitat is absent from APE and surrounding areas. The disturbed

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Species	Status	Habitat	Occurrence on Project Site
		vernal pools, swales, and roadside ditches. Often associated with clay soils in vernal pools within grassland communities. Occurs at elevations between 50 feet and 4160 feet. Blooms April–July.	habitats and soils onsite are unsuitable for this species.
subtle orache (<i>Atriplex subtilis</i>)	CNPS 1B	Found in the San Joaquin Valley in saline depressions in alkaline soils within valley and foothill grassland communities at elevations below 330 feet. Blooms June–October.	Absent. The disturbed habitats and soils onsite are unsuitable for this species. This species is presumed extant. The last observation 1995.
vernal pool smallscale (<i>Atriplex persistens</i>)	CNPS 1B	Occurs in the San Joaquin Valley and Sacramento Valley in alkaline vernal pools at elevations below 375 feet. Blooms June–September.	Absent. Vernal pool habitat is absent from APE and surrounding areas. The disturbed habitats and soils onsite are unsuitable for this species.

Explanation of Occurrence Designations and Status Codes

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

Status Codes

FE	Federally Endangered	CE	California Endangered
FT	Federally Threatened	CT	California Threatened
CSC	California Species of Special Concern	CWL	California Watch List
CCE	California Endangered (Candidate)	CR	California Rare

CNPS Listing

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

3.5.2 Impact Assessment

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

Less than Significant Impact with Mitigation Incorporated.

3.5.2.1 Project-Related Impacts to Special Status Plant Species

All 15 of the special status plant species which have been documented in the Project vicinity are considered absent or unlikely from the APE area due to poor or inadequate soils, and past or ongoing disturbance, and/or the absence of suitable habitat. As explained in **Table 3-9**, the following species were deemed absent from the Project site: alkali mariposa-lily, alkali-sink goldfields, brittlescale, California alkali grass, California jewelflower, Coulter's goldfields, Earlmarc orache, Kern Mallow, lesser saltscale, Lost Hills crownscale, recurved larkspur, San Joaquin woollythreads, spiny-sealed button-celery, subtle orache and vernal pool smallscale. Therefore,

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the implementation of the Project would have no effect on individual plants or regional populations of these special status plant species. Mitigation measures are not warranted.

3.5.2.2 Project-Related Impacts to Special Status Animal Species

Of the 14 regionally occurring special status species, 13 are considered absent from or unlikely to occur within the Project area due to past or ongoing disturbance and/or the absence of suitable habitat. As explained in **Table 3-8**, the following species were deemed absent or unlikely to occur within or near the APE: American badger, Bakersfield legless lizard, blunt-nosed leopard lizard, burrowing owl, coast horned lizard, Kern Brook lamprey, loggerhead shrike, Nelson's antelope squirrel, San Joaquin coachwhip, San Joaquin kit fox, Tipton kangaroo rat, tricolored blackbird, and vernal pool fairy shrimp. Therefore, implementation of the Project would have no impact on these 13 special status species through construction mortality, disturbance, or loss of habitat.

Of the 14 special status animal species, only the Swainson's hawk has the potential to be impacted by the proposed Project. Species specific discussions are discussed thoroughly in the Biological Evaluation and can be found in **Appendix B** and are summarized below.

3.5.2.3 Swainson's Hawk

Portions of the site contain marginal foraging habitat for several avian species, including the Swainson's hawk (*Buteo swainsoni*). Suitable nesting trees were observed within the vicinity of the Project APE including large eucalyptus trees. Smaller avian species may nest within ornamental trees and shrubs in residential backyards. Ground nesting birds such as the killdeer (*Charadrius vociferus*) could nest on the bare ground or compacted dirt roads onsite.

Swainson's hawks are common in Tulare County. In the absence of preferred habitat, especially within the Central Valley, Swainson's hawks often nest within eucalyptus trees lining highways, and several raptor species nest within ornamental fan palms. Although nesting habitat onsite and in the vicinity is not ideal due to the absence of native riparian trees, and suboptimal foraging habitat, raptors, such as the special status Swainson's hawk could conceivably nest or forage near the APE. In the event that a Swainson's hawk or other avian species is foraging within the site during construction activities, the individual would be expected to fly away from disturbance they encounter, subsequently eliminating the risk of injury or mortality while foraging. Birds nesting within the site or on the ground could be injured or killed by Project activities. Furthermore, construction activities could disturb birds nesting within or adjacent to work areas, resulting in nest abandonment. Construction activities that adversely affect the nesting success of raptors and migratory birds or result in the mortality of individual birds constitute a violation of State and federal laws and are considered a significant impact under CEQA.

As previously mentioned, due to the ruderal nature of the lands, nesting and foraging habitat for raptors, resident and migratory birds, and special status birds within the APE is marginal, at best. Habitat of higher foraging and nesting value is regionally abundant. Therefore, the development resulting from implementation of the Project would not be considered a significant loss of foraging or nesting habitat under CEQA.

Nesting bird season is generally accepted as February 1 through August 31; however, Swainson's hawk nesting season is generally accepted as March 1 through September 15. For simplicity, these timeframes have been combined. Implementation of the following measures would reduce potential impacts to nesting raptors, migratory birds, and special status birds, including Swainson's hawk and tricolored blackbird to a less than significant level under CEQA, and would ensure compliance with State and federal laws protecting these avian species.

3.5.2.3.1 *Mitigation Measures:*

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

NEST-1b (Pre-construction Surveys): If activities must occur within nesting bird season (February 1 to September 15), a qualified biologist shall conduct pre-construction survey for Swainson's hawk nests onsite and within a 0.5-mile radius around the APE. The Swainson's hawk survey will be conducted in accordance with the Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley (Swainson's Hawk Technical Advisory Committee, 2000) or current guidance. In addition to the focused Swainson's hawk surveys, a qualified biologist shall conduct a pre-construction survey for all other nesting birds within 14 days prior to the start of construction. The survey shall include the proposed work area and surrounding lands within 50 feet. All raptor nests will be considered "active" upon the nest-building stage.

NEST-1c (Establish Buffers): On discovery of any active nests near work areas, the biologist shall determine appropriate construction setback distances based on applicable CDFW and/or USFWS guidelines and/or the biology of the species in question. Specifically, a 0.5-mile disturbance-free buffer shall be implemented around active Swainson's hawk nests between March 1 and September 15. Buffer zones may be adjusted in consultation with the CDFW and the lead CEQA agency. Construction buffers shall be identified with flagging, fencing, or other easily visible means, and shall be maintained until the biologist has determined that the nestlings have fledged and are no longer dependent on the nest.

WEAP-1d (WEAP Training): On discovery of any special status bird species, all personnel associated with Project construction shall attend mandatory Worker Environmental Awareness Program (WEAP) training, conducted by a qualified biologist, prior to initiating construction activities (including staging and mobilization). The specifics of this program shall include identification of the special status species and suitable habitats, a description of the regulatory status and general ecological characteristics of the species, and review of the limits of construction and mitigation measures required to reduce impacts to biological resources within the work area. A fact sheet conveying this information, along with photographs or illustrations of the special status species, shall also be prepared for distribution to all contractors, their employees, and all other personnel involved with construction of the Project. All employees shall sign a form documenting that they have attended WEAP training and understand the information presented to them.

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

No Impact. There are no riparian or sensitive natural communities within the Project area as identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or U. S. Wildlife Service. Therefore, there would be no impact.

c) Would the project 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. There are no federally protected wetlands as defined by Section 404 of the Clean Water Act within the Project area. Implementation of typical ground disturbance and erosion control Best Management Practices

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(BMPs) and compliance with grading permits will insure that there is no impact to storm drainage facilities or nearby canals. Therefore, there would be no impact.

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

Less than Significant Impact. The Project area is within the urban area of Pixley next to SR 99, some commercial, industrial and residential development, and paved roads. Therefore, the Project area does not contain features or conditions that would be likely to function as a wildlife movement corridor. The Project does not propose to permanently block or change any of the areas within the APE by the installation and burial of a water pipeline and repair the existing roadways. Outside of construction hours and after construction completion, species that may pass through the area would be able to continue to do so. For these reasons, implementation of the Project will not have a significant impact on wildlife movement corridors.

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

No Impact. The Project is consistent with relevant biological resources policies of the County of Tulare and would not conflict with local policies or ordinances protecting biological resources. Therefore, there would be no impact.

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

No Impact. There are no Habitat Conservation Plans (HCP) or Natural Community Conservation Plans that cover the Project location within Tulare County. All existing HCPs in Tulare County are project-specific HCPs and not overarching for the County (**Appendix B**). Therefore, there would be no impact.

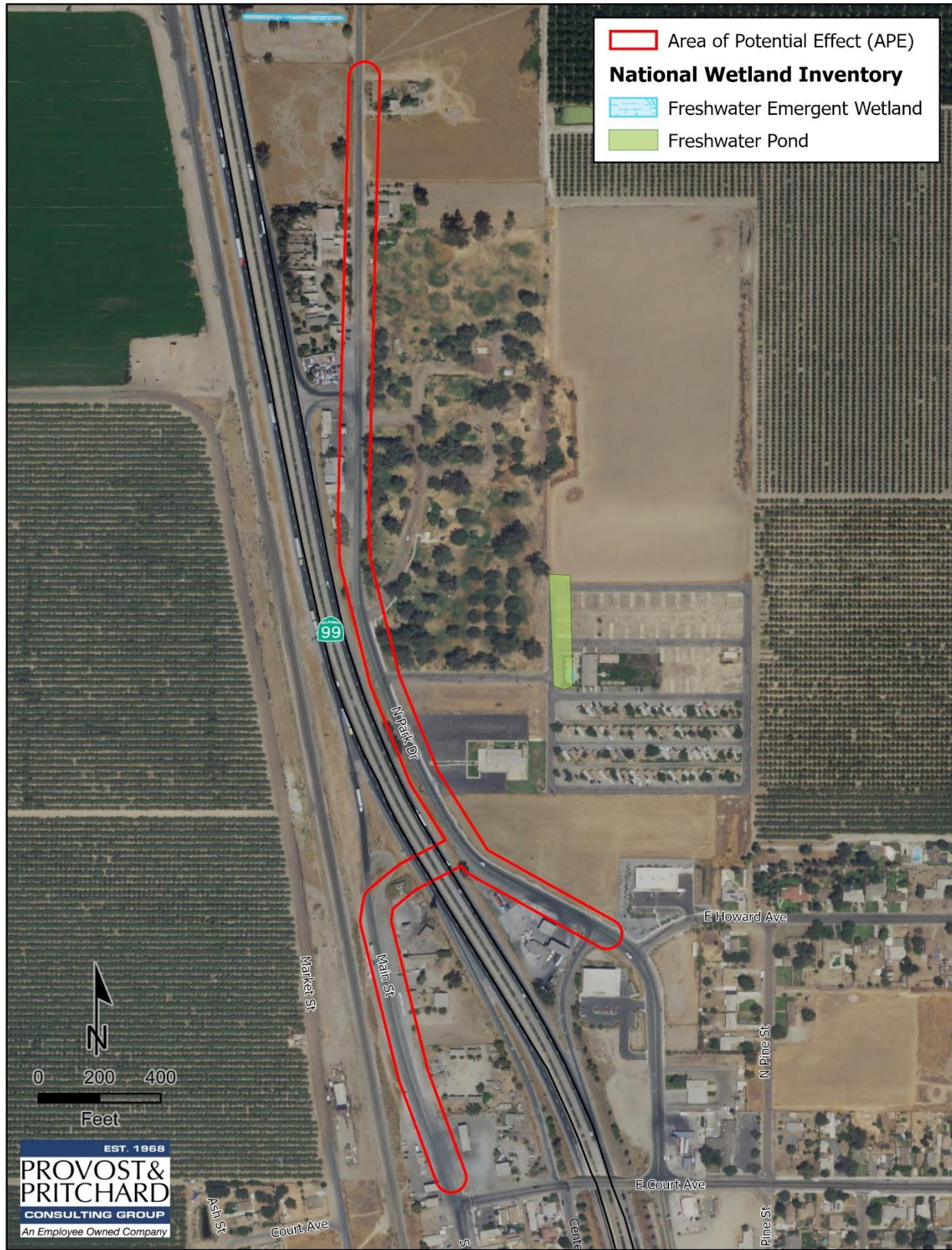


Figure 3-2. Wetlands Map

3.6 Cultural Resources

Table 3-10. Cultural Resources Impacts

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

3.6.1 Environmental Setting and Baseline Conditions

The Proposed Project site lies within Tulare County, which occupies an archeologically and historically rich part of the San Joaquin Valley.

Records Search

On March 1, 2021 Provost & Pritchard received a records search from the Southern San Joaquin Valley Information Center (SSJVIC) of the California Historical Resources Information System (CHRIS), located at California State University, Bakersfield. The records search encompassed the Project APEs as well as a 0.5-mile radius surrounding the various locations. SSJVIC staff examined site record files, maps, and other materials to identify previously recorded resources and prior surveys within the delineated area (**Appendix C**). Additional sources included the State Office of Historic Preservation (SHPO) Historic Properties Directory, Archaeological Determinations of Eligibility, and the California Inventory of Historic Resources.

Native American Outreach

In February of 2021, Provost & Pritchard contacted the Native American Heritage Commission (NAHC) in Sacramento. Provost & Pritchard provided NAHC a brief description of the Project and a map showing its location and requested that the NAHC perform a search of the Sacred Lands File to determine if any Native American resources have been recorded in the immediate study area. The results were negative.

3.6.2 Impact Assessment

a) Would the Project cause a substantial adverse change in the significance of a historical resource as defined in §15064.5? and

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

Less than Significant Impacts with Mitigation Incorporated. A records search from the California Historical Resources Information System (CHRIS) at the Southern San Joaquin Valley Information Center (SSJVIC) dated March 1, 2021 (**Appendix C**) indicated that there have been no previous cultural resource studies conducted within the Project area. However there have been nine previous cultural resource studies conducted within the one-half mile radius. CHRIS did confirm that there are no recorded resources within the Project area.

However, there are four recorded resources within the one-half mile radius. These resources consist of two historic era buildings, an historic era railroad, and an historic era pond.

To identify any historic properties, the SSJVIC examined the current inventories of the National Register of Historic Places (NRHP), California Register of Historical Resources (CRHR), California Historical Landmarks (CHL), California Points of Historical Interest (CPHI), California Inventory of Historic Resources (CIHR), California State Historic Landmarks, and other pertinent historical data available at the SSJVIC. There are no recorded cultural resources within the Project area or radius that are listed in the National Register of Historic Places, the California Register of Historical Resources, the California Points of Historical Interest, California Inventory of Historic Resources, or the California State Historic Landmarks. Therefore, Mitigation Measure **CUL-1** as outlined below has been incorporated into the Project.

Although it is unlikely that archeological resources would be encountered during construction or operation of the proposed Project, **CUL-1** as outline below is to be considered.

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

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

3.6.2.1.1 Mitigation Measure

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

CUL-2 (Human remains) If human remains are uncovered, or in any other case when human remains are discovered during construction, the Tulare 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 and Public Resource Code 5097.98 require that the coroner notify the NAHC within 24 hours of discovery. The NAHC would then identify the Most Likely Descendent who would determine the manner in which the remains are treated.

3.7 Energy

Table 3-11. Energy Impacts

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

3.7.1 Environmental Setting and Baseline Conditions

Current site operations require diesel and gasoline fuel to make maintenance visits, as necessary. Operational energy consumption is composed of electricity consumption to power the existing water production well and its associated appurtenances.

3.7.2 Impact Assessment

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

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

Less than Significant Impacts. Fuel consumed by construction equipment would be the primary energy resource expended over the course of Project construction. For heavy-duty construction equipment, horsepower and load factor were assumed using default data from the Road Construction Emissions Model. Fuel use associated with construction vehicle trips generated by the Project was also estimated; trips include construction worker trips, haul trucks trips for material transport, and vendor trips for construction material deliveries. Fuel use from these vehicles traveling to the Project was based on (1) the projected number of trips the Project will generate, (2) trip distances used in previous projects, and (3) fuel efficiencies estimated in the ARB 2017 Emissions Factors model (EMFAC2017) mobile source emission model.

Construction is estimated to consume a total of 9,789 gallons of diesel fuel and 553 gallons of gasoline fuel. California Code of Regulations Title 13, Motor Vehicles, Section 2449(d)(2), Idling, limits idling times of construction vehicles to no more than 5 minutes, thereby precluding unnecessary and wasteful consumption of fuel because of unproductive idling of construction equipment.

Operational energy usage would remain unchanged from baseline conditions, as the Project consists of the replacement of existing pipeline and interconnection to existing water mains and does not involve the construction of any new wells or pumps. Impacts would therefore be less than significant.

3.8 Geology and Soils

Table 3-12. Geology and Soils Impacts

Geology and Soils Impacts				
Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☐	☒
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☐	☐	☒	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☐	☒
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994) creating substantial direct or indirect risks to life or property?	☐	☐	☐	☒
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒
f) Directly or indirectly destroy a unique paleontological resource or site or unique geological feature?	☐	☐	☒	☐

3.8.1 Environmental Setting and Baseline Conditions

The proposed Project is located in southwestern Tulare County, in the southern section of California's Great Valley Geomorphic Province, or Central Valley. The Sacramento Valley makes up the northern third and the San Joaquin Valley makes up the southern two-thirds of the geomorphic province. Both valleys are watered by large rivers flowing west from the Sierra Nevada Range, with smaller tributaries flowing east from the Coast Ranges. Most of the surface of the Great Valley is covered by Quaternary (present day to 1.6 million years ago) alluvium. The sedimentary formations are steeply upturned along the western margin due to the uplifted Sierra Nevada Range. From the time the Valley first began to form, sediments derived from erosion of igneous and

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metamorphic rocks and consolidated marine sediments in the surrounding mountains have been transported into the Valley by streams.

3.8.1.1 Geology and Soils

Using the USDA NRCS soil survey of Western Tulare County, a report of the onsite soils was generated and is provided in **Appendix D**.

3.8.1.2 Faults and Seismicity

The Project site is not located within an Alquist-Priolo Earthquake Fault Zone and no known faults cut through the local soil at the site. There are no known active faults in Tulare County.¹⁰ The nearest major fault is the San Andreas Fault that runs through Los Angeles County along the northside of the San Gabriel Mountains, located approximately 60 miles southwest of the Project site. The San Andreas Fault is the dominant active tectonic feature of the Coast Ranges and represents the boundary of the North American and Pacific plates. A smaller fault zone, the Poso Fault is approximately 20 miles southwest of the Project

3.8.1.3 Liquefaction

The potential for liquefaction, which is the loss of soil strength due to seismic forces, is dependent on soil types and density, the groundwater table, and the duration and intensity of ground shaking. Although no specific liquefaction hazard areas have been identified in the county, this potential is recognized throughout the San Joaquin Valley where unconsolidated sediments and a high water table coincide. It is reasonable to assume that due to the depth to groundwater within the southern portion of Tulare County, liquefaction hazards would be negligible. Soil conditions are key factors in selecting locations for direct groundwater recharge projects. Using the USDA NRCS soil survey of Tulare County, an analysis of the soils onsite was performed. The predominate soil in the Project area consists of Hanford Sandy Loam, 0-2% slopes, as well as Akers-Akers, 0 to 2 percent slopes (See Custom Soil Resource Report in **Appendix D**.) and well-drained.

3.8.1.4 Soil Subsidence

Subsidence occurs when a large land area settles due to over-saturation or extensive withdrawal of ground water, oil, or natural gas. These areas are typically composed of open-textured soils that become saturated. These areas are high in silt or clay content. The Project site is dominated by Hanford Sandy loams and Akers-Akers soils, with a low to moderate risk of subsidence.

3.8.1.5 Dam and Levee Failure

Lake Success is located approximately 16 miles northeast of the Project site; although the Project site, in its entirety, is outside of the inundation zone for Success Dam.

3.8.2 Impact Assessment

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

a-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? and

a-ii) Strong seismic ground shaking?

¹⁰ Tulare County General Plan 2012, <http://generalplan.co.tulare.ca.us/> Accessed February 25, 2021.

Less than Significant Impacts. The Project site and its vicinity are located in an area traditionally characterized by relatively low seismic activity. The site is not located in an Alquist-Priolo Earthquake Fault Zone as established by the Alquist-Priolo Fault Zoning Act (Section 2622 of Chapter 7.5, Division 2 of the California Public Resources Code). The nearest major fault is the San Andreas Fault, located approximately 50 miles south-southwest of the Project site. A smaller fault zone, the Poso Fault, is approximately 20 miles southwest of the site. The Project involves water system improvements and does not include development of habitable residential, agricultural, commercial or industrial structures. Operation of the proposed Project would not require any additional maintenance beyond what PPUD currently does. Implementation of the Project would not result in an increase of people onsite. Any impact would be less than significant.

a-iii) Seismic-related ground failure, including liquefaction?

Less than Significant Impact. Liquefaction occurs when loose, water-saturated sediments lose strength and fail during strong ground shaking. In general, liquefiable areas are generally confined to the Valley floor covered by Quaternary-age alluvial deposits, Holocene soil deposits, current river channels, and active wash deposits and their historic floodplains, marshes, and dry lakes. Specific liquefaction hazard areas in the county have not been identified. The Project site is not in a wetland area and is located in the southwestern portion of the County where liquefaction risk is considered low to moderate. The impact would be less than significant.

a-iv) Landslides?

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

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

Less than Significant Impact. There are no streams or rivers onsite or in the immediate vicinity. The Project does not propose significant alteration of the topography of the site. Total area of ground disturbance is estimated as approximately 0.25 acres. Since ground disturbance will be less than one-acre, a SWPPP is not required; however, construction activities will comply with all Cal/OSHA regulations regarding protection from loose rock or soil and hazards associated with water accumulation during excavating activities (CCR Section 1541). Impacts will be less than significant.

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

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

Less than Significant Impacts. Soil onsite is predominately Hanford sandy loam, 0 to 2 percent slopes with Akers-Akers, 0 to 2 percent slopes. (See Custom Soil Resource Report in [Appendix D](#).) These soils are well-drained with very rare frequency of flooding. These soils are categorized as Prime Farmland if irrigated and either protected from flooding or not frequently flooding during the growing season ([Appendix D](#)). The Project site and surrounding areas do not contain substantial grade changes. Risk of landslides, lateral spreading, subsidence, liquefaction, and collapse are minimal. The Project does not propose significant alteration of the topography of the site and it does not involve development of structures or facilities that could be affected by expansive soils or expose people to substantial risks to life or property. Furthermore, the Project will be consistent with the California Building Standards Code. Any impacts would be less than significant.

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

No Impact. Septic installation or alternative wastewater disposal systems are not proposed or necessary for the Project. Therefore, there will be no impact.

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

Less than Significant Impact. There are no known unique paleontological resources/sites or unique geologic features present on the Project site. Barring any evidence to the contrary, it is not anticipated that the Project would directly or indirectly destroy a unique paleontological resource or site or unique geological feature. Construction activities associated with the Project are not expected to be conducted significantly below grade, at a level where they would have the potential to disturb any previously unknown paleontological resources or geologic features. Therefore, impacts would be less than significant.

3.9 Greenhouse Gas Emissions

Table 3-13. Greenhouse Gas Emissions Impacts

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

3.9.1 Environmental Setting and Baseline Conditions

Commonly identified GHG emissions and sources include the following:

Carbon dioxide (CO₂) is an odorless, colorless natural greenhouse gas. CO₂ is emitted from natural and anthropogenic sources. Natural sources include the following: decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; evaporation from oceans; and volcanic out gassing. Anthropogenic sources include the burning of coal, oil, natural gas, and wood.

Methane (CH₄) is a flammable greenhouse gas. A natural source of methane is the anaerobic decay of organic matter. Geological deposits, known as natural gas fields, also contain methane, which is extracted for fuel. Other sources are from landfills, fermentation of manure, and ruminants such as cattle.

Nitrous oxide (N₂O), also known as laughing gas, is a colorless greenhouse gas. Nitrous oxide is produced by microbial processes in soil and water, including those reactions that occur in fertilizer containing nitrogen. In addition to agricultural sources, some industrial processes (fossil fuel-fired power plants, nylon production, nitric acid production, and vehicle emissions) also contribute to its atmospheric load.

Carbon dioxide equivalent (CO₂e), CO₂e is the summation of CO₂, CH₄, and N₂O, multiplied by each greenhouse gases' global warming potential (GWP). For purposes of this analysis, CH₄ and N₂O are assigned a multiplier of 25 and 298, respectively, based on longevity in the atmosphere and the intensity of infrared absorbed. This is consistent with CARB's calculation and the 2007 Intergovernmental Panel on Climate Change (IPCC) fourth assessment report (AR4).

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

Ozone (O₃) is known as a photochemical pollutant and is a greenhouse gas; however, unlike other greenhouse gases, ozone in the troposphere is relatively short-lived and, therefore, is not global in nature. Ozone is not emitted directly into the atmosphere but is formed by a complex series of chemical reactions between volatile organic compounds, nitrogen oxides, and sunlight.

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

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

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

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

Sulfur hexafluoride (SF₆) is an inorganic, odorless, colorless, nontoxic, nonflammable gas. It has the highest global warming potential of any gas evaluated. Sulfur hexafluoride is used for insulation in electric power transmission and distribution equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer gas for leak detection.

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

Emissions of GHGs contributing to global climate change are largely attributable to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors. About three-quarters of human emissions of CO₂ to the global atmosphere during the past 20 years are due to fossil fuel burning. Atmospheric concentrations of CO₂, CH₄, and N₂O have increased 31 percent, 151 percent, and 17 percent respectively since the year 1750 (CEC 2008). GHG emissions are typically expressed in carbon dioxide-equivalents (CO₂e), based on the GHG's Global Warming Potential (GWP). The GWP is dependent on the lifetime, or persistence, of the gas molecule in the atmosphere. For example, one ton of CH₄ has the same contribution to the greenhouse effect as approximately 21 tons of CO₂. Therefore, CH₄ is a much more potent GHG than CO₂.

Greenhouse Gas Emissions were estimated utilizing the SJVAPCD's CalEEMod emissions modeling program and are contained in the CalEEMod Output Report prepared in February 2021 in [Appendix A](#). The essential conclusions of this Report are as follows:

3.9.1.1 Short-Term Construction-Generated Emissions

Construction-generated CO₂e emissions were modeled to be approximately 62 tons over the course of the construction phase of the Project.

3.9.1.2 Long-Term Operational Emissions

Long-term operational CO₂e emissions will be consistent with already occurring operation and maintenance trips utilizing PPUD fleet vehicles, which run on gasoline and diesel, as necessary. CO₂e emissions from Southern California Edison's electricity generation and consumption are expected to continue at baseline levels. CO₂e emissions from electricity and fuel consumption are not anticipated to increase as a result of the Project.

3.9.1.3 Effects of Climate Change

The sections below detail the methodology in analyzing the Project's greenhouse gas impacts on Climate Change and the CalEEMod Output Report's conclusions.

3.9.2 Impact Assessment

3.9.2.1 Thresholds of Significance

In accordance with SJVAPCD's *CEQA Greenhouse Gas Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects*¹¹, proposed projects complying with Best Performance Standards (BPS) would be determined to have a less-than-significant impact. Projects not complying with BPS would be considered less than significant if operational GHG emissions would be reduced or mitigated by a minimum of 29 percent, in comparison to business-as-usual (year 2004) conditions. In addition, project-generated emissions complying with an approved plan or mitigation program would also be determined to have a less-than-significant impact.

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

Less than Significant Impact. Construction of the Project would result in GHG emissions from operation of both on-road and off-road equipment. As discussed previously, Project operations would require routine maintenance conducted by existing staff and would not be a source of new emissions, and therefore are not addressed further. As shown in **Table 3-14**, the Project would be below the BAAQMD thresholds for total Project emissions and well below the thresholds after amortizing the construction emissions. Therefore, the GHG emissions from the proposed Project would not have significant impacts on climate change.

Table 3-14. Short-Term Construction-Generated GHG Emissions

Year	Emissions (MT CO ₂ e) ⁽¹⁾
2021	62
Amortized over Life of Project (30 years)	2.1
AB 32 Consistency Threshold for Land-Use Development Projects*	1,100
Exceed Threshold?	No

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

* As published in the Bay Area Air Quality Management District's CEQA Air Quality Guidelines. Available online at http://www.baaqmd.gov/~media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en Accessed 22 February 2021.

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

Less than Significant Impact. After Project construction, operational GHG emissions would consist of routine maintenance conducted by existing staff and would not generate any new emissions during operations. The Project would provide potable water to residences whose current water sources do not meet safety standards for fire flow. The Project proposes to consolidate two existing water systems rather than constructing new wells or water treatment systems. The CARB 2017 Scoping Plan includes strategies to analyze the water-energy nexus and improve water efficiency and reduce fossil-fuel-based energy consumption associated with production of water (pumping, conveying, treating)¹². GHG emissions from the Project construction activities would be temporary and would not have a long-term impact on the state's ability to achieve the Scoping Plan's emission

¹¹ Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA. <http://www.valleyair.org/Programs/CCAP/12-17-09/3%20CCAP%20-%20FINAL%20LU%20Guidance%20-%20Dec%2017%202009.pdf> Accessed 22 February 2021.

¹² CARB. California's 2017 Climate Change Scoping Plan. Website: https://ww3.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf. Accessed 22 February 2021.

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reduction targets for 2030 or beyond. Based on this, the Project would be consistent with the 2017 Scoping Plan and would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions; therefore, impacts would be less than significant.

3.10 Hazards and Hazardous Materials

Table 3-15. Hazards and Hazardous Materials Impacts

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

3.10.1 Environmental Setting and Baseline Conditions

3.10.1.1 Hazardous Materials

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

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California, including underground storage tank (UST) cases and non-UST cleanup programs, including Spills-Leaks-Investigations-Cleanups (SLIC) sites, Department of Defense (DOD) sites, and Land Disposal program. A search of the DTSC EnviroStor database and the SWRCB Geotracker performed on February 19, 2021 determined that there are no known active hazardous waste generators or hazardous material spill sites within the Project site or immediate surrounding vicinity.

3.10.1.2 Airports

The nearest active airport is Mefford Field in the City of Tulare, approximately 13 miles north of the Project site.

3.10.1.3 Emergency Response Plan

The Tulare County Office of Emergency Services coordinates the development and maintenance of the Tulare County Operational Area Master Emergency Services Plan.

3.10.1.4 Sensitive Receptors

Sensitive receptors consist of residences, located adjacent to the right-of-way. The nearest school, Pixley Middle School, is located approximately 0.34 miles from the Project site.

3.10.2 Impact Assessment

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

Less than Significant Impact. Project construction would involve the storage, use, and transport of small amounts of hazardous materials (e.g., asphalt, fuel, lubricants, and other substances) on roadways. Regulations governing hazardous materials transport are stated in Title 22 CCR and the California Vehicle Code (Title 13 CCR). The transportation of hazardous materials also is subject to other applicable local and federal regulations, which have been specifically designed to minimize the risk of upset during routine construction activities. The State agencies with primary responsibility for enforcing federal and State regulations, and for responding to hazardous materials transportation emergencies, are the California Highway Patrol and the Caltrans. Together, these agencies determine container types to be used and license hazardous waste haulers for transportation of hazardous waste on public roads. Various local entities or agencies are generally delegated first responder responsibilities in the event of a hazardous material spill or release.

Construction and operation of the Project would be required by law to implement and comply with existing hazardous material regulations. Each of these regulations is specifically designed to protect public health through improved procedures for handling hazardous materials, better technology in equipment used to transport these materials, and a more coordinated, quicker response to emergencies. By implementing measures needed to be consistent with existing regulations, impacts would be less than significant.

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

Less than Significant Impact. The Project consists of installing a water pipeline and interconnecting to existing water mains. Power sources for operational purposes would be all electric. This infrastructure is not designed to convey or store hazardous materials. Project construction would temporarily involve the storage, use, and transport of small amounts of hazardous materials (e.g., asphalt, fuel, lubricants, and other substances) on roadways. Therefore, in the event of a reasonably-foreseeable upset or accident during construction or operational maintenance activities, minimal hazardous materials may be released into the environment. Construction and operation of the Project would be required by law to implement and comply with existing hazardous material regulations. By implementing measures needed to be consistent with existing regulations, impacts would be less than significant.

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

No Impact. The nearest school, Pixley Middle School, is located more than one-quarter mile away from the Project site. No planned schools are proposed within one-quarter mile from the Project site. There will be no impact.

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

No Impact. The Project does not involve land that is listed as a hazardous materials site pursuant to Government Code Section 65962.5 and is not included on a list compiled by the DTSC. A search of the DTSC EnviroStor database and the SWRCB Geotracker performed in February 2021 determined that there are no known active hazardous waste generators or hazardous material spill sites within the Project site or immediate surrounding vicinity. There would be no impact.

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 airports are Mefford Field Airport 13 miles to the north, and Porterville Municipal Airport 13 miles to the northeast. The Project site is not located within an airport land use plan and is not within two miles of a public or public use airport. There would be no impact.

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

No Impact. The Project does not provide any physical barriers or disturb any roadways in such a way that would impede emergency or hazards response; therefore, the proposed Project would not interfere with implementation of an emergency response plan or evacuation plan.

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

No Impact. The proposed Project site is located within an existing right-of-way and the surrounding areas are developed with residential and commercial uses. The nearest wildland, which has a moderate fire risk, according to CalFire¹³, is located approximately one mile west of the Project. The Project does not include any residential components, nor would it require any employees to be stationed permanently at the site on a daily basis. There would be no impact.

¹³ CalFire. Tulare County FHSZ Map. Website: https://osfm.fire.ca.gov/media/6832/fhszl06_1_map54.pdf. Accessed 19 February 2021.

3.11 Hydrology and Water Quality

Table 3-16. Hydrology and Water Quality Impacts

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

3.11.1 Environmental Setting and Baseline Conditions

The Project is located in Tulare County, in the Central San Joaquin Valley, part of the Great Valley of California. Like most of California, the San Joaquin Valley experiences a Mediterranean climate. Warm, dry summers are followed by cool, moist winters. Summer temperatures often reach above 90 degrees Fahrenheit, and the humidity is generally low. Winter temperatures are often below 60 degrees Fahrenheit during the day and rarely exceed 70 degrees. The Central Valley receives an average of 12 inches of precipitation in the form of rainfall yearly, most of which occurs between October and March.

According to the U.S. Geological Survey (USGS) classification system, the Project is within the Town of Pixley-Deer Creek watershed; Hydrologic Unit Code (HUC): 180300050903. There are no water systems in the

vicinity. The nearest surface water feature is Deer Creek located approximately 4 miles south of the Project site.¹⁴

The Project lies entirely within the Tule Groundwater Subbasin of the San Joaquin Valley Groundwater Basin.¹⁵ There are no tributaries, or distributaries located within the site boundaries or adjacent to the site.

PPUD water system supplies drinking water to the community of Pixley through five (5) groundwater wells within PPUD. The Project would not increase demand on the infrastructure but would improve the delivery of services. The Project site is largely within road right of way and will replace portions of 4" pipeline with 12" pipeline, and also install two 12-inch pipeline interconnections.

3.11.2 Impact Assessment

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

No Impact. The water currently supplied through the existing PPUD pipelines meets water quality standards but does not meet fire flow standards or water pressure needs. Implementation of the Project would correct water system issues historically experienced by the community of Pixley. Neither the construction phase nor the operational phase of the Project proposes waste discharge and therefore regulations regarding waste discharge requirements have no relevance to this Project or its CEQA review. There will be no impact.

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

No Impact. The Project does not involve the addition of any wells, nor does it include the addition of any new water services. There is no anticipated increase in water demand resulting from implementation of the Project. Therefore, the Project will not interfere with groundwater recharge, nor would the Project interfere with the production rate of pre-existing nearby wells. Implementation of the Project will not impede sustainable groundwater management of the San Joaquin Valley Tule subbasin, nor will it substantially decrease ground water supplies. There will be no impact.

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

c-i) result in substantial erosion or siltation on- or off-site? or

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

c-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

c-iv) impede or redirect flood flows?

Less than Significant Impacts. The proposed Project involves replacing an existing pipeline with a larger diameter pipe, and two interconnections within the existing system which would complete a "loop", allowing for additional potable water supply reliability and improve pressure issues, which will benefit the water service. Once complete the Project would not alter the existing drainage pattern of the area. Over half of the APE does lie in a flood zone, see **Figure 3-3**. In order to minimize erosion and run-off during construction

¹⁴ Appendix B. Biological Evaluation. Page 9.

¹⁵ DWR Bulletin 118 Groundwater Basin Boundary Assessment Tool. <https://gis.water.ca.gov/app/bbat/> Accessed March 2021.

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activities the contractor would comply with all Cal/OSHA regulations regarding regular maintenance and inspection of equipment, spill prevention, and spill remediation in order to reduce the potential for incidental release of pollutants or hazardous substances onsite. Impacts would be less than significant.

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

Less than Significant Impact. The Project is located in an area with no risk of tsunami and there are minimal seiche risk. Over half of APE does lie in a 100-year flood zone, see **Figure 3-3**. In order to minimize risk of release of pollutants due to project inundation during construction activities the contractor would comply with all Cal/OSHA regulations. Impacts would be less than significant.

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

No Impact. The proposed Project is intended to improve water pressure and fire flow issues that currently effect the residents of Pixley. The Project will not conflict with or obstruct implementation of any water quality control plan or sustainable groundwater management plan.

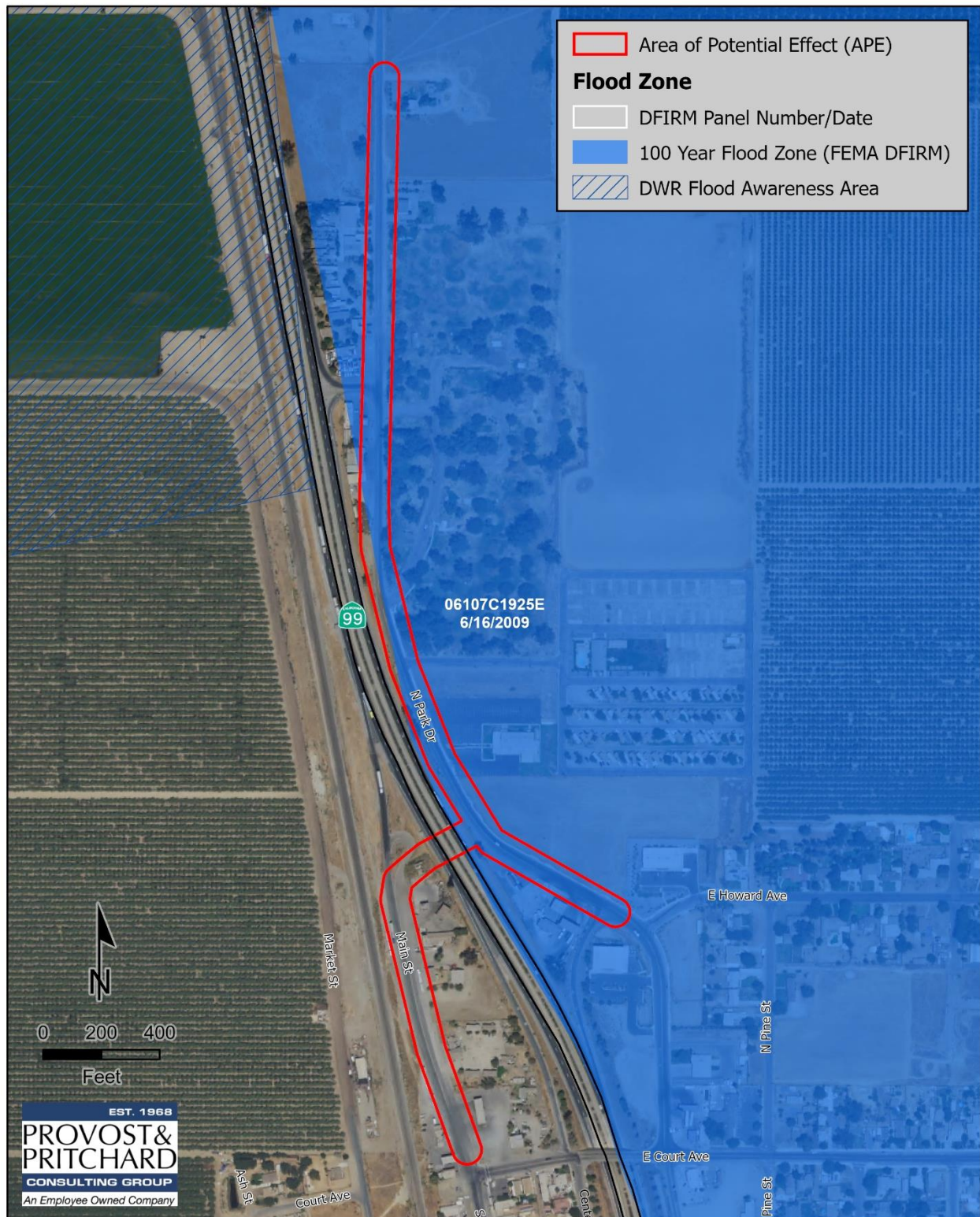


Figure 3-3 FEMA Map

3.12 Land Use and Planning

Table 3-17. Land Use and Planning Impacts

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

3.12.1 Environmental Setting and Baseline Conditions

The Project is located in Pixley, California and is a census designated place in Tulare County. Pixley is located approximately 45 miles northwest of Bakersfield, 25 miles south of Visalia, and 60 miles southeast of Fresno. As found across the Central Valley in California, Pixley is an agricultural community that is surrounded by farms and open space outside of the urban planned area. The Project aims to install piping to interconnect to two existing water mains, one near the intersection of North Park Drive and East Howard Ave, and the other near the intersection of Main Street and East Court Ave. Construction would occur in the existing road rights of way, a couple of private easements and under SR 99.

The Tulare County General Plan land use map identifies areas surrounding the Project site on North Park Drive as being designated for Commercial-General, Commercial-Highway, Public/Quasi-Public, Industrial, Valley Agriculture, and Rural Residential uses. The zoning map identifies the zone districts in the Project area as C-2 (commercial), R-2 and R-3 (residential), PD-C-2 and PD-M-1 (Industrial commercial/manufacturing) and AE-40 (Agriculture). This area contains a mix of some homes, Pixley Park, and businesses. The portion of the Project site that would cross under Highway 99 and run south along Main Street is surrounded by land that is designated for Industrial, Commercial, and Valley Agriculture, Agriculture uses. This area is zoned for M-1 and M-2 (manufacturing) and C-2 (commercial). This area of the Project is surrounded by restaurants and businesses and is bounded by the Union Pacific railroad to the west.

General Plan Land Use Designations and Zone Districts are illustrated in **Figure 2-4** and **Figure 2-5**, respectively.

3.12.2 Impact Assessment

a) Would the project physically divide an established community?

No Impact. The Project involves the installation of pipelines within local road rights of way, a couple of private easements and undercrossing SR 99, and would not physically divide an established community. Therefore, there would be no impact.

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

No Impact. The Project would not cause a significant environmental conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. The Project is not

proposing to change any community plan land use, policy, or regulation in the community of Pixley. The Project would not be in conflict with and land use or zoning designation in the Pixley Community Plan. Therefore, there would be no impact.

3.13 Mineral Resources

Table 3-16. Mineral Resources Impacts

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

3.13.1 Environmental Setting and Baseline Conditions

The bulk of Tulare County's mineral extraction activities focus on aggregate (sand, gravel, and crushed stone), which is primarily used in building materials. Historically, the Kaweah River, Lewis Creek, and the Tule River have provided the main sources of high-quality sand and gravel in Tulare County. The highest quality deposits are located at the Kaweah and Tule Rivers. According to the Tulare County General Plan Background Report, all of the known potential mineral resource locations are mapped within the foothills and/or along major watercourses. Similarly, the only active oil and gas fields are located in the foothills along Deer Creek.¹⁶ These sources identify no known potential mineral resource locations within or adjacent to the Project site or elsewhere in Pixley.

The Project site is not delineated on a local land use plan as a locally important mineral resource recovery site.

3.13.2 Impact Assessment

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

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

No Impacts. The California Geological Survey Division of Mines and Geology has not classified the Proposed Project site as a Mineral Resource Zone under the Surface Mining and Reclamation Act (SMARA). California's Division of Oil, Gas and Geothermal Resources has no records of active oil or gas wells on the Project site or in the immediate area. No known mineral resources are within the Project area. Therefore, implementation of the Project would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents, nor would it result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan since no known mineral resources occur in this area. There would be no impact.

¹⁶ Tulare County General Plan Background Report. <http://generalplan.co.tulare.ca.us/documents/GeneralPlan2010/BackgroundReport.pdf>
Accessed February 25, 2021.

3.14 Noise

Table 3-18. Noise Impacts

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

3.14.1 Environmental Setting and Baseline Conditions

The community of Pixley is located in the southwestern portion of Tulare County, California. SR 99 bisects the community into eastern and western halves. SR 99 is a major contributor of noise levels that exceed the acceptance level of 60 dba found in the Community Plan. Levels above 60 dba are said to introduce compatibility issues. The Project site would be in the road right of way from near the intersection of North Park Drive and Wright Ave to the intersection of North Park Drive and East Howard Ave, under a section of SR 99, and from Main Street to the intersection of Main Street and East Court Ave. These roadways run parallel to SR 99 and are therefore in areas that are accustomed to higher-than-normal noise levels. Construction during the proposed Project would be temporary and would not be done outside of the time range of 7 am-7 pm as specified in the Community Plan. There are no airports or airstrips near the Project site. The nearest airports are Mefford Field Airport 13 miles to the north, and Porterville Municipal Airport 13 miles to the northeast.

3.14.2 Impact Assessment

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

Less than Significant Impact. The Project would result in a temporary increase in ambient noise levels that would exceed the acceptable levels set in the Community Plan. However, construction is temporary, and these levels would cease upon the Project being completed. In addition, the Project runs through areas that are mainly zoned for commercial or industrial uses. Moreover, the Project area runs along SR 99, an area that already experiences high levels of noise. Noises created from this Project would diminish in volume from their origin. Construction would not be done outside of the timeframe of 7 am-7 pm as designated in the Community Plan. Therefore, there would be a less than significant impact.

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Water Main Extension Project

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

Less than Significant Impact. The Project could introduce excessive ground borne vibration or noise levels. However, the Project would be temporary, and any ground borne vibration and noise levels from the Project would cease upon Project completion. In addition, the Project site runs along an area that is accustomed to large levels of noise and vibrations because of SR 99, as well as the commercial and industrial use buildings nearby. Therefore, impacts would be a less than significant.

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

No Impact. The community of Pixley does not have any airstrip or airport, and the Project site would not be located within an airport land use plan. The nearest airports to the Project site are Mefford Field Airport and Portville Municipal Airport, both approximately 13 miles away to the north and to the northeast respectively. Therefore, there would be no impact.

3.15 Population and Housing

Table 3-19. Population and Housing Impacts

Population and Housing Impacts				
Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Induce substantial unplanned population growth in an area, either directly (for 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?	☐	☐	☒	☐

3.15.1 Environmental Setting and Baseline Conditions

The community of Pixley has a population of almost 3,800¹⁷. The proposed Project site is within local road rights of way, a couple of private easements and undercrossing SR 99. Land uses surrounding the Project area are commercial, and industrial, urban and rural residential development, rural vacant lots, Pixley Park and agricultural lands. The Project improvements are intended to better serve existing connections and does not propose the addition of any new housing or other development or water service connections.

3.15.2 Impact Assessment

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

No impact. The Project proposes to upgrade pipelines and interconnect to two existing water mains within Pixley. The new infrastructure would accommodate existing residences and facilities and would not directly or indirectly induce population growth. There would be no impact.

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

No impact. The proposed Project does not include removal of any existing housing. Therefore, there would be no impact.

¹⁷ [Pixley, California Population 2021 \(Demographics, Maps, Graphs\) \(worldpopulationreview.com\)](https://worldpopulationreview.com/country-rankings/pixley-california-population-2021-demographics-maps-graphs/). Accessed February 2021.

3.16 Public Services

Table 3-20. Public Services Impacts

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

3.16.1 Environmental Setting and Baseline Conditions

Fire, and police protection services for the Project site is provided by the County of Tulare. The Project site is located within the Pixley Union School District (PUSD) and the Tulare Joint Union High School District (TJUHSD). The PUSD oversees T-K through 8th grade education services, and TJUHSD oversees 9th – 12th grade services. Pixley Park is operated and maintained by the County of Tulare.

3.16.2 Impact Assessment

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:

No Impacts. The proposed Project would not require the addition or alteration of any public services. The site is within the southwestern portion of Tulare County and would utilize existing services provided by the County. There would be no impact.

Fire Protection: Fire protection services are provided to the Project site and the Pixley community by Tulare County Fire Department. The closest fire station to the Project is Battalion 2 - Pixley Fire Station 27, approximately 0.3 miles away. The proposed Project will increase water pressure within the northern portions of the community allowing for adequate fire flows. Therefore, there would be no adverse impacts to fire protection services.

Police Protection: Police protection services are provided to the Project and the Pixley community by the Pixley Substation - Tulare County Sheriff. It is located 0.3 miles away from the Project. No habitable structures will be constructed as part of the proposed Project, therefore no additional police protection would be required. There would be no impact.

Schools: The Pixley Union School District provides two schools to the Pixley Community. The Pixley Elementary School, K-5 and Pixley Middle School, 6-8. Highschool students are bussed to Mission Oak High School in the nearby TJUHD within the City of Tulare. The Project would not result in an increase in population that would require additional school facilities, therefore, there would be no impact.

Parks and other public facilities –As the proposed Project would not induce population growth, the Project would not create a need for additional park or recreational services. The nearest park is the Pixley Park located adjacent to the North Park Drive portion of the Project. No additional public facilities would be impacted by this Project. There would be no additional public wastewater facility or increased electrical needs generated by this Project. There would be no impact.

3.17 Recreation

Table 3-21. Recreation Impacts

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

3.17.1 Environmental Setting and Baseline Conditions

The Project site is located in the community of Pixley, which has a population of nearly 3,800 people¹⁸. The Project proposes to upgrade pipelines and interconnect to two existing water mains within Pixley. A section of this pipeline would be located on North Park Drive, which connects to Pixley Park, a County regional park. While Pixley Park is the only park within the community, it is large enough to serve the residents of Pixley at a size of 22 acres. The park includes a rest stop, soccer fields, a playground, and picnic tables. Outside of the Pixley and surrounding rural residents who use it, Pixley Park serves many people who utilize the rest stop it provides along SR 99. Other green spaces in the area that could be used for recreational purpose would be Pixley Elementary and Middle School on the northeast side of the community. In addition, the community is 6.5 miles northeast of the Pixley National Wildlife Refuge that offers observation areas, as well as the Sierra Nevada Mountain Range and Sequoia National Forest 40 miles west of Pixley.

3.17.2 Impact Assessment

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

No Impact. The Project would not increase the use of Pixley Park or other recreational facilities within the area such that substantial physical deterioration of these facilities would occur or be accelerated. Construction of the Project would not limit access to the park, and the road would be returned to pre-construction standards once the Project was completed. In addition, the Project would not result in the increase of any population locally or regionally that would cause for usage of the park or any nearby recreational facility to increase. Therefore, there would be no impact.

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

No Impact. The Project does not include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment. The Project will upgrade water pipeline within local road rights of way, a couple of private easements and undercrossing of SR 99 in order to interconnect to two existing water mains within the community. The installation of this pipe would

¹⁸ [Pixley, California Population 2021 \(Demographics, Maps, Graphs\) \(worldpopulationreview.com\)](https://worldpopulationreview.com/country-rankings/pixley-california-population-2021). Accessed February 2021.

affect North Park Drive adjacent to Pixley Park but would not alter the park itself. Nor would the Project result in a rise in population that would require the building of a new recreational facility. Therefore, there would be no impact.

3.18 Transportation

Table 3-22. Transportation Impacts

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

3.18.1 Environmental Settings and Baseline Conditions

Pixley is a rural unincorporated community in southern Tulare County, dominated by agricultural production and related commercial and industrial uses. State Route 99 is the nearest highway, which runs through the Project site. Local roads to contain the pipeline alignments are paved and only a small portion include sidewalk and gutter. In contrast, road shoulders are unpaved, consisting of compacted dirt or gravel. There are no airports or airstrips near the Project site. The nearest airports are Mefford Field Airport 13 miles to the north, and Porterville Municipal Airport 13 miles to the northeast.

3.18.2 Impact Assessment

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

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

Less than Significant Impacts. The Project consists of improvements to PPUD water system that would allow for improved water pressure and allow for fire flow capacity, which is currently non-existent. Construction traffic associated with the Project would be minimal and temporary, lasting approximately four months. For the SR 99 crossing the pipeline would be constructed via jack and bore under SR 99 and it would not interfere with any traffic, or pedestrian or bicycle paths. A possible lane closure is anticipated on North Park Drive. The PPUD will work with the County to ensure minimal traffic disruption. There would be no permanent impacts to the surrounding transportation network. Operational traffic consists of as-needed maintenance trips. No road improvements are proposed as part of the Project. There would not be a significant adverse effect to existing roadways in the area.

There is no population growth associated with the Project, nor would implementation of the Project result in an increase of staff or drivers utilizing roadways in the area. Therefore, implementation of the Project would not increase the demand for any changes to congestion management programs or interfere with existing level

of service standards during the operational phase. Construction-related roadway interferences would be less than significant.

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

No Impact. No new roadway design features are associated with the Project. As mentioned in Impact Assessments a) and b) above, all potential disturbances to roadways would be temporary, and would be returned to pre-construction conditions. Therefore, there would be no impact.

d) Would the project result in inadequate emergency access?

Less than Significant Impact. As mentioned above in Impact Assessments a), b), and c), the Project does not propose new roadway design features or permanent alterations to roadways. Any lane closures during construction would be temporary and would still allow for adequate emergency access. The operational phase of the Project would have no effect on roadways or emergency access. Therefore, overall potential Project-related impacts to emergency access on local roadways or SR 99 would be considered less than significant.

3.19 Tribal Cultural Resources

Table 3-23. Tribal Cultural Resources Impacts

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

3.19.1 Environmental Setting and Baseline Conditions

Penutian-speaking Yokuts tribal groups occupied the southern San Joaquin Valley region and much of the nearby Sierra Nevada. For a variety of historical reasons, existing research information emphasizes the central Yokuts tribes who occupied both the valley and particularly the foothills of the Sierra.

Although population estimates vary and population size was greatly affected by the introduction of Euro-American diseases and social disruption, the Yokuts were one of the largest, most successful groups in Native California. Many Yokut descendants continue to live in Tulare, Fresno and Kings counties to this day.

3.19.2 Impact Assessment

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

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

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

Less than Significant Impacts with Mitigation Incorporated. The PPUD, as a public lead agency has not received any formal requests for notification from any State tribes, pursuant to AB52. A records search was conducted at the Southern San Joaquin Valley Archaeological Information Center, California State University, Bakersfield indicating there are no recorded cultural resources in the project area. A record search of the Native American Heritage Commission (NAHC) Sacred Lands File was also conducted, which resulted in a declaration that no sacred sites or tribal cultural resources are known to exist within the Project site or in the vicinity.

Although it is unlikely that tribal cultural resources would be discovered during construction or operation of the Proposed Project, mitigation measure **CUL-1** and **CUL-2** identified in **Section 3.5** above, are also recommended here to minimize impacts to suspected Tribal Cultural Resources that may be discovered during ground disturbance activities of construction.

Mitigation Measures

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

CUL-2 (Human remains) If human remains are uncovered, or in any other case when human remains are discovered during construction, the Tulare 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 and Public Resource Code 5097.98 require that the coroner notify the NAHC within 24 hours of discovery. The NAHC would then identify the Most Likely Descendent who would determine the manner in which the remains are treated.

3.20 Utilities and Service Systems

Table 3-24. Utilities and Service Systems Impacts

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

3.20.1 Environmental Setting and Baseline Conditions

The PPUD provides water and sewer services for the community of Pixley. The current water distribution system has infrastructure that was built in the late 1940's and early 1950's. The current system has approximately 815 connections, all of which are now metered. The waterline sizes range from 2-inch diameter to 12-inch diameter. However, most of the lines are 4-inch and 6-inch throughout the system. The PPUD has received complaints in the past about low water pressure in some areas of the distribution system. The small pipelines and several dead ends impose a large pressure loss to the water system. In addition, these small pipelines are not adequate for fire flow deliveries. The proposed water main improvements would allow for adequate potable water supply pressure and fire flow in the north area of the PPUD that is currently served with an undersized and aging water line. The proposed Project is intended to improve the reliability of the water service to existing PPUD customers. As such, the Project would provide a net benefit by improving water pressure and reliability to the area.

3.20.1.1 Water Supply

Water within PPUD is provided via five (5) groundwater wells. The Project would not increase demand on the infrastructure but would improve the delivery of services.

3.20.2 Impact Assessment

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

No Impact. The Project proposes to upgrade pipelines and interconnect to two existing water mains within the PPUD. There would be no additional demand of wastewater treatment or expanding water or other utility services. As such no new or expanded wastewater, solid waste, landfill, stormwater drainage, electric power, natural gas or telecommunication facilities would be required. There would be no impact.

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

Less than Significant Impact. The Project is not growth inducing and during operation would not utilize more water than is currently being used by the PPUD. The Project would only require additional water during construction for dust control purposes. Therefore, existing water resources are sufficient. Impact would be less than significant.

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

No Impact. The PPUD currently provides wastewater collection and treatment services to the Pixley community. This Project involves domestic and fire flow water services only. There would be no additional demand or increase of wastewater services once the Project is constructed. There would be no impact.

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

No Impact. Minimal waste would be generated by the proposed Project during construction. Construction contractors are generally required to remove all solid waste generated during construction. During operation, the proposed Project would not generate solid waste. Therefore, there would be no impact.

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

No Impact. Any solid waste generated during Project construction would be required to comply with all applicable federal, state, and local statutes and regulations related to solid waste removal and proper disposal. There would be no impact.

3.21 Wildfire

Table 3-25. Wildfire Impacts

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

3.21.1 Environmental Setting and Baseline Conditions

The Project site is located in the community of Pixley, California which is in the southwestern portion of Tulare County. The Tulare County Fire Department has a fire station within Pixley that would serve the Project area. This fire station is located within a few hundred feet of where a portion of the Project would be completed. As a result, the community is not located within a State Responsibility Area (SRA)¹⁹ for fire protection. The nearest SRA is the Pixley National Wildlife Refuge approximately five miles to the southwest. Pixley is not an area that has been designated as a Fire Hazard Severity Zone²⁰ that would be at a higher risk for wildfire.

3.21.2 Impact Assessment

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

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

No Impact. The Project would not impair an adopted emergency response plan or emergency evacuation plan. The Project site is not located in a state responsibility area and is served by local firefighters. In addition, the Project area is not designated as a very high fire hazard severity zone. Therefore, there would be no impact.

¹⁹ [ArcGIS - California State Responsibility Areas](#). Accessed February 2021.

²⁰ [Is Your Home in a Fire Hazard Severity Zone? \(arcgis.com\)](#). Accessed February 2021.

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

No Impact. The Project site is essentially flat, is not located within a designated wildfire area as described above, would not have project occupants except temporarily during construction and is subject to mild seasonal and periodic winds from the northwest. Therefore, the Project site is not susceptible to slope, prevailing winds, and other factors, that would exacerbate wildfire risks and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. Therefore, there would be no impact.

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

No Impact. As mentioned above, the Project would not be located within an SRA and is not located in or near a very high fire hazard severity zone. The Project does not propose and would not require installation of associated infrastructure that may exacerbate fire risk or that could result in temporary or ongoing impacts to the environment when located in or near an SRA or land classified as a very high fire hazard severity zone. Therefore, there would be no impact.

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

No Impact. The Project site would not be located near a major slope or near a river or stream. In addition, as mentioned above the Project site would not be located in an SRA or and is not located in or near a very high fire hazard severity zone. Therefore, the Project could not 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 when located in or near an SRA or land classified as a very high fire hazard severity zone. There would be no impact.

3.22 CEQA Mandatory Findings of Significance

Table 3-26. Mandatory Findings of Significance Impacts

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

3.22.1 Impact Assessment

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

Less than Significant Impact with Mitigation Incorporated. The analysis conducted in this Initial Study/Mitigated Negative Declaration results in a determination that the proposed Project, with incorporation of mitigation measures, will have a less than significant effect on the environment. The potential for impacts to biological resources and cultural resources from the implementation of the proposed Project will be less than significant with the incorporation of the mitigation measures discussed in **Chapter 4 Mitigation Monitoring and Reporting Program**. Accordingly, the proposed Project will involve no potential for significant impacts through the degradation of the quality of the environment, the reduction in the habitat or population of fish or wildlife, including endangered plants or animals, the elimination of a plant or animal community or example of a major period of California history or prehistory.

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

Less than Significant Impact. CEQA Guidelines Section 15064(i) States that a Lead Agency shall consider whether the cumulative impact of a project is significant and whether the effects of the project are cumulatively considerable. The assessment of the significance of the cumulative effects of a project must, therefore, be conducted in connection with the effects of past projects, other current projects, and probable future projects. The proposed Project would include the upgrade of two pipelines and interconnecting to two existing water mains within the PPUD in order to provide adequate water pressure and fire flow. No additional roads would be constructed as a result of the Project, nor would any additional public services be required. The proposed Project is intended to improve water pressure and would not result in direct or indirect population growth. Therefore, implementation of the proposed Project would not result in significant cumulative impacts and all potential impacts would be reduced to less than significant through the implementation of mitigation measures and basic regulatory requirements incorporated into future Project design.

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

Less than Significant Impact. The proposed Project would include the upgrade of two pipelines and interconnecting to two existing water mains within the PPUD. The proposed Project in and of itself would not create a significant hazard to the public or the environment. On the contrary, implementation of the Project would correct water pressure issues experienced by residences and businesses within the PPUD and allow for sufficient fire flow. Construction-related air quality/dust exposure impacts could occur temporarily as a result of Project construction. However, implementation of basic regulatory requirements identified in this IS/MND would ensure that impacts are less than significant. Therefore, the proposed Project would not have any direct or indirect adverse impacts on humans. This impact would be less than significant.

3.23 Determination: (To be completed by the Lead Agency)

On the basis of this initial evaluation:

- ☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- ☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- ☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- ☐ I find that the proposed project MAY have a “potentially significant impact” or “potentially significant unless mitigated” impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- ☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.



Signature

3/24/21

Date

Roger Ward, PPUD Board President
Printed Name/Position

Chapter 4 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 Pixley Public Utility District Water Main Extension Project (Project) in the census designated place of Pixley in Tulare County. The MMRP lists mitigation measures recommended in the IS/MND for the Project and identifies monitoring and reporting requirements.

Table 4-1 presents the mitigation measures identified for the proposed Project. Each mitigation measure is numbered with a symbol indicating the topical section to which it pertains, a hyphen, and the impact number. For example, AIR-2 would be the second mitigation measure identified in the Air Quality analysis of the IS/MND.

The first column of **Table 4-1** identifies the mitigation measure. The second column, entitled “When Monitoring is to Occur,” identifies the time the mitigation measure should be initiated. The third column, “Frequency of Monitoring,” identifies the frequency of the monitoring of the mitigation measure. The fourth column, “Agency Responsible for Monitoring,” names the party ultimately responsible for ensuring that the mitigation measure is implemented. The last two columns will be used respectively by PPUD to verify the method utilized to confirm or implement compliance with mitigation measures and identify the individual(s) responsible to confirm mitigation measures have been complied with and monitored.

Chapter 4 Mitigation Monitoring and Reporting Program

Water Main Extension Project

Table 4-1. Mitigation Monitoring and Reporting Program

Mitigation Measure/Condition of Approval	When Monitoring is to Occur	Frequency of Monitoring	Agency Responsible for Monitoring	Method to Verify Compliance	Verification of Compliance
Biological Resources					
BIO-1a: Nesting (Avoidance)					
The Project's construction activities shall occur, if feasible, between September 16 and January 31 (outside of nesting bird season) in an effort to avoid impacts to nesting birds.	Prior to the start of construction activities	Prior to ground disturbing activities and the start of construction	PPUD with assistance of a qualified biological subconsultant		
BIO-1b: Nesting (Pre-construction Surveys)					
If activities must occur within nesting bird season (February 1 to September 15), a qualified biologist shall conduct pre-construction survey for Swainson's hawk nests onsite and within a 0.5-mile radius around the APE. The Swainson's hawk survey will be conducted in accordance with the Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley (Swainson's Hawk Technical Advisory Committee, 2000) or current guidance. In addition to the focused Swainson's hawk surveys, a qualified biologist shall conduct a pre-construction survey for all other nesting birds within 14 days prior to the start of construction. The survey shall include the proposed work area and surrounding lands within 50 feet. All raptor nests will be considered "active" upon the nest-building stage.	March 1 and September 15, then within 10 days prior to the start of construction activities	Prior to ground disturbing activities and the start of construction	PPUD with assistance of a qualified biological subconsultant		
BIO-1c: Nesting (Establish Buffers)					
On discovery of any active nests near work areas, the biologist shall determine appropriate construction setback distances based on applicable CDFW and/or USFWS guidelines and/or the biology of the species in question. Specifically, a 0.5-mile disturbance-free buffer shall be implemented around active Swainson's hawk nests between March 1 and September 15. Buffer zones may be adjusted in consultation with the CDFW and the lead CEQA agency. Construction buffers shall be identified with flagging, fencing, or other easily visible means, and shall be maintained until the biologist has determined that the nestlings have fledged and are no longer dependent on the nest.	On discovery of active nests	Once, per nest, or more frequently as determined by biologist	PPUD		
BIO-1d: WEAP (WEAP Training)					
On discovery of any special status bird species, all personnel associated with Project construction shall attend mandatory Worker Environmental Awareness Program (WEAP) training, conducted by a qualified biologist, prior to initiating construction activities (including staging and mobilization). The specifics of this program shall include identification of the special status species and suitable habitats, a description of the regulatory status and	Prior to the start of construction	Prior to construction and whenever new construction employees enter the Project site	PPUD		

Chapter Three: Impact Analysis
Saucelito School District- Water Supply Improvement Project

Mitigation Measure/Condition of Approval	When Monitoring is to Occur	Frequency of Monitoring	Agency Responsible for Monitoring	Method to Verify Compliance	Verification of Compliance
general ecological characteristics of the species, and review of the limits of construction and mitigation measures required to reduce impacts to biological resources within the work area. A fact sheet conveying this information, along with photographs or illustrations of the special status species, shall also be prepared for distribution to all contractors, their employees, and all other personnel involved with construction of the Project. All employees shall sign a form documenting that they have attended WEAP training and understand the information presented to them.					
Cultural Resources					
CUL 1: Archaeological Resources					
In the event that archaeological resources are encountered at any time during development or ground-moving activities within the entire project area, all work in the vicinity of the find shall halt until a qualified archaeologist can assess the discovery. The District shall implement all recommendations of the archaeologist necessary to avoid or reduce to a less than significant level potential impacts to cultural resource. Appropriate actions could include a Data Recovery Plan or preservation in place.	In the event cultural material is encountered	During excavation	PPUD		
CUL-2: Human Remains					
In the event that human remains are inadvertently encountered during trenching or other ground-disturbing activity or at any time subsequently, State law shall be followed, which includes, but is not limited to, immediately contacting the County Coroner's office upon any discovery of human remains.	In the event human remains are encountered	During excavation	PPUD		

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Appendix A

CalEEMod Output Files

Assumptions

Excavation Width	2.00	feet	
Excavation Depth			
Asphalt	0.50	feet	
Dirt	2.50	feet	
Project Area	0.22	acres	
Pipeline Length, Total	4727.41	feet	0.90 miles
Jack and Bore Length	260.00	feet	
Jack and Bore Diameter	2.00	feet	

Total Dirt Removed, CY	948.31
Total Dirt Replaced, CY	827.30
Total Asphalt, CY	165.46

	Days	Months
Excavation	55.5	1.85
Utilities	55.5	1.85
Paving	9	0.3
Total	120	4

Alignment Length (feet)	
Park Drive	3,327.40
Main Street	1,400.01
Park Drive Alternative	2,778.98
Max Total	4,727.41

Road Construction Emissions Model, Version 9.0.0**Updates Log***Changes from previous version of Road Construction Emissions Model***(Version 8.1.0 to 9.0.0) (updated by SMAQMD 04/22/18 with assistance from Ramboll)**

- 1) Project length changed to include calendar years 2014 through 2040.
- 2) On-road vehicle emission factors have been updated to EMFAC2017 version 1.0.2.
- 3) Off-road emission rates updated to include calendar years 2014 through 2040.
- 4) Average Offroad HP by Equipment Type updated to be consistent with CalEEMod (version 2016.3.2)
- 5) Modified 'Data Entry' tab to calculate NOx start emissions from heavy duty trucks in "soil hauling", "asphalt hauling" and "water truck" section

(Version 7.1.5 to 8.1.0) (updated by SMAQMD 05/09/16 with assistance from Ramboll ENVIRON US Corporation)

- 1) Project length changed to include calendar years 2014 through 2025.
- 2) Added a new project type: Type 4: Other Linear Project Type. Note that there are no default vehicle or equipment activities available for the Project Type 4.
- 3) Emissions estimates were extended to include SOx, CH4, N2O and CO2e.
- 4) Updated off-road equipment emission factors and default average horsepower by equipment type to be consistent with CalEEMod (version 2013.2.2).
- 5) On-road vehicle emission factors have been updated to EMFAC2014.
- 6) Revised pollutant order for consistency throughout the calculator.
- 7) Added flexibility for users to specify a non-default number of working days per month.
- 8) Modified soil hauling import and export quantity and haul truck capacity data requests to allow users to specify soil hauling activity by phase.
- 9) Soil hauling emissions are now estimated separately for each construction phase.
- 10) Added a new feature to allow users to provide asphalt hauling quantities by phase in the "Data Entry" tab.
- 11) New component added where the user can specify construction start date and duration by phase.
- 12) The maximum daily emissions calculation was modified to sum emissions from overlapping construction phases.
- 13) Water truck activity can be specified and emissions estimated for the paving phase.
- 14) Mitigation options were added for on-road vehicles and off-road equipment. Emissions calculations include the effects of mitigations if a mitigation option is selected by the user.
- 15) Model allows user to estimate emissions from non-default off-road equipment for all phases and for all project types. Non-default off-road equipment specification must be included by equipment type for horsepower, number of equipment, load factor, hours of operation and emission factors in the "Non-default Off-road Equipment" tab.
- 16) New table of total project emissions with units of tons/phase was added in the "Emission Estimates" tab.
- 17) Removed table of daily emissions in metric units from the "Emission Estimates" tab.
- 18) Removed unnecessary data from all tabs.

(Version 7.1.4 to 7.1.5) (updated by SMAQMD 12/11/13 with assistance from ENVIRON Corporation)

- 1) Grubbing and Land Clearing Phase calculation of active months in 2007, 2017, 2019 fixed.
- 2) Soil Hauling Emissions calculation to select override if it exists for round trips/day.
- 3) Worker Commute Emissions calculation of starting and hot soak emissions; drainage phase PM₁₀ emission rate.
- 4) Water Truck Emissions calculation to select number of months for Grubbing and Land Clearing Phase; maximum acreage/day after 2025.

(Version 6.3.2 to Version 7.1.0, 7.1.1, 7.1.2, 7.1.3 & 7.1.4) (updated by SMAQMD 8/2/13)

- 1) EMFAC2011 emission factors added (previous EMFAC versions dropped).
- 2) OFFROAD2011 emission factors added (and fixed error).
- 3) OFFROAD2007 for categories not in OFFROAD2011 (and fixed error)
- 4) Project length changed to include calendar years 2009 through 2025.
- 5) Average Offroad HP by Equipment Type calculation updated and corrected
- 6) Load Factor Adjustment deactivated (default load factors already incorporated in ARB's calculation of emission factors)
- 7) Crawler Tractor equipment added to model
- 8) Air Compressors ROG & Default Excavators calculation on Data Entry sheet corrected.
- 9) Default equipment list updated
- 10) Corrections to Worker Commute Emissions calculations

The maximum pounds per day in row 11 is summed over overlapping phases, but the maximum tons per phase in row 34 is not summed over overlapping phases.

Road Construction Emissions Model, Version 9.0.0

Daily Emission Estimates for -> Pixley PUD Water Main Extension Project														
Project Phases (Pounds)	ROG (lbs/day)	CO (lbs/day)	NOx (lbs/day)	PM10 (lbs/day)	Exhaust PM10 (lbs/day)	Fugitive Dust PM10 (lbs/day)	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	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
Grading/Excavation	0.66	8.10	6.55	0.37	0.33	0.03	0.29	0.28	0.01	0.02	1,575.78	0.34	0.07	1,604.12
Drainage/Utilities/Sub-Grade	0.64	8.05	6.26	0.36	0.32	0.03	0.28	0.28	0.01	0.02	1,493.78	0.34	0.05	1,518.26
Paving	0.88	8.96	8.14	0.45	0.45	0.00	0.41	0.41	0.00	0.02	1,750.94	0.25	0.07	1,777.22
Maximum (pounds/day)	0.88	8.96	8.14	0.45	0.45	0.03	0.41	0.41	0.01	0.02	1,750.94	0.34	0.07	1,777.22
Total (tons/construction project)	0.03	0.36	0.29	0.02	0.01	0.00	0.01	0.01	0.00	0.00	68.24	0.01	0.00	69.41
Notes: Project Start Year -> 2021														
Project Length (months) -> 6														
Total Project Area (acres) -> 0														
Maximum Area Disturbed/Day (acres) -> 0														
Water Truck Used? -> No														
Total Material Imported/Exported Volume (yd³/day)														
Daily VMT (miles/day)														
Phase	Soil	Asphalt	Soil Hauling	Asphalt Hauling	Worker Commute	Water Truck								
Grubbing/Land Clearing	0	0	0	0	280	0								
Grading/Excavation	17	0	20	20	280	40								
Drainage/Utilities/Sub-Grade	15	0	20	0	280	40								
Paving	0	21	0	40	240	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 -> Pixley PUD Water Main Extension Project														
Project Phases (Tons for all except CO2e. Metric tonnes for CO2e)	ROG (tons/phase)	CO (tons/phase)	NOx (tons/phase)	PM10 (tons/phase)	PM10 (tons/phase)	PM10 (tons/phase)	PM2.5 (tons/phase)	PM2.5 (tons/phase)	PM2.5 (tons/phase)	SOx (tons/phase)	CO2 (tons/phase)	CH4 (tons/phase)	N2O (tons/phase)	CO2e (MT/phase)
Grubbing/Land Clearing	0.00	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
Grading/Excavation	0.01	0.16	0.13	0.01	0.01	0.00	0.01	0.01	0.00	0.00	32.07	0.01	0.00	29.61
Drainage/Utilities/Sub-Grade	0.01	0.16	0.13	0.01	0.01	0.00	0.01	0.01	0.00	0.00	30.40	0.01	0.00	28.03
Paving	0.00	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.78	0.00	0.00	5.32
Maximum (tons/phase)	0.01	0.16	0.13	0.01	0.01	0.00	0.01	0.01	0.00	0.00	32.07	0.01	0.00	29.61
Total (tons/construction project)	0.03	0.36	0.29	0.02	0.01	0.00	0.01	0.01	0.00	0.00	68.24	0.01	0.00	62.96
PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.														
Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns G and H. Total PM2.5 emissions shown in Column I are the sum of exhaust and fugitive dust emissions shown in columns J and K.														
CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1 , 25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs.														
The CO2e emissions are reported as metric tons per phase.														

Road Construction Emissions Model Data Entry Worksheet		Version 9.0.0	
Notes: Required data input sections have a yellow background. Optional data input sections have a blue background. Only areas with a yellow or blue background can be modified. Program defaults have a white background. The user is required to enter information in cells D10 through D24, E28 through G35, and D38 through D41 for all project types. Please use "Clear Data Input & User Overrides" button first before changing the Project Type or begin a new project.		To begin a new project, click this button to clear data previously entered. This button will only work if you opted not to disable macros when loading this spreadsheet.	
Input Type Project Name		Putey PUD Water Main Extension Project	
Construction Start Year		2021	
Project Type		4	
Project Construction Time Working Days per Month		6.00 22.00	
Predominant Soil/Type: Enter 1, 2, or 3 (for project within "Sacramento County" follow soil type selection instructions in cells E18 to E20 otherwise see instructions provided in cells J18 to J22)		1	
Project Length Total Project Area Maximum Area Disturbed/Day Water Trucks Used?		0.90 0.22 0.00 2	
Material Hauling Quantity Input		1) New Road Construction : Project to build a roadway from bare ground, which generally requires more site preparation than widening an existing roadway 2) Road Widening : Project to add a new lane to an existing roadway 3) Bridge/Overpass Construction : Project to build an elevated roadway, which generally requires some different equipment than a new roadway, such as a crane 4) Other Linear Project Type: Non-roadway project such as a pipeline, transmission line, or levee construction	
Mitigation Options On-road Fleet Emissions Mitigation Off-road Equipment Emissions Mitigation		No Mitigation No Mitigation	
The remaining sections of this sheet contain areas that require modification when "Other Project Type" is selected.		Select "2010 and Newer On-road Vehicles Fleet" option when the on-road heavy-duty truck fleet for the project will be limited to vehicles of model year 2010 or newer Select "20% NOx and 45% Exhaust PM reduction" option if the project will be required to use a lower emitting off-road construction fleet. The SMAQMD Construction Mitigation Calculator can be used to confirm compliance with this mitigation measure (http://www.airquality.org/Businesses/CEQA-Land-Use-Planning/Mitigation). Select "Tier 4 Equipment" option if some or all off-road equipment used for the project meets CARB Tier 4 Standard	



Grubbing/Land Clearing
Grading/Excavation
Drainage/Utilities/Sub-Grade
Paving

Months
0.00
1.85
1.85
0.30

Please note that the soil type instructions provided in cells E18 to E20 are specific to Sacramento County. Maps available from the California Geologic Survey (see weblink below) can be used to determine soil type outside Sacramento County.

http://www.conservation.ca.gov/cga/information/geologic_mapping/Pages/poolmaps.aspx#regionalseries

on-road EF source
EMFAC2017

Note: The program's estimates of construction period phase length can be overridden in cells D50 through D53, and F50 through F53.

Construction Periods	User Override of Construction Months	Program Calculated Months	User Override of Phase Starting Date	Program Default Phase Starting Date
Grubbing/Land Clearing	0.00	0.60		1/1/2021
Grading/Excavation	1.85	2.40		1/1/2021
Drainage/Utilities/Sub-Grade	1.85	2.10		2/27/2021
Paving	0.30	0.90		4/29/2021
Totals (Months)		4		

Please note: You have entered a different number of months than the project length shown in cell D16.
Note: Soil Hauling emission default values can be overridden in cells D61 through D64, and F61 through F64.

Program Calculated Activity Fractions
start date
1/1/2021
1/1/2021
2/27/2021
4/29/2021
end date
12/31/2020
2/26/2021
4/24/2021
5/4/2021

User Input	User Override of Miles/Round Trip	Program Estimate of Miles/Round Trip	User Override of Truck Round Trips/Day	Default Values Round Trips/Day	Calculated Daily VMT
Miles/round trip: Grubbing/Land Clearing	20.00	0.00	0.00	0	0.00
Miles/round trip: Grading/Excavation	20.00	0.00	1	1	20.00
Miles/round trip: Drainage/Utilities/Sub-Grade	20.00	0.00	1	1	20.00
Miles/round trip: Paving	20.00	0.00	0	0	0.00

Emission Rates	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Grubbing/Land Clearing (grams/mile)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grading/Excavation (grams/mile)	0.43	1.14	6.49	0.21	0.15	0.02	1,859.78	0.02	0.29	1,947.39
Drainage/Utilities/Sub-Grade (grams/mile)	0.43	1.14	6.49	0.21	0.15	0.02	1,859.78	0.02	0.29	1,947.39
Paving (grams/mile)	0.43	1.14	6.49	0.21	0.15	0.02	1,859.78	0.02	0.29	1,947.39
Grubbing/Land Clearing (grams/trip)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grading/Excavation (grams/trip)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Drainage/Utilities/Sub-Grade (grams/trip)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving (grams/trip)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling Emissions	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Pounds per day - Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Grading/Excavation	0.02	0.05	0.29	0.01	0.01	0.00	82.00	0.00	0.01	85.87
Tons per const. Period - Grading/Excavation	0.00	0.00	0.01	0.00	0.00	0.00	1.67	0.00	0.00	1.75
Pounds per day - Drainage/Utilities/Sub-Grade	0.02	0.05	0.29	0.01	0.01	0.00	82.00	0.00	0.01	85.87
Tons per const. Period - Drainage/Utilities/Sub-Grade	0.00	0.00	0.01	0.00	0.00	0.00	1.67	0.00	0.00	1.75
Pounds per day - Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total tons per construction project	0.00	0.00	0.01	0.00	0.00	0.00	3.34	0.00	0.00	3.49

Note: Asphalt Hauling emission default values can be overridden in cells D91 through D94, and F91 through F94.

User Input	User Override of Miles/Round Trip	Program Estimate of Miles/Round Trip	User Override of Truck Round Trips/Day	Default Values Round Trips/Day	Calculated Daily VMT
Miles/round trip: Grubbing/Land Clearing	20.00	0.00	0	0	0.00
Miles/round trip: Grading/Excavation	20.00	0.00	1	0	20.00
Miles/round trip: Drainage/Utilities/Sub-Grade	20.00	0.00	1	0	20.00
Miles/round trip: Paving	20.00	0.00	0	2	40.00

Emission Rates	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Grubbing/Land Clearing (grams/mile)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grading/Excavation (grams/mile)	0.43	1.14	6.49	0.21	0.15	0.02	1,859.78	0.02	0.29	1,947.39
Drainage/Utilities/Sub-Grade (grams/mile)	0.43	1.14	6.49	0.21	0.15	0.02	1,859.78	0.02	0.29	1,947.39
Paving (grams/mile)	0.43	1.14	6.49	0.21	0.15	0.02	1,859.78	0.02	0.29	1,947.39
Grubbing/Land Clearing (grams/trip)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grading/Excavation (grams/trip)	0.00	0.00	3.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Drainage/Utilities/Sub-Grade (grams/trip)	0.00	0.00	3.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving (grams/trip)	0.00	0.00	3.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Emissions	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Pounds per day - Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Grading/Excavation	0.02	0.05	0.29	0.01	0.01	0.00	82.00	0.00	0.01	85.87
Tons per const. Period - Grading/Excavation	0.00	0.00	0.01	0.00	0.00	0.00	1.67	0.00	0.00	1.75
Pounds per day - Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Paving	0.04	0.10	0.59	0.02	0.01	0.00	164.00	0.00	0.03	171.73
Tons per const. Period - Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.54	0.00	0.00	0.57
Total tons per construction project	0.00	0.00	0.01	0.00	0.00	0.00	2.21	0.00	0.00	2.31

Note: Worker commute default values can be overridden in cells D121 through D126.

Worker Commute Emissions											
User Input	User Override of Worker Commute Default Values		Default Values		Calculated		Calculated				
					Daily Trips		Daily VMT				
Miles/ one-way trip	20										
One-way trips/day	2										
No. of employees: Grubbing/Land Clearing	7				14		280.00				
No. of employees: Grading/Excavation	7				14		280.00				
No. of employees: Drainage/Utilities/Sub-Grade	7				14		280.00				
No. of employees: Paving	6				12		240.00				
Emission Rates	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e	
Grubbing/Land Clearing (grams/mile)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Grading/Excavation (grams/mile)	0.02	1.10	0.10	0.05	0.02	0.00	339.80	0.00	0.01	342.28	
Drainage/Utilities/Sub-Grade (grams/mile)	0.02	1.10	0.10	0.05	0.02	0.00	339.80	0.00	0.01	342.28	
Paving (grams/mile)	0.02	1.10	0.10	0.05	0.02	0.00	339.80	0.00	0.01	342.28	
Grubbing/Land Clearing (grams/trip)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Grading/Excavation (grams/trip)	1.18	2.95	0.34	0.00	0.00	0.00	72.81	0.08	0.04	85.39	
Drainage/Utilities/Sub-Grade (grams/trip)	1.18	2.95	0.34	0.00	0.00	0.00	72.81	0.08	0.04	85.39	
Paving (grams/trip)	1.18	2.95	0.34	0.00	0.00	0.00	72.81	0.08	0.04	85.39	
Emissions	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e	
Pounds per day - Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Tons per const. Period - Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Pounds per day - Grading/Excavation	0.05	0.77	0.07	0.03	0.01	0.00	212.00	0.01	0.01	213.92	
Tons per const. Period - Grading/Excavation	0.00	0.02	0.00	0.00	0.00	0.00	4.31	0.00	0.00	4.35	
Pounds per day - Drainage/Utilities/Sub-Grade	0.05	0.77	0.07	0.03	0.01	0.00	212.00	0.01	0.01	213.92	
Tons per const. Period - Drainage/Utilities/Sub-Grade	0.00	0.02	0.00	0.00	0.00	0.00	4.31	0.00	0.00	4.35	
Pounds per day - Paving	0.04	0.66	0.06	0.02	0.01	0.00	181.72	0.00	0.01	183.36	
Tons per const. Period - Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.60	0.00	0.00	0.61	
Total tons per construction project	0.00	0.03	0.01	0.00	0.00	0.00	9.23	0.00	0.00	9.31	

Note: Water Truck default values can be overridden in cells D153 through D156, H153 through H156, and F153 through F156.

Water Truck Emissions														
User Input	User Override of		Program Estimate of		User Override of Truck		Default Values		Calculated	User Override of		Default Values		Calculated
	Default #	Water Trucks	Number of Water Trucks	Round Trips/Vehicle/Day	Round Trips/Vehicle/Day	Round Trips/Vehicle/Day	Trips/day	Miles/Round Trip	Miles/Round Trip	Miles/Round Trip	Miles/Round Trip	Daily VMT		
Grubbing/Land Clearing - Exhaust				2.00				20.00					0.00	
Grading/Excavation - Exhaust	1			2.00				20.00					40.00	
Drainage/Utilities/Subgrade	1			2.00				20.00					40.00	
Paving	1			2.00				20.00					40.00	
Emission Rates	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e				
Grubbing/Land Clearing (grams/mile)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
Grading/Excavation (grams/mile)	0.43	1.14	6.49	0.21	0.15	0.02	1,859.78	0.02	0.29	1,947.39				
Drainage/Utilities/Sub-Grade (grams/mile)	0.43	1.14	6.49	0.21	0.15	0.02	1,859.78	0.02	0.29	1,947.39				
Paving (grams/mile)	0.43	1.14	6.49	0.21	0.15	0.02	1,859.78	0.02	0.29	1,947.39				
Grubbing/Land Clearing (grams/trip)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
Grading/Excavation (grams/trip)	0.00	0.00	3.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
Drainage/Utilities/Sub-Grade (grams/trip)	0.00	0.00	3.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
Paving (grams/trip)	0.00	0.00	3.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
Emissions	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e				
Pounds per day - Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
Tons per const. Period - Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
Pounds per day - Grading/Excavation	0.04	0.10	0.59	0.02	0.01	0.00	164.00	0.00	0.03	171.73				
Tons per const. Period - Grading/Excavation	0.00	0.00	0.01	0.00	0.00	0.00	3.34	0.00	0.00	3.49				
Pounds per day - Drainage/Utilities/Sub-Grade	0.04	0.10	0.59	0.02	0.01	0.00	164.00	0.00	0.03	171.73				
Tons per const. Period - Drainage/Utilities/Sub-Grade	0.00	0.00	0.01	0.00	0.00	0.00	3.34	0.00	0.00	3.49				
Pounds per day - Paving	0.04	0.10	0.59	0.02	0.01	0.00	164.00	0.00	0.03	171.73				
Tons per const. Period - Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.54	0.00	0.00	0.57				
Total tons per construction project	0.00	0.00	0.03	0.00	0.00	0.00	7.22	0.00	0.00	7.56				

Note: Fugitive dust default values can be overridden in cells D183 through D185.

Fugitive Dust		User Override of Max Acres/acre Disturbed/Day		Default Maximum Acres/Day		PM10	PM10	PM2.5	PM2.5
						pounds/day	tons/per period	pounds/day	tons/per period
Fugitive Dust - Grubbing/Land Clearing						0.00	0.00	0.00	0.00
Fugitive Dust - Grading/Excavation						0.03	0.00	0.01	0.00
Fugitive Dust - Drainage/Utilities/Subgrade						0.03	0.00	0.01	0.00

Values in cells D195 through D226, D246 through D279, D297 through D330, and D348 through D381 are required when 'Other Project Type' is selected.

Off-Road Equipment Emissions																
Grubbing/Land Clearing	Default		Mitigation Option		ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e		
	Number of Vehicles	Override of	Default													
	Override of Default Number of Vehicles	Program-estimate	Default Equipment Tier (applicable only when "Tier 4 Mitigation" Option Selected)		Equipment Tier	Type	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	
				Model Default Tier	Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
				Model Default Tier	Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
				Model Default Tier	Bore/Civil Pigs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
				Model Default Tier	Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
				Model Default Tier	Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
				Model Default Tier	Cranes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
				Model Default Tier	Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
				Model Default Tier	Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
				Model Default Tier	Excavators	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
				Model Default Tier	Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
				Model Default Tier	Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
				Model Default Tier	Graders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
				Model Default Tier	Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
				Model Default Tier	Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
				Model Default Tier	Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
				Model Default Tier	Other General Industrial Equip	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
				Model Default Tier	Other Material Handling Equip	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
				Model Default Tier	Pavers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
				Model Default Tier	Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
				Model Default Tier	Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
				Model Default Tier	Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
				Model Default Tier	Pumps	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
				Model Default Tier	Rollers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
				Model Default Tier	Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
				Model Default Tier	Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
				Model Default Tier	Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
				Model Default Tier	Scrapers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
				Model Default Tier	Signal Boards	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
				Model Default Tier	Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
				Model Default Tier	Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
				Model Default Tier	Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
				Model Default Tier	Tractors/Loaders/Backhoes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
				Model Default Tier	Trenchers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
				Model Default Tier	Welders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
User-Defined Off-road Equipment																
Number of Vehicles		If non-default vehicles are used, please provide information in "Non-default Off-road Equipment" tab			Equipment Tier	Type	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
							pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day
	0.00	N/A				0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	N/A				0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	N/A				0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	N/A				0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	N/A				0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	N/A				0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	N/A				0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	N/A				0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		Grubbing/Land Clearing				pounds per day	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		Grubbing/Land Clearing				tons per phase	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Grading/Excavation		Default Number of Vehicles	Mitigation Option Override of Default	Default	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Override of Default Number of Vehicles		Program-estimate	Default Equipment Tier (applicable only when "Tier 4 Mitigation" Option Selected)	Equipment Tier	Type	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day
				Model Default Tier	Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	Boreal Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	Cranes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00				Model Default Tier	Excavators	0.23	3.27	2.15	0.10	0.10	0.01	500.19	0.16	505.59
				Model Default Tier	Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	Graders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	Other General Industrial Equipm	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	Other Material Handling Equipm	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	Pavers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00				Model Default Tier	Plate Compactors	0.04	0.21	0.25	0.01	0.01	0.00	34.48	0.00	34.65
				Model Default Tier	Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	Pumps	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	Rollers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	Scrapers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00				Model Default Tier	Signal Boards	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	Skid Steer Loaders	0.08	1.39	1.00	0.04	0.04	0.00	200.20	0.06	202.36
				Model Default Tier	Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00				Model Default Tier	Tractors/Loaders/Backhoes	0.19	2.26	1.90	0.11	0.10	0.00	300.90	0.10	304.14
				Model Default Tier	Trenchers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	Welders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
User-Defined Off-road Equipment		If non-default vehicles are used, please provide information in "Non-default Off-road Equipment" tab												
Number of Vehicles		Equipment Tier		Type	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
0.00			N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grading/Excavation					pounds per day	0.53	7.13	5.30	0.27	0.25	0.01	1,035.77	0.33	1,046.74
Grading/Excavation					tons per phase	0.01	0.15	0.11	0.01	0.01	0.00	21.08	0.01	21.30

Drainage/Utilities/Subgrade	Mitigation Option			Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day
	Default Number of Vehicles	Override of Default Equipment Tier (applicable only when "Tier 4 Mitigation" Option Selected)	Default Equipment Tier											
	Override of Default Number of Vehicles	Program-estimate	Equipment Tier											
			Model Default Tier	Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Bore Pile Rigs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cranes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Model Default Tier	Excavators	0.23	3.27	2.15	0.10	0.10	0.01	500.19	0.16	0.00	505.59
			Model Default Tier	Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Graders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other General Industrial Equipm	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Material Handling Equipm	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pavers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Model Default Tier	Plate Compactors	0.04	0.21	0.25	0.01	0.01	0.00	34.48	0.00	0.00	34.65
			Model Default Tier	Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pumps	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rollers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Scrapers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Model Default Tier	Signal Boards	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Skid Steer Loaders	0.08	1.39	1.00	0.04	0.04	0.00	200.20	0.06	0.00	202.36
			Model Default Tier	Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Model Default Tier	Tractors/Loaders/Backhoes	0.19	2.26	1.90	0.11	0.10	0.00	300.90	0.10	0.00	304.14
			Model Default Tier	Trenchers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Welders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
User-Defined Off-road Equipment					If non-default vehicles are used, please provide information in "Non-default Off-road Equipment" tab									
	Number of Vehicles		Equipment Tier	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day
0.00			N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Drainage/Utilities/Sub-Grade			pounds per day	6.53	7.13	5.30	0.27	0.25	0.01	1,035.77	0.33	0.01	1,046.74
	Drainage/Utilities/Sub-Grade			tons per phase	0.01	0.15	0.11	0.01	0.01	0.00	21.08	0.01	0.00	21.30

Paving	Default		Mitigation Option		ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
	Number of Vehicles	Override of	Default											
	Override of Default Number of Vehicles	Program-estimate	Default Equipment Tier (applicable only when "Tier 4 Mitigation" Option Selected)	Equipment Tier	Type	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day
				Model Default Tier	Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00				Model Default Tier	Concrete/Industrial Saws	0.38	3.67	3.04	0.17	0.17	0.01	592.67	0.03	594.85
				Model Default Tier	Cranes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	Excavators	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	Graders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	Other General Industrial Equipn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	Other Material Handling Equipm	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	Pavers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00				Model Default Tier	Paving Equipment	0.19	2.54	1.94	0.10	0.09	0.00	394.46	0.13	398.71
				Model Default Tier	Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	Pumps	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00				Model Default Tier	Rollers	0.19	1.88	1.92	0.12	0.11	0.00	254.09	0.08	256.83
				Model Default Tier	Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	Scrapers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	Signal Boards	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	Tractors/Loaders/Backhoes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	Trenchers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				Model Default Tier	Welders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
User-Defined Off-road Equipment														
If non-default vehicles are used, please provide information in "Non-default Off-road Equipment" tab														
	Number of Vehicles		Equipment Tier	Type		ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	CO2e pounds/day
	0.00		N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00		N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00		N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00		N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00		N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00		N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00		N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		Paving		pounds per day		0.77	8.10	6.90	0.38	0.37	0.01	1,241.21	0.24	1,253.39
		Paving		tons per phase		0.00	0.03	0.02	0.00	0.00	0.00	4.10	0.00	4.13
Total Emissions all Phases (tons per construction period) =>						0.02	0.32	0.24	0.01	0.01	0.00	46.25	0.01	46.73

Equipment default values for horsepower and hours/day can be overridden in cells D403 through D436 and F403 through F436.

Equipment	User Override of Horsepower	Default Values Horsepower	User Override of Hours/day	Default Values Hours/day	Horsepower Load Factor adjustment
Aerial Lifts		63		8	63.00 0.31
Air Compressors		78		8	78.00 0.48
Bore/Drill Rigs		221		8	221.00 0.50
Cement and Mortar Mixers		9		8	9.00 0.56
Concrete/Industrial Saws		81		8	81.00 0.73
Cranes		231		8	231.00 0.29
Crawler Tractors		212		8	212.00 0.43
Crushing/Proc. Equipment		85		8	85.00 0.78
Excavators		158		8	158.00 0.38
Forklifts		89		8	89.00 0.20
Generator Sets		84		8	84.00 0.74
Graders		187		8	187.00 0.41
Off-Highway Tractors		124		8	124.00 0.44
Off-Highway Trucks		402		8	402.00 0.38
Other Construction Equipment		172		8	172.00 0.42
Other General Industrial Equipment		88		8	88.00 0.34
Other Material Handling Equipment		168		8	168.00 0.40
Pavers		130		8	130.00 0.42
Paving Equipment		132		8	132.00 0.36
Plate Compactors		8		8	8.00 0.43
Pressure Washers		13		8	13.00 0.30
Pumps		84		8	84.00 0.74
Rollers		80		8	80.00 0.38
Rough Terrain Forklifts		100		8	100.00 0.40
Rubber Tired Dozers		247		8	247.00 0.40
Rubber Tired Loaders		203		8	203.00 0.36
Scrapers		367		8	367.00 0.46
Signal Boards		6		8	6.00 0.82
Skid Steer Loaders		65		8	65.00 0.37
Surfacing Equipment		263		8	263.00 0.30
Sweepers/Scrubbers		64		8	64.00 0.46
Tractors/Loaders/Backhoes		97		8	97.00 0.37
Trenchers		78		8	78.00 0.50
Welders		46		8	46.00 0.45

END OF DATA ENTRY SHEET

Appendix B

Biological Resources Evaluation

Biological Evaluation

PIXLEY PUBLIC UTILITY DISTRICT

WATER MAIN EXTENSION PROJECT

MARCH 2021

Dena Giacomini, Biologists

PROVOST & PRITCHARD CONSULTING GROUP | 286 CROMWELL, FRESNO CA 93711



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I. Introduction

The Pixley Public Utility District (PPUD), a domestic water purveyor, proposes to construct the Water Main Extension Project (Project) to better serve the unincorporated community of Pixley, in Tulare County, California. The PPUD is the Project proponent and California Environmental Quality Act (CEQA) Lead Agency.

Currently the community is served by aging and under-sized diameter water distribution system suffering from low water pressure issues; fire service capacity of the existing water main is non-existent due to the small pipeline sizes. The existing water distribution system only has three lines that cross State Route 99; an eight-inch (8-inch) line in Bradbury Avenue, a ten-inch (10-inch) line in Davis Avenue, and a 4-inch crossing near the proposed crossing location, north of Howard Avenue. This 4-inch line is the only line that serves the northeastern properties in the community and is not looped in to the remainder of the system, further exacerbating pressure issues in particular, to this portion of the community.

The following technical report, prepared by Provost & Pritchard Consulting Group, is in compliance with the CEQA, includes a description of the biological resources present or with potential to occur within the Project and surrounding areas, and evaluates potential Project-related impacts to those resources.

Project Description

Based upon a Feasibility Study prepared by Provost & Pritchard in August of 2020, the Project would consist of the following improvements:

- A new 12-inch diameter pipeline crossing installed in a 24-inch diameter steel casing, in accordance with Caltrans Specifications under State Route 99 (SR 99) replacing an existing 4-inch pipeline crossing. Crossing will utilize jack & bore method. The existing 4-inch pipeline will be abandoned in place;
- Interconnection of this new 12-inch undercrossing pipeline to existing distribution pipelines west of SR 99 utilizing open trench method;
- A new 12-inch diameter water main installed east of SR 99 in Park Avenue replacing existing 4-inch distribution lines serving existing connections in the northeast area of Pixley. Installation will utilize open trench method; and
- Interconnection of the new 12-inch main east of SR 99 to existing pipelines serving the eastern area of Pixley completing the loop utilizing open trench method.

The interconnections of the new larger diameter crossing of State Route 99 would complete a “loop” which would allow for additional potable water supply reliability and reduce pressure issues which will benefit the water service.

The Area of Potential Effect (APE) is located within Pixley, California as seen in **Figure 1** and **Figure 2**. The area is dominated by urban businesses, roadways, including State Route 99, residential housing and mobile homes, and Pixley Park. As illustrated in **Figure 3**, the APE includes approximately 0.25 acres pipeline and ground disturbance and an additional 50-foot buffer zone on either side of the proposed pipeline. The APE encompasses North Park Street between East Howard Avenue and Write Avenue, under SR 99, and Main Street between the south bound SR 99 exit and East Court Avenue.

Report Objectives

Construction activities, such as that proposed by the Project, could potentially damage biological resources, or modify habitats that are crucial for sensitive plant and wildlife species. In cases such as these, water system upgrades may be regulated by State or federal agencies, subject to provisions of CEQA and addressed by local regulatory agencies.

This report addresses issues related to the following:

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

Therefore, the objectives of this report are:

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

Study Methodology

A reconnaissance-level field survey of the APE (See **Figure 3**) and surrounding areas was conducted on February 26, 2021, by Provost & Pritchard's biologist, Dena Giacomini. The survey consisted of walking and driving the APE while identifying and noting land uses, biological habitats and communities, and plant and animal species encountered. Furthermore, the APE was assessed for suitable habitats of various wildlife species.

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

The field investigation did not include a wetland delineation or focused surveys for special status species. The field survey conducted included the appropriate level of detail to assess the significance of potential impacts to sensitive biological resources resulting from the Project. Furthermore, the field survey was sufficient to generally describe those features of the Project that could be subject to the jurisdiction of federal and/or State agencies,

such as the United States Army Corps of Engineers (USACE), CDFW, Regional Water Quality Control Board (RWQCB) and State Water Resources Control Board (SWRCB).

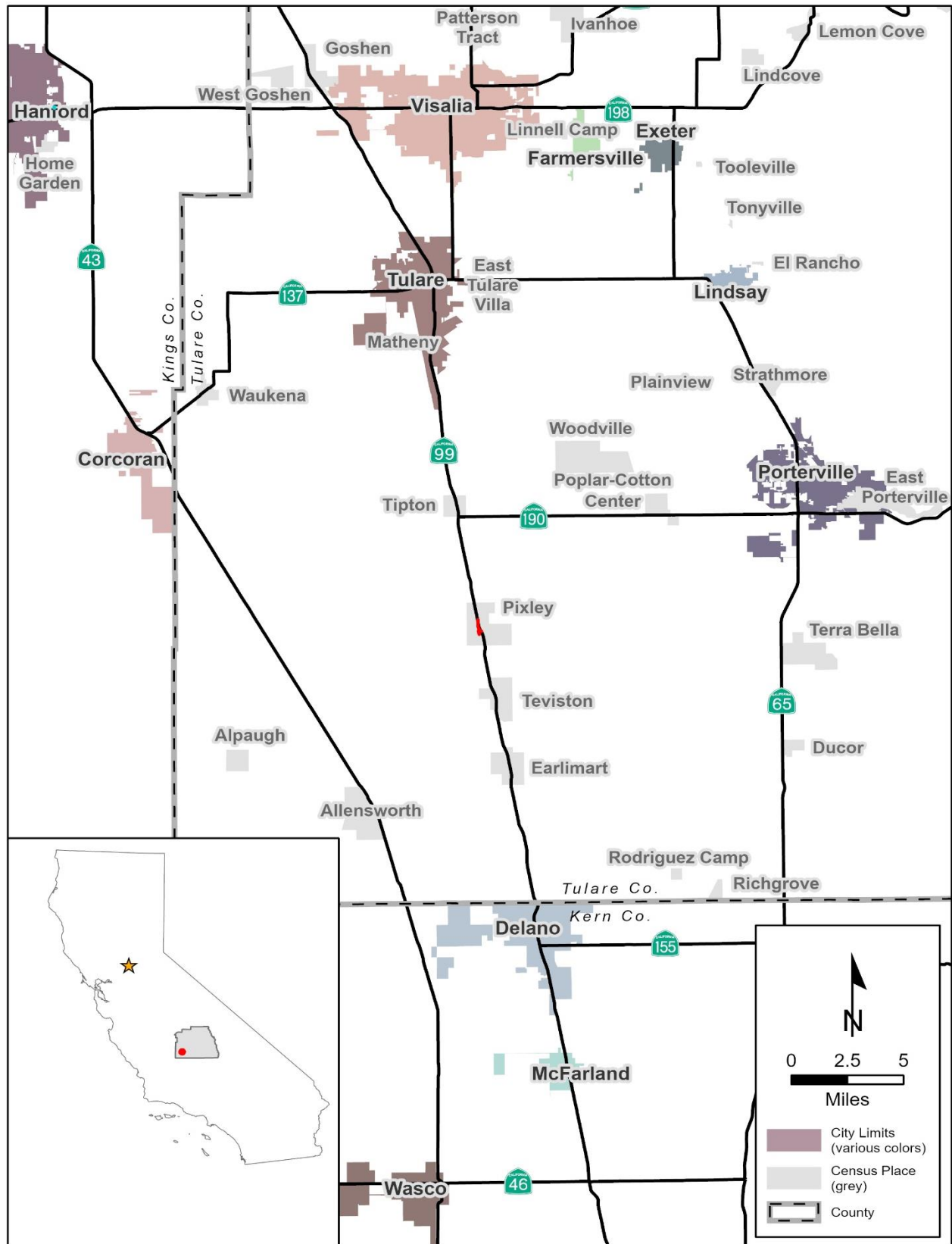


Figure 1. Regional Location



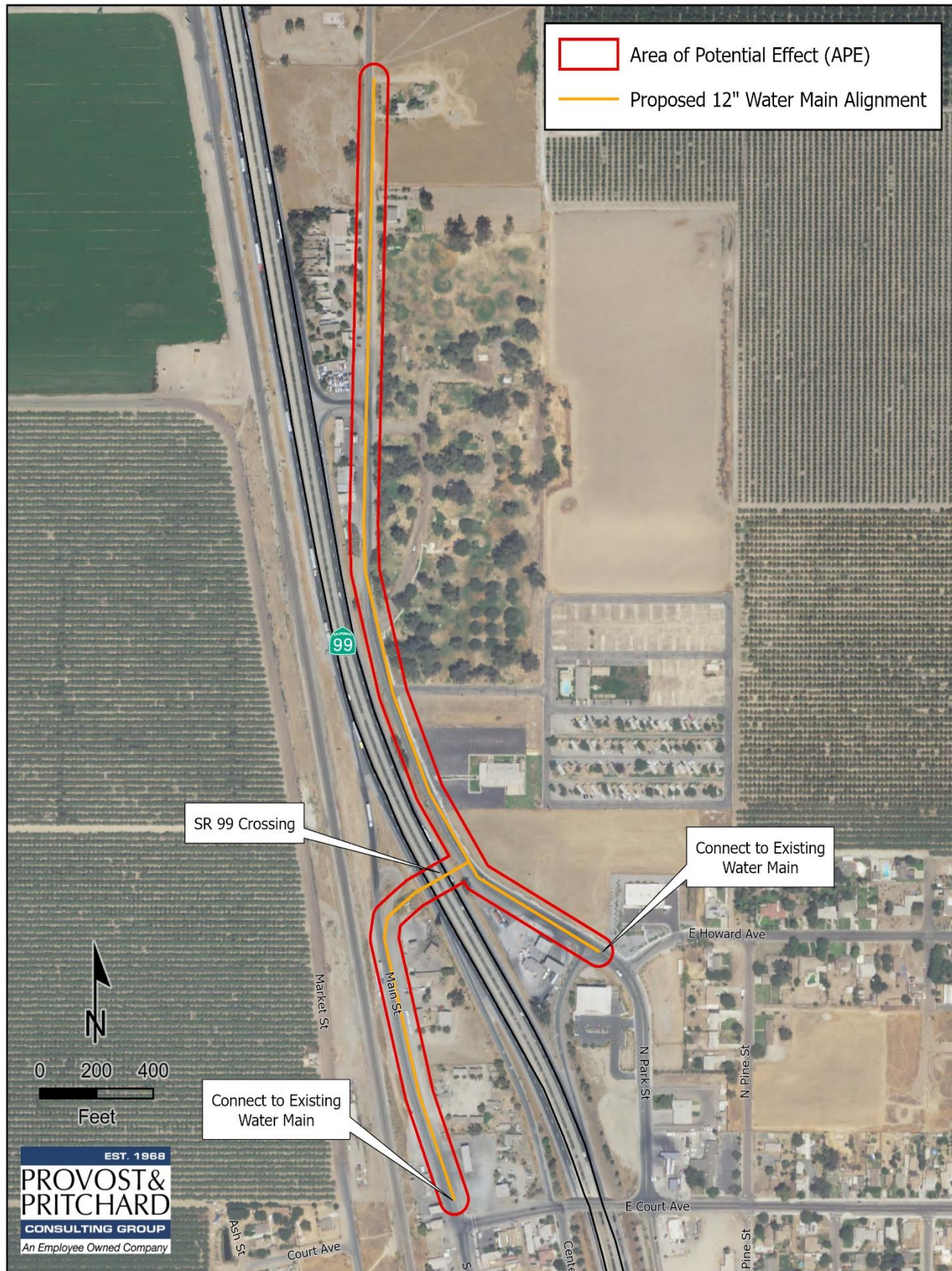


Figure 3. Area of Potential Effect

II. Existing Conditions

Regional Setting

The Project site is located in the southwestern portion of Tulare County within the lower San Joaquin Valley, part of the Great Valley of California (**Figure 1**). The Valley is bordered by the Sierra Nevada Mountain Ranges to the east, the Coast Ranges to the west, the Klamath Mountains and Cascade Range to the north, and the Transverse Ranges and Mojave Desert to the south.

Like most of California, the San Joaquin Valley experiences a Mediterranean climate. Warm, dry summers are followed by cool, moist winters. Summer temperatures often reach above 90 degrees Fahrenheit, and the humidity is generally low. Winter temperatures are often below 60 degrees Fahrenheit during the day and rarely exceed 70 degrees. On average, the Central Valley receives approximately 10 inches of precipitation in the form of rainfall yearly, most of which occurs between October and March.

The Project site is within one water shed. The Town of Pixley-Deer Creek watershed; Hydrologic Unit Code (HUC): 180300050903. There are no water systems in the vicinity. The nearest surface water feature is Deer Creek located approximately 4 miles south of the APE.

Photographs of the Project areas and vicinity are available in **Appendix A** at the end of this document.

Project Site

The biological reconnaissance survey was conducted by walking and driving the APE. The Project proposes to place the entire water pipeline within the right of way of existing roads and cross underneath SR 99. Therefore, the majority of the survey observations discussed are within the buffer zone on either side to the existing roads.

North Park Street Alignment.

The entire APE is considered ruderal with only the most northern portion of the alignment on North Park Street containing small nut orchards and scattered residential homes. The field survey started at the south end of North Park Street adjacent to a grocery store with ornamental landscaping and gravel to the east, and a retail store and gas station to the west comprised mostly of non-permeable, concrete parking areas. Species observed in these areas included house sparrow (*Passer domesticus*), American crow (*Corvus brachyrhynchos*), and Brewer's blackbird (*Euphagus cyanocephalus*). Walking further north along the North Park Street on the west side is a car sales lot, restaurant, and mobile home park. There was minimal vegetation with some small areas of ornamental landscaping which included cypress (*Cupressaceae*) and pine (*Pinus*) trees. A food distribution facility, mobile home park, and nut orchards are located to the east of the road. The non-developed parcel on the east side of the street was recently tilled, but some Russian thistle (*Euphagus cyanocephalus*) and Bermuda grass (*Cynodon dactylon*) remained. Pixley Park was comprised of eucalyptus trees (*Eucalyptus*) and Bermuda grass. Bird species observations included American goldfinch (*Spinus tristis*), house sparrow (*Passer domesticus*), Northern mockingbird (*Mimus polyglottos*), American crow, brown-headed cowbird (*Molothrus ater*), and house finch (*Haemorrhous mexicanus*). A domestic horse was observed near the orchards on the most northern portion of the alignment.

Main Street Alignment

The survey continued at the intersection of Main Street and East Court Avenue moving north. The area is also ruderal and made up of urban residential homes and businesses. This portion of the APE was mostly unvegetated a few eucalyptus and fan palms (*Washingtonia*). On the north-east end of Main Street was an overground area next to an old gas station, no longer in use. This area was made up of non-native grasses, and Russian thistle. There were also some domestic animal pens and cages containing goats, roosters, and hens. Other species in the area included mourning dove (*Zenaida macroura*), American crow, and a domestic dog running down the middle of Main Street. Additional eucalyptus trees, and non-native grasses were observed near the freeway off ramp, and the segment of the pipeline alignment proposed under SR 99. Railroad tracks are located to the west of Main Street and are lined with gravel. The shoulder between the street and railroad contained disturbed soils, and non-native grasses and gravel.

Soils

Two soil mapping units were identified within the Project area: Akers-Akers, saline-Sodic complex and Hanford sandy loam. Akers-Akers, saline-Sodic complex accounts for 11.2 percent of the map units and consists of very deep, well drained soils formed in alluvium, derived from granitic rock.

Hanford sandy loam accounts for 88.8 percent of the map units within the APE and consists of very deep, well drained soils that formed in moderately coarse textured alluvium, also dominantly from granite.

The complete NRCS Web Soil Survey report is available in **Appendix C** at the end of this document.

Natural Communities of Special Concern

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

According to CNDDDB, there are no recorded observations of natural communities of special concern with potential to occur within the Project area or vicinity. Furthermore, biological communities observed onsite during the field survey were significantly disturbed, degraded by the presence of invasive species, and therefore provide relatively low-quality habitat for most native wildlife species.

Designated Critical Habitat of the APE

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

Wildlife Movement Corridors

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

Tulare Irrigation Canal is highly disturbed near the APE and surrounded by residential and agricultural development. While ornamental landscaping is present surrounding residential homes in the area, vegetation within the canal bed and banks is absent or dominated by non-native species with scattered oak trees and lacking in native riparian vegetation. The canal itself can function as a wildlife movement corridor; however, Project components would not impede wildlife movement along the canal banks, at most, domestic dogs, coyotes, and common gray foxes may utilize the canal banks to travel between agricultural lands while foraging nocturnally.

Special Status Plants and Animals

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

A thorough search of the CNDDDB and IPaC for published accounts of special status plant and animal species was conducted for *Pixley* 7.5-minute quadrangle that contains the APE in its entirety, and for the eight surrounding quadrangles: *Taylor Weir*, *Tipton*, *Woodville*, *Alpaugh*, *Sausalito School*, *Allensworth*, *Delano West* and *Delano East*. These species, and their potential to occur within the Project area are listed in **Table 1** and **Table 2** on the following pages. Raw data obtained from CNDDDB and IPaC are available in **Appendix B** at the end of this document. All relevant sources of information, as discussed in the Study Methodology section of this report (above), were used to determine if any special status species are known to be within the Project APE. **Figure 2** shows the Project’s 7.5-minute quadrangle, according to USGS Topographic Maps.

Table 1. List of Special Status Animals with Potential to Occur Onsite and/or in the Vicinity.

Species	Status	Habitat	Occurrence on Project Site
American badger (<i>Taxidea taxus</i>)	CSC	Grasslands, savannas, and mountain meadows near timberline are preferred. Most abundant in drier open spaces of shrub and grassland. Burrows in soil.	Absent. The APE is surrounded by existing SR 99, roadways, urban businesses, and residential homes and small disturbed agricultural lands. The area is lacking in undisturbed grassland open spaces.
Bakersfield Legless Lizard (<i>Anniella grinnelli</i>)	CSC	General habitat is sandy with herbaceous cover and scattered shrubs in grassland, sand/dune, or chaparral. Burrows in soil. Fallen logs, woody debris, and leaf litter under trees and bushes in sunny areas often indicate suitable habitat.	Unlikely. The APE is a highly disturbed area, and the surrounding lands are unsuitable for this species. This species is presumed extant and last seen over 4.75 miles southwest from the APE.

Species	Status	Habitat	Occurrence on Project Site
blunt-nosed leopard lizard (<i>Gambelia sila</i>)	FE, CE, CFP	Inhabits semi-arid grasslands, alkali flats, low foothills, canyon floors, large washes, and arroyos, usually on sandy, gravelly, or loamy substrate, sometimes on hardpan. Often found where there are abundant rodent burrows in dense vegetation or tall grass. Cannot survive on lands under cultivation. Known to bask on kangaroo rat mounds and often seeks shelter at the base of shrubs, in small mammal burrows, or in rock piles. Adults may excavate shallow burrows but rely on deeper pre-existing rodent burrows for hibernation and reproduction.	Unlikely. Although there are many observations in the within a few miles of the APE, the project activities would be located within the road and is located in a highly disturbed area. This species is presumed extant and last seen 1-mile west of the APE in 2018.
burrowing owl (<i>Athene cunicularia</i>)	CSC	Resides in open, dry annual or perennial grasslands, deserts, and scrublands with low growing vegetation. Nests underground in existing burrows created by mammals, most often ground squirrels.	Unlikely. The highly disturbed habitats of the APE and surrounding lands are unsuitable for this species. Nesting and foraging habitat is absent due to busy roads and/or lack of vegetative cover. At most, a burrowing owl individual could potentially pass over or through the site but would not be expected to nest or forage within or adjacent to the APE.
coast horned lizard (<i>Phrynosoma blainvillii</i>)	CSC	Found in grasslands, coniferous forests, woodlands, and chaparral, primarily in open areas with patches of loose, sandy soil and low-lying vegetation in valleys, foothills, and semi-arid mountains. Frequently found near ant hills and along dirt roads in lowlands along sandy washes with scattered shrubs.	Absent. The highly disturbed habitats of the APE and surrounding lands are unsuitable for this species. This species is presumed extant and last seen in 1992.

Species	Status	Habitat	Occurrence on Project Site
Kern Brook Lamprey (<i>Entosphenus hubbsi</i>)	CSC	Silty backwaters of large rivers in the foothill region. Requires slight flow and shallow pools with sand, gravel, rubble, and mud substrate in areas where summer temperatures rarely exceed 77 degrees Fahrenheit.	Absent. The APE does not contain any water sources. The nearest water source is Deer Creek located approximately 4-miles south of the APE.
loggerhead shrike (<i>Lanius ludovicianus</i>)	CSC	Frequents open habitats with sparse shrubs and trees, other suitable perches, bare ground, and low herbaceous cover. In the Central Valley, nests in riparian areas, desert scrub, and agricultural hedgerows.	Unlikely. Suitable nesting habitat is absent from the APE and surrounding lands. The only regional observation of this species occurred approximately 30 years ago in riparian habitat along Cottonwood Creek. At most, this species could occasionally fly over the APE.
Nelson's antelope squirrel (<i>Ammospermophilus nelsoni</i>)	CT	Found in the western San Joaquin Valley on dry, sparsely vegetated loamy soils. Relies heavily on existing small mammal burrows.	Absent. The APE and surrounding is located in a highly disturbed, urban area. Although presumed extant, that last known sighting in Tulare County was in 1991.
San Joaquin coachwhip (<i>Masticophis flagellum ruddocki</i>)	CSC	Found in open dry habitats with little or no tree cover in valley grassland and saltbush scrub communities in the San Joaquin Valley. Relies on mammal burrows for refuge and oviposition sites.	Unlikely. The APE and surrounding area is highly disturbed and lacking associated habitat for this species. This species may be found in outlier areas outside of the APE in rodent burrows.
San Joaquin kit fox (<i>Vulpes macrotis mutica</i>)	FE, CT	Underground dens with multiple entrances in alkali sink, valley grassland, and woodland in valleys and adjacent foothills.	Unlikely. Although some populations of San Joaquin Kit Fox in other parts of California have adapted to an urbanized environment, modern kit fox occurrences are locally scarce. The APE is also adjacent to SR 99 with little to no protected habitat. At most, this species could conceivably pass through the APE during dispersal movements.
Swainson's hawk (<i>Buteo swainsoni</i>)	CT	Nests in large trees in open areas adjacent to grasslands, grain or alfalfa fields, or livestock pastures suitable for supporting rodent populations.	Possible. Although there are countless eucalyptus trees that would provide nesting habitat around the APE, no nests were observed during the survey. Additionally,

Species	Status	Habitat	Occurrence on Project Site
			foraging habitat is lacking due to the urban, highly disturbed area.
Tipton kangaroo rat (<i>Dipodomys</i> <i>nitratoides</i> <i>nitratoides</i>)	FE, CE	Burrows in soil. Often found in grassland and shrubland.	Unlikely. Suitable habitat for this species is absent from the APE. Presumed extant and last seen near Pixley in 1995.
tricolored blackbird (<i>Agelaius tricolor</i>)	CT, CSC	Nests colonially near fresh water in dense cattails or tules, or in thickets of riparian shrubs. Forages in grassland and cropland. Large colonies are often found on dairy farm forage fields.	Absent. Suitable habitat for this species is absent from the APE. Additionally, this species does not nest or breed in or near disturbed areas.
vernal pool fairy shrimp (<i>Branchinecta lynchi</i>)	FT	Occupies vernal pools, clear to tea-colored water, in grass or mud-bottomed swales, and basalt depression pools.	Absent. Suitable vernal pool habitat for this species is absent from the APE and surrounding lands. The APE is mostly impermeable surfaces and/or subject to frequent ground disturbance. Further the soil in the area is sandy and well drained which would not allow pooling water necessary for this species.

Table 2. List of Special Status Plants with Potential to Occur Onsite and/or in the Vicinity.

Species	Status	Habitat	Occurrence on Project Site
alkali mariposa-lily (<i>Calochortus striatus</i>)	CNPS 1B	Found in the Sierra Nevada Foothills, the Desert Mountains, and the Mojave Desert in alkaline meadows, ephemeral washes, and creosote-bush scrub in chaparral, alkali scrub communities, meadows, and seeps at elevations between 230 feet and 5300 feet. Sometimes associated with vernal pools. Blooms April–June.	Absent. Vernal pool habitat is absent from APE and surrounding areas. The disturbed habitats and soils onsite are unsuitable for this species.
alkali-sink goldfields (<i>Lasthenia chrysantha</i>)	CNPS 1B	Found in vernal pool and wet saline flat habitats. Occurrences documented in the San Joaquin and Sacramento Valleys at elevations below 656 feet. Blooms February - April.	Absent. Vernal pool habitat is absent from APE and surrounding areas. The disturbed habitats and soils onsite are unsuitable for this species.

Species	Status	Habitat	Occurrence on Project Site
brittlescale (<i>Atriplex depressa</i>)	CNPS 1B	Found in the San Joaquin Valley and Sacramento Valley in alkaline or clay soils, typically in meadows or annual grassland in at elevations below 1050 feet. Sometimes associated with vernal pools. Blooms June–October.	Absent. The disturbed habitats and soils onsite are unsuitable for this species.
California alkali grass (<i>Puccinellia simplex</i>)	CNPS 1B	Found in the San Joaquin Valley and other parts of California in saline flats and mineral springs within valley grassland and wetland-riparian communities at elevations below 3000 feet. Blooms March–May.	Absent. Wetland habitat is absent from APE and surrounding areas. The disturbed habitats and soils onsite are unsuitable for this species.
California jewelflower (<i>Caulanthus californicus</i>)	FE, CE, CNPS 1B	Found in the San Joaquin Valley and Western Transverse Ranges in sandy soils. Occurs on flats and slopes, generally in non-alkaline grassland at elevations between 230 feet and 6100 feet. Blooms February–April.	Unlikely. Although the soils in this area may provide possible habitat, this is a highly disturbed area, and this species is possible extirpated from Tulare County. The last observation was in 1986.
Coulter's goldfields (<i>Lasthenia glabrata</i> ssp. <i>coulteri</i>)	CNPS 1B	Found on alkaline or saline soils in vernal pools and playas in grassland at elevations below 4500 feet. Blooms April–May.	Absent. Vernal pool habitat is absent from APE and surrounding areas. The disturbed habitats and soils onsite are unsuitable for this species.
Earlimart orache (<i>Atriplex cordulata</i> var. <i>erecticaulis</i>)	CNPS 1B	Found in the San Joaquin Valley in saline or alkaline soils, typically within valley and foothill grassland at elevations below 375 feet. Blooms August–September.	Absent. The disturbed habitats and soils onsite are unsuitable for this species.
Kern Mallow (<i>Eremalche parryi</i> ssp. <i>kernensis</i>)	CNPS 1B, FE	Occurs in the San Joaquin Valley and the Inner South Coast Ranges in eroded hillsides and alkali flats; often on dry, open, sandy to clay soils and within alkali scrub communities. Occurs at elevations between 200 feet and 4250 feet. Blooms March–May.	Unlikely. The disturbed habitats onsite are unsuitable for this species. Presumed extant but has not been seen in the area since 1988.

Species	Status	Habitat	Occurrence on Project Site
lesser saltscale (<i>Atriplex minuscula</i>)	CNPS 1B	Found in the San Joaquin Valley in sandy, alkaline soils in alkali scrub, valley and foothill grassland, and alkali sink communities at elevations below 750 feet. Blooms April–October.	Absent. The disturbed habitats onsite are unsuitable for this species. All regional recorded observations of this species have occurred in vernal pool habitat or alkali grasslands, both of which are absent from the APE and surrounding area.
Lost Hills crownscale (<i>Atriplex coronata</i> var. <i>vallicola</i>)	CNPS 1B	Found in the San Joaquin Valley in dried ponds and alkaline soils in alkali scrub, valley and foothill grassland, and vernal pools at elevations below 2900 feet. Blooms April–September.	Absent. Vernal pool habitat is absent from APE and surrounding areas. The disturbed habitats and soils onsite are unsuitable for this species.
recurved larkspur (<i>Delphinium recurvatum</i>)	CNPS 1B	Occurs in poorly drained, fine, alkaline soils in grassland and alkali scrub communities at elevations between 100 feet and 2600 feet. Blooms March–June.	Absent. The disturbed habitats and soils onsite are unsuitable for this species. This species is presumed extant. The last observation was in 1995.
San Joaquin woollythreads (<i>Monolopia congdonii</i>)	FE, CNPS 1B	Occurs in the San Joaquin Valley in sandy soils on alkaline or loamy plains in valley and foothill grassland and alkali scrub communities at elevations between 180 feet and 2750 feet. Blooms February–May.	Absent. The disturbed habitats and soils onsite are unsuitable for this species. This species is possibly extirpated. The last observation was in 1881.
spiny-sepaed button-celery (<i>Eryngium spinosepalum</i>)	CNPS 1B	Found in the Sierra Nevada Foothills and the San Joaquin Valley. Occurs in vernal pools, swales, and roadside ditches. Often associated with clay soils in vernal pools within grassland communities. Occurs at elevations between 50 feet and 4160 feet. Blooms April–July.	Absent. Vernal pool habitat is absent from APE and surrounding areas. The disturbed habitats and soils onsite are unsuitable for this species.
subtle orache (<i>Atriplex subtilis</i>)	CNPS 1B	Found in the San Joaquin Valley in saline depressions in alkaline soils within valley and foothill grassland communities at elevations below 330 feet. Blooms June–October.	Absent. The disturbed habitats and soils onsite are unsuitable for this species. This species is presumed extant. The last observation 1995.

Species	Status	Habitat	Occurrence on Project Site
vernal pool smallscale (<i>Atriplex persistens</i>)	CNPS 1B	Occurs in the San Joaquin Valley and Sacramento Valley in alkaline vernal pools at elevations below 375 feet. Blooms June–September.	Absent. Vernal pool habitat is absent from APE and surrounding areas. The disturbed habitats and soils onsite are unsuitable for this species.

Explanation of Occurrence Designations and Status Codes

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

Status Codes

FE	Federally Endangered	CE	California Endangered
FT	Federally Threatened	CT	California Threatened
CSC	California Species of Special Concern	CWL	California Watch List
CCE	California Endangered (Candidate)	CR	California Rare

CNPS Listing

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

III. Impacts and Mitigation

Significance Criteria

CEQA

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

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFW or USFWS;
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites.
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

If significant impacts are identified, those impacts would require reasonable and feasible mitigation to avoid the impact or reduce the impact to less than significant.

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

“Substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of an endangered, rare, or threatened

species, or eliminate important examples of the major periods of California history or prehistory.”

Relevant Goals, Policies, and Laws

Tulare County General Plan – Pixley Community Plan

The Tulare County General Plan – Pixley Community Plan sets forth the following goals and policies that protect biological resources and which have potential relevance to the Project’s environmental review: The following policies can be found in Pixley Community Plan page 91 - (2015).

ERM-1.1 Protection of Rare and Endangered Species.

- The County shall ensure the protection of environmentally sensitive wildlife and plant life, including those species designated as rare, threatened, and/or endangered by State and/or Federal government, through compatible land use development.

ERM-1.2 Development in Environmentally Sensitive Areas.

- The County shall limit or modify proposed development within areas that contain sensitive habitat for special status species and direct development into less significant habitat areas. Development in natural habitats shall be controlled so as to minimize erosion and maximize beneficial vegetative growth.

ERM-1.8 Open Space Buffers.

- The County shall require buffer areas between development projects and significant watercourses, riparian vegetation, wetlands, and other sensitive habitats and natural communities. These buffers should be sufficient to assure the continued existence of the waterways and riparian habitat in their natural state.

Threatened and Endangered Species

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

Designated Critical Habitat

When species are listed as threatened or endangered, the USFWS often designates areas of “Critical Habitat” as defined by section 3(5)(A) of the federal Endangered Species Act (ESA). Critical Habitat is a term defined in the ESA as a specific geographic area that contains features essential for the conservation of a threatened or endangered species and that may require special management and protection. Critical Habitat is a tool that supports the continued conservation of imperiled species by guiding cooperation with the federal government. Designations only affect federal agency actions or federally funded or permitted activities. Critical Habitat does

not prevent activities that occur within the designated area. Only activities that involve a federal permit, license, or funding and are likely to destroy or adversely modify Critical Habitat will be affected.

Migratory Birds

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

Birds of Prey

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

Nesting Birds

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

Wetlands and other "Jurisdictional Waters"

Natural drainage channels and adjacent wetlands may be considered "waters of the United States." or "jurisdictional waters" subject to the jurisdiction of the USACE. The extent of jurisdiction has been defined in the Code of Federal Regulations but has also been subject to interpretation of the federal courts. As of April 2020, jurisdictional waters generally include:

- The territorial seas, and waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including waters which are subject to the ebb and flow of the tide;
- Traditional Navigable Waters: Perennial and Intermittent tributaries that contain surface water flow to such waters;
- Lake and ponds, and impoundments of jurisdictional waters; and
- Wetlands adjacent to jurisdictional waterways.

On June 22, 2020, the United States Environmental Protection Agency (USEPA) and the United States Department of the Army (USACE) (together, "the agencies") published the Navigable Waters Protection Rule defining the scope of waters subject to federal regulation under the Clean Water Act (CWA or the Act). In this final rule, the agencies interpret the term "waters of the United States" to encompass: The territorial seas and

traditional navigable waters; perennial and intermittent tributaries that contribute surface water flow to such waters; certain lakes, ponds, and impoundments of jurisdictional waters; and wetlands adjacent to other jurisdictional waters.

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

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

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

Potentially Significant Project-Related Impacts and Mitigation

Species identified as candidate, sensitive, or special status species in local or regional plans, policies, or regulations by CDFW or USFWS that have the potential to be impacted by the Project are identified below with corresponding mitigation measures. There is one species: Swainson’s hawk (*Buteo swainsoni*). This species is discussed below with the corresponding mitigation measures.

Project-Related Mortality and/or Disturbance of Nesting Raptors, Migratory Birds, and Special Status Birds (Including Swainson's Hawk).

Portions of the site contain marginal foraging habitat for several avian species, including the Swainson's hawk. Suitable nesting trees were observed within the vicinity of the Project APE including large eucalyptus trees. Smaller avian species may nest within ornamental trees and shrubs in residential backyards. Ground nesting birds such as the killdeer (*Charadrius vociferus*) could nest on the bare ground or compacted dirt roads onsite.

Swainson's hawks are common in Tulare County. In the absence of preferred habitat, especially within the Central Valley, Swainson's hawks often nest within eucalyptus trees lining highways, and several raptor species nest within ornamental fan palms. Although nesting habitat onsite and in the vicinity is not ideal due to the absence of native riparian trees, and suboptimal foraging habitat, raptors, such as the special status Swainson's hawk could conceivably nest or forage near the APE. In the event that a Swainson's hawk or other avian species is foraging within the site during construction activities, the individual would be expected to fly away from disturbance they encounter, subsequently eliminating the risk of injury or mortality while foraging. Birds nesting within the site or on the ground could be injured or killed by Project activities. Furthermore, construction activities could disturb birds nesting within or adjacent to work areas, resulting in nest abandonment. Construction activities that adversely affect the nesting success of raptors and migratory birds or result in the mortality of individual birds constitute a violation of State and federal laws and are considered a significant impact under CEQA.

As previously mentioned, due to the ruderal nature of the lands, nesting and foraging habitat for raptors, resident and migratory birds, and special status birds within the APE is marginal, at best. Habitat of higher foraging and nesting value is regionally abundant. Therefore, the development resulting from implementation of the Project would not be considered a significant loss of foraging or nesting habitat under CEQA.

Nesting bird season is generally accepted as February 1 through August 31; however, Swainson's hawk nesting season is generally accepted as March 1 through September 15. For simplicity, these timeframes have been combined.

Implementation of the following measures would reduce potential impacts to nesting raptors, migratory birds, and special status birds, including Swainson's hawk and tricolored blackbird to a less than significant level under CEQA, and would ensure compliance with State and federal laws protecting these avian species.

Mitigation: *The following measures will be implemented prior to the start of construction:*

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

Mitigation Measure NEST-1b (Pre-construction Surveys): If activities must occur within nesting bird season (February 1 to September 15), a qualified biologist shall conduct pre-construction survey for Swainson's hawk nests onsite and within a 0.5-mile radius around the APE. The Swainson's hawk survey will be conducted in accordance with the *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley* (Swainson's Hawk Technical Advisory Committee, 2000) or current guidance. In addition to the focused Swainson's hawk surveys, a qualified biologist shall conduct a pre-construction survey for all other nesting birds within 14 days prior to the

start of construction. The survey shall include the proposed work area and surrounding lands within 50 feet. All raptor nests will be considered “active” upon the nest-building stage.

Mitigation Measure NEST-1c (Establish Buffers): On discovery of any active nests near work areas, the biologist shall determine appropriate construction setback distances based on applicable CDFW and/or USFWS guidelines and/or the biology of the species in question. Specifically, a 0.5-mile disturbance-free buffer shall be implemented around active Swainson’s hawk nests between March 1 and September 15. Buffer zones may be adjusted in consultation with the CDFW and the lead CEQA agency. Construction buffers shall be identified with flagging, fencing, or other easily visible means, and shall be maintained until the biologist has determined that the nestlings have fledged and are no longer dependent on the nest.

Mitigation Measure WEAP-1d (WEAP Training): On discovery of any special status bird species, all personnel associated with Project construction shall attend mandatory Worker Environmental Awareness Program (WEAP) training, conducted by a qualified biologist, prior to initiating construction activities (including staging and mobilization). The specifics of this program shall include identification of the special status species and suitable habitats, a description of the regulatory status and general ecological characteristics of the species, and review of the limits of construction and mitigation measures required to reduce impacts to biological resources within the work area. A fact sheet conveying this information, along with photographs or illustrations of the special status species, shall also be prepared for distribution to all contractors, their employees, and all other personnel involved with construction of the Project. All employees shall sign a form documenting that they have attended WEAP training and understand the information presented to them.

Less Than Significant Project-Related Impacts

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

Of the 14 regionally occurring special status species, 13 are considered absent from or unlikely to occur within the Project area due to past or ongoing disturbance and/or the absence of suitable habitat. As explained in **Table 1**, the following species were deemed absent or unlikely to occur within or near the APE: American badger, Bakersfield legless lizard, blunt-nosed leopard lizard, burrowing owl, coast horned lizard, Kern Brook lamprey, loggerhead shrike, Nelson’s antelope squirrel, San Joaquin coachwhip, San Joaquin kit fox, Tipton kangaroo rat, tricolored blackbird, and vernal pool fairy shrimp. Therefore, implementation of the Project would have no impact on these 13 special status species through construction mortality, disturbance, or loss of habitat. Mitigation measures are not warranted.

Project-Related Impacts to Special Status Plant Species

All 15 of the special status plant species which have been documented in the Project vicinity are considered absent or unlikely from the APE area due to poor or inadequate soils, and past or ongoing disturbance, and/or the absence of suitable habitat. As explained in **Table 2**, the following species were deemed absent from the Project site: alkali mariposa-lily, alkali-sink goldfields, brittlescale, California alkali grass, California jewelflower, Coulter’s goldfields, Earilmart orache, Kern Mallow, lesser saltscare, Lost Hills crownscare, recurved larkspur, San Joaquin woollythreads, spiny-sepaed button-celery, subtle orache and vernal pool

smallscale. Therefore, the implementation of the Project would have no effect on individual plants or regional populations of these special status plant species. Mitigation measures are not warranted.

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

There are no CNDDDB-designated “natural communities of special concern” recorded within the Project area or surrounding lands. The Project site consists of urban streets and small agricultural fields with residential housing. There are no water sources near the APE. Undoubtedly, some native wildlife species use the Project area in the absence of preferred habitat. However, because of the aforementioned disturbance, the Project area represents relatively low-quality habitat for native plants and animals.

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

The Project is not located near or does not involve alterations of any water sources. The Project itself is to provide necessary drinking water to the existing residents. For these reasons, implementation of the Project will not have a significant impact on regulated waters, wetlands, or water quality.

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

The Project area is within the urban area of Pixley next to SR 99, some commercial, industrial, and residential development, and paved roads. Therefore, the Project area does not contain features that would be likely to function as a wildlife movement corridor. The Project does not propose to block or change any of the areas within the APE and would install and bury a water pipeline and repair the existing roadways. Outside of construction hours and after construction completion, species that may pass through the area would continue to do so. For these reasons, implementation of the Project will not have a significant impact on wildlife movement corridors. Potential impacts to migratory birds and nesting birds have been discussed in detail above, and no additional mitigation is warranted.

Project-Related Impacts to Critical Habitat.

Designated critical habitat is absent from the Project area and surrounding lands. Therefore, there will be no impact to critical habitat, and mitigation is not warranted.

Local Policies or Habitat Conservation Plans.

The Project appears to be consistent with the goals and policies of the Tulare County General Plan. There are no known habitat conservation plans (HCPs) or a natural Community Conservation Plan (NCCP) in the Project vicinity. Mitigation is not warranted.

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Appendix A: Study Area Photos

COUNTY OF TULARE

PIXLEY PUBLIC UTILITY DISTRICT WATER MAIN
EXTENSION PROJECT



Photograph 1

Most southern portion of the alignment on North Park Street at East Howard Avenue looking northwest.



Photograph 2

Overview of tilled parcel looking northwest on the west side of the APE.



Photograph 3

Entrance of Pixley Park on the west side of North Park Avenue.



Photograph 4

Overview of Pixley Park looking North along North Park Avenue. Line of Eucalyptus trees.



Photograph 5

Pixley Park looking north along the alignment of the APE .



Photograph 6

End of the Park on the north end of the alignment on North Park Avenue.



Photograph 7

On North Park Avenue looking west toward SR 99.



Photograph 8

Along North Park Avenue looking north . Small residential homes and the start of the nut orchards.



Photograph 9

Businesses on the west side of North Park Avenue looking South.



Photograph 10

Main Street at the East Court Avenue intersection. Railroad tracks to the left and urban residential houses to the right.



Photograph 11

Portion of the alignment that will go under SR 99.



Photograph 12

A former gas station at the end of Main Street used for vehicle storage. To the left are cages and pens with goats, roosters and chickens.



Photograph 13

End of Main Street looking north onto the Main Street off ramp from SR 99. Railroad tracks to the left and Main Street to the right. This photo was taken on the west side of the road.



Photograph 14

Photograph of the railroad tracks on the west side of Main Street. Gravel lined with Russian thistle.



Photograph 15

On the west side of Main Street looking South toward local businesses. Disturbed, compacted soil and non-native grasses.



Photograph 16

East side of Main Street. Caged goats, roosters, and hens.

Appendix B: CNDDDB Quad Search

COUNTY OF TULARE

PIXLEY PUBLIC UTILITY DISTRICT WATER MAIN
EXTENSION PROJECT



Selected Elements by Common Name

California Department of Fish and Wildlife

California Natural Diversity Database



Query Criteria: Quad IS (Pixley (3511983) OR Delano East (3511972) OR Delano West (3511973) OR Sausalito School (3511982) OR Woodville (3611912) OR Tipton (3611913) OR Taylor Weir (3611914) OR Alpaugh (3511984) OR Allensworth (3511974))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
alkali mariposa-lily <i>Calochortus striatus</i>	PMLIL0D190	None	None	G3?	S2S3	1B.2
alkali-sink goldfields <i>Lasthenia chrysantha</i>	PDAST5L030	None	None	G2	S2	1B.1
American badger <i>Taxidea taxus</i>	AMAJF04010	None	None	G5	S3	SSC
An andrenid bee <i>Andrena macswaini</i>	IIHYM35130	None	None	G2	S2	
Bakersfield legless lizard <i>Anniella grinnelli</i>	ARACC01050	None	None	G2G3	S2S3	SSC
blunt-nosed leopard lizard <i>Gambelia sila</i>	ARACF07010	Endangered	Endangered	G1	S1	FP
brittlescale <i>Atriplex depressa</i>	PDCHE042L0	None	None	G2	S2	1B.2
burrowing owl <i>Athene cunicularia</i>	ABNSB10010	None	None	G4	S3	SSC
California alkali grass <i>Puccinellia simplex</i>	PMPOA53110	None	None	G3	S2	1B.2
California jewelflower <i>Caulanthus californicus</i>	PDBRA31010	Endangered	Endangered	G1	S1	1B.1
coast horned lizard <i>Phrynosoma blainvillii</i>	ARACF12100	None	None	G3G4	S3S4	SSC
Coulter's goldfields <i>Lasthenia glabrata ssp. coulteri</i>	PDAST5L0A1	None	None	G4T2	S2	1B.1
Earlimart orache <i>Atriplex cordulata var. erecticaulis</i>	PDCHE042V0	None	None	G3T1	S1	1B.2
Hopping's blister beetle <i>Lytta hoppingi</i>	IICOL4C010	None	None	G1G2	S1S2	
Kern brook lamprey <i>Lampetra hubbsi</i>	AFBAA02040	None	None	G1G2	S1S2	SSC
Kern mallow <i>Eremalche parryi ssp. kernensis</i>	PDMAL0C031	Endangered	None	G3G4T3	S3	1B.2
lesser saltscale <i>Atriplex minuscula</i>	PDCHE042M0	None	None	G2	S2	1B.1
loggerhead shrike <i>Lanius ludovicianus</i>	ABPBR01030	None	None	G4	S4	SSC



Selected Elements by Common Name

California Department of Fish and Wildlife

California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Lost Hills crownscale <i>Atriplex coronata</i> var. <i>vallicola</i>	PDCHE04371	None	None	G4T3	S3	1B.2
molestan blister beetle <i>Lytta molesta</i>	IICOL4C030	None	None	G2	S2	
Morrison's blister beetle <i>Lytta morrisoni</i>	IICOL4C040	None	None	G1G2	S1S2	
mountain plover <i>Charadrius montanus</i>	ABNNB03100	None	None	G3	S2S3	SSC
Nelson's antelope squirrel <i>Ammospermophilus nelsoni</i>	AMAFB04040	None	Threatened	G2G3	S2S3	
Northern Claypan Vernal Pool <i>Northern Claypan Vernal Pool</i>	CTT44120CA	None	None	G1	S1.1	
recurved larkspur <i>Delphinium recurvatum</i>	PDRAN0B1J0	None	None	G2?	S2?	1B.2
San Joaquin coachwhip <i>Masticophis flagellum ruddocki</i>	ARADB21021	None	None	G5T2T3	S2?	SSC
San Joaquin kit fox <i>Vulpes macrotis mutica</i>	AMAJA03041	Endangered	Threatened	G4T2	S2	
San Joaquin pocket mouse <i>Perognathus inornatus</i>	AMAFD01060	None	None	G2G3	S2S3	
San Joaquin tiger beetle <i>Cicindela tranquebarica joaquinensis</i>	IICOL0220E	None	None	G5T1	S1	
San Joaquin woollythreads <i>Monolopia congdonii</i>	PDASTA8010	Endangered	None	G2	S2	1B.2
spiny-sepaled button-celery <i>Eryngium spinosepalum</i>	PDAP10Z0Y0	None	None	G2	S2	1B.2
subtle orache <i>Atriplex subtilis</i>	PDCHE042T0	None	None	G1	S1	1B.2
Swainson's hawk <i>Buteo swainsoni</i>	ABNKC19070	None	Threatened	G5	S3	
Tipton kangaroo rat <i>Dipodomys nitratoide nitratoide</i>	AMAFD03152	Endangered	Endangered	G3T1T2	S1S2	
tricolored blackbird <i>Agelaius tricolor</i>	ABPBXB0020	None	Threatened	G1G2	S1S2	SSC
Valley Sacaton Grassland <i>Valley Sacaton Grassland</i>	CTT42120CA	None	None	G1	S1.1	
Valley Saltbush Scrub <i>Valley Saltbush Scrub</i>	CTT36220CA	None	None	G2	S2.1	
Valley Sink Scrub <i>Valley Sink Scrub</i>	CTT36210CA	None	None	G1	S1.1	
vernal pool fairy shrimp <i>Branchinecta lynchi</i>	ICBRA03030	Threatened	None	G3	S3	



Selected Elements by Common Name
California Department of Fish and Wildlife
California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
vernal pool smallscale <i>Atriplex persistens</i>	PDCHE042P0	None	None	G2	S2	1B.2
western snowy plover <i>Charadrius nivosus nivosus</i>	ABNNB03031	Threatened	None	G3T3	S2	SSC
western spadefoot <i>Spea hammondi</i>	AAABF02020	None	None	G3	S3	SSC

Record Count: 42

Appendix C: IPaC Database Search

COUNTY OF TULARE

PIXLEY PUBLIC UTILITY DISTRICT WATER MAIN
EXTENSION PROJECT



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Sacramento Fish And Wildlife Office

Federal Building

2800 Cottage Way, Room W-2605

Sacramento, CA 95825-1846

Phone: (916) 414-6600 Fax: (916) 414-6713



In Reply Refer To:

February 25, 2021

Consultation Code: 08ESMF00-2021-SLI-1127

Event Code: 08ESMF00-2021-E-03291

Project Name: Pixley Public Utility District (PPUD) Water Main Extension Project

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

To Whom It May Concern:

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

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

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

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

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to

utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

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

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

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

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

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at:

<http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>;

<http://www.towerkill.com>; and

www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

[http://](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: 08ESMF00-2021-SLI-1127

Event Code: 08ESMF00-2021-E-03291

Project Name: Pixley Public Utility District (PPUD) Water Main Extension Project

Project Type: WATER SUPPLY / DELIVERY

Project Description: The Pixley Public Utility District (PPUD), a domestic water purveyor, proposes to construct the Water Main Extension Project (Project) to better serve the unincorporated community of Pixley, in Tulare County, California. The PPUD is the Project proponent and CEQA Lead Agency. Currently the community is served by aging and under-sized diameter water distribution system suffering from low water pressure issues; fire service capacity of the existing water main is non-existent due to the small pipeline sizes. The existing water distribution system only has three lines that cross State Route 99; an eight-inch (8-inch) line in Bradbury Avenue, a ten-inch (10-inch) line in Davis Avenue, and a 4-inch crossing near the proposed crossing location, north of Howard Avenue. This 4-inch line is the only line that serves the northeastern properties in the community and is not looped in to the remainder of the system, further exacerbating pressure issues in particular, to this portion of the community.

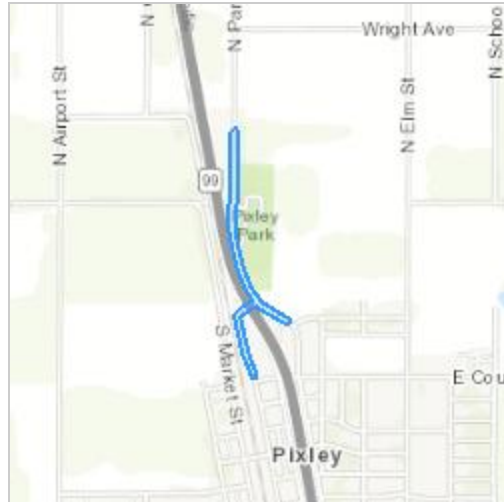
Based upon a Feasibility Study prepared by Provost & Pritchard in August of 2020, the Project would consist of the following improvements:

- A new 12-inch diameter pipeline crossing installed in a 24-inch diameter steel casing, in accordance with Caltrans Specifications under State Route 99 (SR 99) replacing an existing 4-inch pipeline crossing. Crossing will utilize jack & bore method. The existing 4-inch pipeline will be abandoned in place.
- Interconnection of this new 12-inch undercrossing pipeline to existing distribution pipelines west of SR 99 utilizing open trench method.
- A new 12-inch diameter water main installed east of SR 99 in Park Avenue replacing existing 4-inch distribution lines serving existing connections in the northeast area of Pixley. Installation will utilize open trench method.
- Interconnection of the new 12-inch main east of SR 99 to existing pipelines serving the eastern area of Pixley completing the loop utilizing open trench method.

The interconnections of the new larger diameter crossing of State Route 99 would complete a “loop” which would allow for additional potable water supply reliability and reduce pressure issues which will benefit the water service.

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@35.97666325,-119.29493944013475,14z>



Counties: Tulare County, California

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 Fisheries¹, 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.

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
San Joaquin Kit Fox <i>Vulpes macrotis mutica</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2873	Endangered
Tipton Kangaroo Rat <i>Dipodomys nitratoide nitratoide</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7247	Endangered

Reptiles

NAME	STATUS
Blunt-nosed Leopard Lizard <i>Gambelia silus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/625	Endangered
Giant Garter Snake <i>Thamnophis gigas</i> 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 <i>Rana draytonii</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/2891	Threatened

Fishes

NAME	STATUS
Delta Smelt <i>Hypomesus transpacificus</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/321	Threatened

Crustaceans

NAME	STATUS
Conservancy Fairy Shrimp <i>Branchinecta conservatio</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/8246	Endangered
Vernal Pool Fairy Shrimp <i>Branchinecta lynchi</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/498	Threatened

Critical habitats

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

Appendix D: NRCS Soils Report

COUNTY OF TULARE

PIXLEY PUBLIC UTILITY DISTRICT WATER MAIN
EXTENSION PROJECT



United States
Department of
Agriculture

NRCS

Natural
Resources
Conservation
Service

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

Custom Soil Resource Report for **Tulare County, Western Part, California**



Preface

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

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

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

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

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

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

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

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How Soil Surveys Are Made

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

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

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

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

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

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

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

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

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

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

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

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

Custom Soil Resource Report

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

Soil Map

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

Custom Soil Resource Report Soil Map



Custom Soil Resource Report

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features

 Blowout

 Borrow Pit

 Clay Spot

 Closed Depression

 Gravel Pit

 Gravelly Spot

 Landfill

 Lava Flow

 Marsh or swamp

 Mine or Quarry

 Miscellaneous Water

 Perennial Water

 Rock Outcrop

 Saline Spot

 Sandy Spot

 Severely Eroded Spot

 Sinkhole

 Slide or Slip

 Sodic Spot

 Spoil Area

 Stony Spot

 Very Stony Spot

 Wet Spot

 Other

 Special Line Features

Water Features

 Streams and Canals

Transportation

 Rails

 Interstate Highways

 US Routes

 Major Roads

 Local Roads

Background

 Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: Tulare County, Western Part, California
Survey Area Data: Version 14, May 29, 2020

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

Date(s) aerial images were photographed: Apr 15, 2016—Nov 5, 2017

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
101	Akers-Akers, saline-Sodic, complex, 0 to 2 percent slopes	1.2	11.2%
124	Hanford sandy loam, 0 to 2 percent slopes	9.3	88.8%
Totals for Area of Interest		10.5	100.0%

Map Unit Descriptions

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

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

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

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

Custom Soil Resource Report

development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

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

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

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

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

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

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

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

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

Tulare County, Western Part, California

101—Akers-Akers, saline-Sodic, complex, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: hp6z

Elevation: 230 to 350 feet

Mean annual precipitation: 8 to 12 inches

Mean annual air temperature: 63 to 64 degrees F

Frost-free period: 225 to 300 days

Farmland classification: Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season

Map Unit Composition

Akers and similar soils: 60 percent

Akers, saline-sodic, and similar soils: 25 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Akers

Setting

Landform: Fan remnants

Landform position (two-dimensional): Shoulder

Landform position (three-dimensional): Side slope

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Alluvium derived from granitic rock sources

Typical profile

Ap - 0 to 16 inches: fine sandy loam

Bk - 16 to 60 inches: fine sandy loam

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Runoff class: Negligible

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high
(0.60 to 2.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: Very rare

Frequency of ponding: None

Calcium carbonate, maximum content: 10 percent

Gypsum, maximum content: 2 percent

Maximum salinity: Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)

Sodium adsorption ratio, maximum: 12.0

Available water capacity: High (about 9.7 inches)

Interpretive groups

Land capability classification (irrigated): 1

Land capability classification (nonirrigated): 4c

Hydrologic Soil Group: B

Hydric soil rating: No

Description of Akers, Saline-sodic

Setting

Landform: Fan remnants
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from granitic rock sources

Typical profile

Ap - 0 to 15 inches: fine sandy loam
Bk - 15 to 60 inches: fine sandy loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Very rare
Frequency of ponding: None
Calcium carbonate, maximum content: 10 percent
Gypsum, maximum content: 2 percent
Maximum salinity: Slightly saline to moderately saline (4.0 to 8.0 mmhos/cm)
Sodium adsorption ratio, maximum: 30.0
Available water capacity: High (about 9.1 inches)

Interpretive groups

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

Minor Components

Colpien

Percent of map unit: 3 percent
Landform: Fan remnants
Hydric soil rating: No

Tujunga

Percent of map unit: 3 percent
Landform: Flood plains
Hydric soil rating: No

Yettem

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

Tagus

Percent of map unit: 2 percent
Landform: Fan remnants
Hydric soil rating: No

Grangeville

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

Hanford

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

Unnamed, ponded

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

124—Hanford sandy loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: hp4v
Elevation: 220 to 490 feet
Mean annual precipitation: 9 to 12 inches
Mean annual air temperature: 63 to 64 degrees F
Frost-free period: 250 to 280 days
Farmland classification: Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season

Map Unit Composition

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

Description of Hanford

Setting

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

Typical profile

Ap - 0 to 6 inches: sandy loam
C1 - 6 to 30 inches: fine sandy loam
C2 - 30 to 60 inches: sandy loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained

Custom Soil Resource Report

Runoff class: Negligible

Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: Very rare

Frequency of ponding: None

Calcium carbonate, maximum content: 2 percent

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Sodium adsorption ratio, maximum: 7.0

Available water capacity: Moderate (about 6.6 inches)

Interpretive groups

Land capability classification (irrigated): 1

Land capability classification (nonirrigated): 3c

Hydrologic Soil Group: A

Hydric soil rating: No

Minor Components

Exeter

Percent of map unit: 5 percent

Landform: Fan remnants

Hydric soil rating: No

Tujunga

Percent of map unit: 5 percent

Landform: Flood plains

Hydric soil rating: No

Calgro

Percent of map unit: 3 percent

Landform: Fan remnants

Hydric soil rating: No

Yettem

Percent of map unit: 2 percent

Landform: Flood plains, alluvial fans

Hydric soil rating: No

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Custom Soil Resource Report

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Appendix C

Cultural Resources Information

Cultural Resources Information

Pixley Public Utility District Water Main Extension Project Project

Southern San Joaquin Valley Information Center, CSU Bakersfield, California Historical Resources Information System: Record Search 20-304, dated March 1, 2021.

- There have been no previous cultural resource studies conducted within the project area
- There have been nine cultural resource studies conducted within the one-half mile radius, TU-00102, 00195, 01023, 01324, 01393, 01465, 01567, 01596, and 01802.
- There are no recorded resources within the project area. There are four recorded resource within the one-half mile radius, P-54-003232, 003397, 003398, and 004626. These resources consist of two historic era buildings, an historic era railroad, and an historic era pond., an historic era railroad.
- There are no recorded cultural resources within the project area or radius that are listed in the National Register of Historic Places, the California Register of Historical Resources, the California Points of Historical Interest, California Inventory of Historic Resources, or the California State Historic Landmarks.
- No existing historical archaeological resources will be impacted by the project.

Native American Heritage Commission (NAHC): Sacred Lands File & Native American Contacts List Request, dated March 3, 2021..

- A Record Search of the NAHC Sacred Lands File was completed for the Area of Potential Effect (APE) with negative results.
- Although it is unlikely that tribal cultural resources would be discovered during construction or operation of the Proposed Project, mitigation measure **CUL-1** and **CUL-2** identified in Section 3.5 of the IS/MND are also recommended to minimize impacts to any Tribal Cultural Resources that may be discovered during ground disturbance activities of construction.

AB 52 Consultation pursuant to Public Resource Code Section 21080.3.1

- Pixley Public Utility District, as a public lead agency has not received a formal request for notification from the any Tribe, pursuant to AB 52.



To: Jacqueline Lancaster
Provost & Pritchard Consulting Group
130 N. Garden Street
Visalia, CA 93291

Record Search 21-066

Date: March 1, 2021

Re: Pixley Public Utility District Water Main Extension Project

County: Tulare

Map(s): Pixley 7.5'

CULTURAL RESOURCES RECORDS SEARCH

The California Office of Historic Preservation (OHP) contracts with the California Historical Resources Information System's (CHRIS) regional Information Centers (ICs) to maintain information in the CHRIS inventory and make it available to local, state, and federal agencies, cultural resource professionals, Native American tribes, researchers, and the public. Recommendations made by IC coordinators or their staff regarding the interpretation and application of this information are advisory only. Such recommendations do not necessarily represent the evaluation or opinion of the State Historic Preservation Officer in carrying out the OHP's regulatory authority under federal and state law.

The following are the results of a search of the cultural resource files at the Southern San Joaquin Valley Information Center. These files include known and recorded cultural resources sites, inventory and excavation reports filed with this office, and resources listed on the National Register of Historic Places, the OHP Built Environment Resources Directory, California State Historical Landmarks, California Register of Historical Resources, California Inventory of Historic Resources, and California Points of Historical Interest. Due to processing delays and other factors, not all of the historical resource reports and resource records that have been submitted to the OHP 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.

PRIOR CULTURAL RESOURCE STUDIES CONDUCTED WITHIN THE PROJECT AREA AND THE ONE-HALF MILE RADIUS

According to the information in our files, there have been no previous cultural resource studies conducted within the project area. There have been nine cultural resource studies conducted within a one-half mile radius, TU-00102, 00195, 01023, 01324, 01393, 01465, 01567, 01596, and 01802.

KNOWN/RECORDED CULTURAL RESOURCES WITHIN THE PROJECT AREA AND THE ONE-HALF MILE RADIUS

There are no recorded resources within the project area. There are four recorded resources within the one-half mile radius, P-54-003232, 003397, 003398, and 004626. These resources consist of two historic era buildings, an historic era railroad, and an historic era pond.

There are no recorded cultural resources within the project area or radius that are listed in the National Register of Historic Places, the California Register of Historical Resources, the California Points of Historical Interest, California Inventory of Historic Resources, or the California State Historic Landmarks.

COMMENTS AND RECOMMENDATIONS

We understand this project consists of new pipeline installation on land that is currently the road right-of-way. Because project activities will take place in the existing right-of-way, no further cultural resource investigation is recommended at this time. However, if cultural resources are unearthed during ground disturbance activities, all work must halt in the area of the find and a qualified, professional consultant should be called out to assess the findings and make the appropriate mitigation recommendations. A list of qualified consultants can be found at www.chrisinfo.org.

We also recommend that you contact the Native American Heritage Commission in Sacramento. They will provide you with a current list of Native American individuals/organizations that can assist you with information regarding cultural resources that may not be included in the CHRIS Inventory and that may be of concern to the Native groups in the area. The Commission can consult their "Sacred Lands Inventory" file to determine what sacred resources, if any, exist within this project area and the way in which these resources might be managed. Finally, please consult with the lead agency on this project to determine if any other cultural resource investigation is required. If you need any additional information or have any questions or concerns, please contact our office at (661) 654-2289.

By:

Celeste M. Thomson, Coordinator

Date: March 1, 2021

Please note that invoices for Information Center services will be sent under separate cover from the California State University, Bakersfield Accounting Office.

NATIVE AMERICAN HERITAGE COMMISSION

March 10, 2021

Jackie Lancaster

Provost & Pritchard Consulting Group

Via Email to: JLancaster@ppeng.com

Re: Pixley Public Utility District: Water Main Extension Project, Tulare County

Dear Ms. Lancaster:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were negative. However, the absence of specific site information in the SLF does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Attached is a list of Native American tribes who may also have knowledge of cultural resources in the project area. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated; if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call or email to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from tribes, please notify me. With your assistance, we can assure that our lists contain current information.

If you have any questions or need additional information, please contact me at my email address: Nancy.Gonzalez-Lopez@nahc.ca.gov.

Sincerely,



Nancy Gonzalez-Lopez
Cultural Resources Analyst

Attachment



CHAIRPERSON
Laura Miranda
Luiseño

VICE CHAIRPERSON
Reginald Pagaling
Chumash

SECRETARY
Merri Lopez-Keifer
Luiseño

PARLIAMENTARIAN
Russell Attebery
Karuk

COMMISSIONER
William Mungary
Paiute/White Mountain Apache

COMMISSIONER
Julie Tumamait-Stenslie
Chumash

COMMISSIONER
[Vacant]

COMMISSIONER
[Vacant]

COMMISSIONER
[Vacant]

EXECUTIVE SECRETARY
Christina Snider
Pomo

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

**Native American Heritage Commission
Native American Contacts List
March 10, 2021**

Big Sandy Rancheria of Western Mono Indians Elizabeth D. Kipp, Chairperson PO. Box 337 Auberry, CA 93602 lkipp@bsrnation.com (559) 374-0066 (559) 374-0055	Western Mono	Kern Valley Indian Community Brandy Kendricks 30741 Foxridge Court Tehachapi, CA 93561 krazykendricks@hotmail.com (661) 821-1733 (661) 972-0445	Kawaiisu Tubatulabal
Dunlap Band of Mono Indians Benjamin Charley Jr., Tribal Chair P.O. Box 14 Dunlap, CA 93621 ben.charley@yahoo.com (760) 258-5244	Mono	Santa Rosa Rancheria Tachi Yokut Tribe Leo Sisco, Chairperson P.O. Box 8 Lemoore, CA 93245 (559) 924-1278 (559) 924-3583 Fax	Tache Tachi Yokut
Dunlap Band of Mono Indians Dirk Charley, Tribal Secretary 5509 E. McKenzie Avenue Fresno, CA 93727 dcharley2016@gmail.com (559) 554-5433	Mono	Tubatulabals of Kern Valley Robert L. Gomez, Jr., Tribal Chairperson P.O. Box 226 Lake Isabella, CA 93240 (760) 379-4590 (760) 379-4592 Fax	Tubatulabal
Kern Valley Indian Community Julie Turner, Secretary P.O. Box 1010 Lake Isabella, CA 93240 (661) 340-0032 Cell	Kawaiisu Tubatulabal	Tule River Indian Tribe Neil Peyron, Chairperson P.O. Box 589 Porterville, CA 93258 neil.peyron@tulerivertribe-nsn.gov (559) 781-4271 (559) 781-4610 Fax	Yokuts
Kern Valley Indian Community Robert Robinson, Chairperson P.O. Box 1010 Lake Isabella, CA 93240 bbutterbredt@gmail.com (760) 378-2915 Cell	Tubatulabal Kawaiisu	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 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 Resources Code, or Section 5097.98 of the Public Resources Code.

**This list is only applicable for contacting local Native Americans Tribes for the proposed:
Pixley Public Utility District: Water Main Extension Project, Tulare County.**

Appendix D

NRCS Soils Resources Report



United States
Department of
Agriculture

NRCS

Natural
Resources
Conservation
Service

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

Custom Soil Resource Report for Tulare County, Western Part, California



Preface

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

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

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

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

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

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

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

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

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How Soil Surveys Are Made

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

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

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

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

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

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

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

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

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

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

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

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

Custom Soil Resource Report

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

Soil Map

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

Custom Soil Resource Report Soil Map



Custom Soil Resource Report

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features

 Blowout

 Borrow Pit

 Clay Spot

 Closed Depression

 Gravel Pit

 Gravelly Spot

 Landfill

 Lava Flow

 Marsh or swamp

 Mine or Quarry

 Miscellaneous Water

 Perennial Water

 Rock Outcrop

 Saline Spot

 Sandy Spot

 Severely Eroded Spot

 Sinkhole

 Slide or Slip

 Sodic Spot

 Spoil Area

 Stony Spot

 Very Stony Spot

 Wet Spot

 Other

 Special Line Features

Water Features

 Streams and Canals

Transportation

 Rails

 Interstate Highways

 US Routes

 Major Roads

 Local Roads

Background

 Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: Tulare County, Western Part, California
Survey Area Data: Version 14, May 29, 2020

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

Date(s) aerial images were photographed: Apr 15, 2016—Nov 5, 2017

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
101	Akers-Akers, saline-Sodic, complex, 0 to 2 percent slopes	1.2	11.2%
124	Hanford sandy loam, 0 to 2 percent slopes	9.3	88.8%
Totals for Area of Interest		10.5	100.0%

Map Unit Descriptions

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

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

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

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

Custom Soil Resource Report

development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

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

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

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

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

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

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

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

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

Tulare County, Western Part, California

101—Akers-Akers, saline-Sodic, complex, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: hp6z

Elevation: 230 to 350 feet

Mean annual precipitation: 8 to 12 inches

Mean annual air temperature: 63 to 64 degrees F

Frost-free period: 225 to 300 days

Farmland classification: Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season

Map Unit Composition

Akers and similar soils: 60 percent

Akers, saline-sodic, and similar soils: 25 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Akers

Setting

Landform: Fan remnants

Landform position (two-dimensional): Shoulder

Landform position (three-dimensional): Side slope

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Alluvium derived from granitic rock sources

Typical profile

Ap - 0 to 16 inches: fine sandy loam

Bk - 16 to 60 inches: fine sandy loam

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Runoff class: Negligible

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: Very rare

Frequency of ponding: None

Calcium carbonate, maximum content: 10 percent

Gypsum, maximum content: 2 percent

Maximum salinity: Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)

Sodium adsorption ratio, maximum: 12.0

Available water capacity: High (about 9.7 inches)

Interpretive groups

Land capability classification (irrigated): 1

Land capability classification (nonirrigated): 4c

Hydrologic Soil Group: B

Hydric soil rating: No

Description of Akers, Saline-sodic

Setting

Landform: Fan remnants

Landform position (two-dimensional): Shoulder

Landform position (three-dimensional): Side slope

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Alluvium derived from granitic rock sources

Typical profile

Ap - 0 to 15 inches: fine sandy loam

Bk - 15 to 60 inches: fine sandy loam

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Runoff class: Negligible

Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: Very rare

Frequency of ponding: None

Calcium carbonate, maximum content: 10 percent

Gypsum, maximum content: 2 percent

Maximum salinity: Slightly saline to moderately saline (4.0 to 8.0 mmhos/cm)

Sodium adsorption ratio, maximum: 30.0

Available water capacity: High (about 9.1 inches)

Interpretive groups

Land capability classification (irrigated): 2s

Land capability classification (nonirrigated): 4s

Hydrologic Soil Group: C

Hydric soil rating: No

Minor Components

Colpien

Percent of map unit: 3 percent

Landform: Fan remnants

Hydric soil rating: No

Tujunga

Percent of map unit: 3 percent

Landform: Flood plains

Hydric soil rating: No

Yettem

Percent of map unit: 2 percent

Landform: Flood plains, alluvial fans

Hydric soil rating: No

Tagus

Percent of map unit: 2 percent

Landform: Fan remnants

Hydric soil rating: No

Grangeville

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

Hanford

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

Unnamed, ponded

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

124—Hanford sandy loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: hp4v
Elevation: 220 to 490 feet
Mean annual precipitation: 9 to 12 inches
Mean annual air temperature: 63 to 64 degrees F
Frost-free period: 250 to 280 days
Farmland classification: Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season

Map Unit Composition

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

Description of Hanford

Setting

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

Typical profile

Ap - 0 to 6 inches: sandy loam
C1 - 6 to 30 inches: fine sandy loam
C2 - 30 to 60 inches: sandy loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained

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Runoff class: Negligible

Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: Very rare

Frequency of ponding: None

Calcium carbonate, maximum content: 2 percent

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Sodium adsorption ratio, maximum: 7.0

Available water capacity: Moderate (about 6.6 inches)

Interpretive groups

Land capability classification (irrigated): 1

Land capability classification (nonirrigated): 3c

Hydrologic Soil Group: A

Hydric soil rating: No

Minor Components

Exeter

Percent of map unit: 5 percent

Landform: Fan remnants

Hydric soil rating: No

Tujunga

Percent of map unit: 5 percent

Landform: Flood plains

Hydric soil rating: No

Calgro

Percent of map unit: 3 percent

Landform: Fan remnants

Hydric soil rating: No

Yettem

Percent of map unit: 2 percent

Landform: Flood plains, alluvial fans

Hydric soil rating: No

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