MDP 26-04 CITY OF TURLOCK CP 24-045 "WELL 36 GAC TREATMENT PROJECT"

DRAFT INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

MAY 2026

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ACRONYMS & ABBREVIATIONS

AB ---------- Assembly Bill
dBA ---------- A-Weighted Decibel
APE ---------- Area of Potential Effect
BMP ---------- Best Management Practices
CAA ---------- Clean Air Act
CalEEMod ---------- California Emissions Estimator Modeling (software)
CalGEM ---------- California Geologic Energy Management Division
CARB ---------- California Air Resources Board
CCAA ---------- California Clean Air Act
CCIC ---------- Central California Information Center
CDFW ---------- California Department of Fish and Wildlife
CEQA ---------- California Environmental Quality Act
CWA ---------- Clean Water Act
CH_4 ---------- Methane
City ---------- City of Turlock
CNDDB ---------- California Natural Diversity Database
CNPS ---------- California Native Plant Society
CO ---------- Carbone Monoxide
CO_2 ---------- Carbon dioxide
County ---------- Stanislaus
dB ---------- decibels
DOC ---------- Department of Conservation
DTSC ---------- Department of Toxic Substances Control
EFH ---------- Essential Fish Habitat
EIR ---------- Environmental Impact Report
FEMA ---------- Federal Emergency Management Agency
FMMP ---------- Farmland Mapping and Monitoring Program
FPPA ---------- Farmland Protection and Policy Act
GAC ---------- Granular Activated Carbon
GHG ---------- Greenhouse Gas
GIS ---------- Geographic Information System
GPM ---------- Gallons Per Minute
GSP ---------- Groundwater Sustainability Plan
GWP ---------- Global Warming Potential
HDPE ---------- High-Density Polyethylene
IPaC ---------- United States Fish and Wildlife Service's Information for Planning and Consultation system
IS ---------- Initial Study
IS/MND ---------- Initial Study/Mitigated Negative Declaration
km ---------- kilometers
MBTA ---------- Migratory Bird Act
MCL ---------- maximum contaminant level
MMRP ---------- Mitigation Monitoring and Reporting Program
MND ---------- Mitigated Negative Declaration
MOA ---------- Memorandum of Agreement
NAHC ---------- Native American Heritage Commission
ND ---------- Negative Declaration
NEPA ---------- National Environmental Policy Act
NO_2 ---------- Nitrogen dioxide

NOx ---------- Oxides of nitrogen
NMFS ---------- National Marine Fisheries Service
NRCS ---------- Natural Resources Conservation Service
O_3 ---------- Ozone
Pb ---------- Lead
PM_{10} ---------- particulate matter 10 microns in size
$PM_{2.5}$ ---------- particulate matter 2.5 microns in size
ppb ---------- parts per billion
ppm ---------- parts per million
Project ---------- Well 36 Treatment Project
ROG ---------- Reactive Organic Gases
RWQCB ---------- Regional Water Quality Control Board
SB ---------- Senate Bill
SDWA ---------- Safe Drinking Water Act
SHPO ---------- State Historic Preservation Officer
SIP ---------- State Implementation Plan
SJVAB ---------- San Joaquin Valley Air Basin
SJVAPCD ---------- San Joaquin Valley Air Pollution Control District
SLF ---------- Sacred Lands File
SO_2 ---------- Sulfur Dioxide
SO_X ---------- Sulfur Oxides
SSA ---------- Sole Source Aquifer
SSJVIC ---------- Southern San Joaquin Valley Information Center
SR ---------- State Route
SRA ---------- State Responsibility Area
SRWA ---------- Stanislaus Regional Water Authority
SWPPP ---------- Storm Water Pollution Prevention Plan
SWRCB ---------- State Water Resources Control Board
TAC ---------- Toxic Air Contaminants
TCP ---------- 1,2,3-Trichloropropane
TPY ---------- tons per year
TRWQCF ---------- Turlock Regional Water Quality Control Facility
USACE ---------- United States Army Corps of Engineers
USC ---------- United States Code
USDA ---------- United States Department of Agriculture
USEPA ---------- United States Environmental Protection Agency
USFWS ---------- United States Fish and Wildlife Service
USGS ---------- United States Geological Survey
UST ---------- Underground Storage Tank
VHFHSZ ---------- Very High Fire Hazard Severity Zone
VOC ---------- Volatile Organic Compounds
µg/m3 ---------- micrograms per cubic meter
WDR ---------- Waste Discharge Requirements

CHAPTER 1 INTRODUCTION

Provost & Pritchard Consulting Group (Provost & Pritchard) has prepared this Initial Study/Mitigated Negative Declaration (IS/MND) on behalf of the City of Turlock to address the potential environmental effects of the City of Turlock Well 36 Treatment Project (Project). This document has been prepared in accordance with the California Environmental Quality Act (CEQA), Public Resources Code Section 21000 et seq. The City of Turlock (City) is the CEQA lead agency for this Project.

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

1.1 REGULATORY INFORMATION

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

1.2 DOCUMENT FORMAT

This IS/MND contains six chapters. Chapter 1 Introduction provides an overview of the Project and the CEQA process. Chapter 2 Project Description provides a detailed description of proposed Project components and objectives. Chapter 3 Determination includes the Lead Agency's determination based upon this initial evaluation. Chapter 4 Environmental Impact Analysis presents the CEQA checklist and environmental analysis for all impact areas, mandatory findings of significance, and feasible mitigation measures. If the Project does not have the potential to significantly impact a given issue area, the relevant section provides a brief discussion of the reasons why no impacts are expected. If the Project could have a potentially significant impact on a resource, the issue area discussion provides a description of potential impacts and appropriate mitigation measures and/or permit requirements that would reduce those impacts to a less than significant level. Chapter 5 Mitigation, Monitoring, and Reporting Program (MMRP) provides the proposed mitigation measures, implementation timelines, and the entity/agency responsible for ensuring implementation. Chapter 6 References details the documents and reports this document relies upon to provide its analysis.

The CalEEMod Output Files, Biological Evaluation, and Cultural Resources Report, are provided as technical Appendix A, Appendix B, and Appendix C.

CHAPTER 2 PROJECT DESCRIPTION

2.1 PROJECT BACKGROUND

2.1.1 PROJECT TITLE

MDP 26-04 CITY OF TURLOCK CP 24-045 "WELL 36 GAC TREATMENT PROJECT"

2.1.2 LEAD AGENCY NAME AND ADDRESS

City of Turlock
156 S. Broadway, Suite 150
Turlock, CA 95380

2.1.3 CONTACT PERSON AND PHONE NUMBER

Stephen Fremming, PE
Principal Civil Engineer
(209)-668-5417

2.1.4 CEQA CONSULTANT

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

2.1.5 PROJECT LOCATION

The proposed Project is located in Turlock, California, approximately 13 miles southeast of Modesto and 28 miles northwest of Merced (see Figure 2-1 and Figure 2-2). The Project site is located at 1350 N. Fulkerth Road, on Assessor's Parcel Number 042-001-008. The water treatment facilities proposed as a part of the Project would be located adjacent to the City's existing Municipal Water Well 36 (Well 36) site.

2.1.6 GENERAL PLAN DESIGNATION AND ZONING

Table 2-1: Existing Uses, General Plan Designation, & Zone Districts of Surrounding and Onsite Properties

Direction from Project Site	Existing Use	General Plan Designation[1]	Zone District[2]
ONSITE	Park	Park	Low Density Residential
NORTH	Heavy Commercial	Heavy Commercial	C-H (Heavy Commercial)
EAST	Public	Public	P-S (Public/Semi-Public)
SOUTH	Park	Public	P-S (Public/Semi-Public)
WEST	Single Family Residential	Low Density Residential	R-L (Low Density Residential)

[1] (City of Turlock, 2012)
[2] (City of Turlock, 2014)

2.1.7 DESCRIPTION OF THE PROJECT

2.1.7.1 PROJECT BACKGROUND

Well 36 is located within Summerfaire Park located at 1350 N. Fulkerth Road. Well 36 was constructed in the year 2000. The existing well is currently offline, with plans in place to replace the pump and motor before the proposed Granular Activated Carbon (GAC) treatment comes online. In the past, the well produced approximately 2,000 gallons per minute (gpm) of groundwater which is used as potable water. Chlorination facilities were added to Well 36 in 2022. 1,2,3-Trichloropropane (TCP) has been consistently detected at levels that exceed the maximum contaminant level (MCL) of 5 parts per trillion and the City received a compliance order from the Division of Drinking Water in 2023. Arsenic concentrations have been trending upward and are approaching the MCL of 10 parts per billion (ppb). The well includes a pump discharge header equipped with two (2) blind flanged tees separated by an isolated gate valve.

2.1.7.2 PROJECT DESCRIPTION

The City proposes implementing a GAC filtration system to remove TCP from Well 36 and construct future arsenic treatment facilities. (See Figure 2-2). Well 36 is located in the southeast corner of Summerfaire Park, adjacent to N. Soderquist Road. The well has a production capacity of approximately 2,000 gpm. The proposed treatment site partially extends into the existing detention basin to accommodate future arsenic treatment infrastructure. The area of potential effect surveyed for biological and cultural resources is approximately 1.0 acres.

The major components of the GAC Project include:

- *Removal of 15 trees*
- *Placement of approximately 6,000 cubic yards of fill within the existing detention basin*
- *Installation of new security fencing and perimeter security landscaping utilizing thorned plant species (e.g., rose bushes, Pyracantha)*
- *Perimeter landscaping on all four (4) sides of the facility*
- *Construction of two (2) commercial-grade drive approaches and a 40-foot-wide half-circle access road*
- *Aggregate surfacing*
- *Installation of six (6) 12-foot diameter GAC treatment vessels*
- *Ductile iron process piping, primarily 12-inch and 16-inch diameters*

The major components for the future arsenic treatment include:

- *Installation of three (3) 12-foot diameter filter vessels*
- *Construction of an approximately 20-foot diameter washwater equalization basin*
- *Installation of a 35-foot by 60-foot chemical storage enclosure*
- *Installation of ductile iron and high-density polyethylene (HDPE) piping*

Site runoff and backwash water would discharge to the basin drop inlet. The existing storm drain pipeline located in the southern portion of the site would be intercepted and rerouted to avoid future conflicts with the future arsenic treatment plant.

2.1.7.3 COMPLIANCE WITH THE CITY OF TURLOCK DEVELOPMENT SERVICES BUILDING DIVISION

The proposed Project would comply with the California Building Code and the Turlock Municipal Code (TMC) in effect at the time of building permit application. A separate permit for any site lighting would be obtained if needed.

FIRE DEPARTMENT

The proposed Project shall comply with the current California Fire Code, National Fire Code (NFPA), California Mechanical Code, and the Turlock Municipal Code in effect at the time of building permit application. Electrical disconnect shall be accessible from the exterior of the building or in a secure electrical room that opens directly to the outside. Disconnect or electrical room will be identified with an approved all weather sign. Fire line requirements shall be met. As well as, fire lanes shall be painted throughout the proposed project.

The following permanent all-weather signage shall be installed at a minimum of three-inch letters/numbers:

- *MAIN ELECTRICAL DISCONNECT*
- *MAIN GAS SHUT OFF*
- *FIRE CONTROL ROOM*
- *FDC (address numerals)*
- *ELECTRICAL ROOM*
- *HVAC units shall be numbered (coordinating with breakers and fire alarm system)*

MUNICIPAL SERVICES – WATER

Prior to issuance of a building permit, water and sewer utilities shall be reviewed and approved by Municipal Services.

2.1.7.4 COMPLIANCE WITH THE SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT

In accordance with San Joaquin Valley Air Pollution Control District (SJVAPCD) Rule 2010 an Authority to Construct and Permit to Operate are required. Prior to construction, the Project proponent should submit to the SJVAPCD an application for an ATC. Additionally, the Project shall comply with SJVAPCD Rule 2201 that requires that new and modified stationary sources of emissions mitigate their emissions using Best Available Control Technology. The Project shall comply with SJVAPCD Rule 4601 for architectural coatings if applicable. A prioritization health risk assessment should be performed in coordination with SJVAPCD.

2.1.7.5 MINOR DISCRETIONARY PERMIT

In accordance with TMC 9-3-202 design review through a Minor Discretionary Permit is required for the tanks and on-site structures associated with this Project.

2.1.7.6 CONSTRUCTION SCHEDULE

GAC TREATMENT FACILITIES

Construction start: Fall of 2026
Construction end: Summer/Fall of 2027
Duration: approximately 12 months

ARSENIC TREATMENT PLANT

Construction dates: unknown at this time.
Duration: approximately 12 months

2.1.7.7 EQUIPMENT

Equipment would likely include excavators, bulldozers, skidsteers, dump trucks, loaders, concrete pump truck, graders, water truck, etc.

2.1.7.8 OPERATION AND MAINTENANCE

Existing city staff would provide any maintenance necessary for the water treatment facilities at the Well 36 site.

2.1.8 OTHER PUBLIC AGENCIES WHOSE APPROVAL MAY BE REQUIRED

- San Joaquin Valley Air Pollution Control District

2.1.9 CONSULTATION WITH CALIFORNIA NATIVE AMERICAN TRIBES

Public Resources Code Section 21080.3.1, *et seq. (codification of Assembly Bill [AB] 52, 2013-14)* requires that a lead agency, within 14 days of determining that it will undertake a project, 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 a request for 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, agree that no mitigation is needed, or one or both parties determine that negotiation occurred in good faith, but no agreement will be made.

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

2.1.10 "CEQA–PLUS" ASSESSMENT

The City may be applying for financial assistance to construct the Project. In addition to meeting the requirements of CEQA, and because the financial assistance may originate from the federal government, the Project is also subject to "federal cross-cutting authority" requirements of other federal laws and Executive Orders that apply to federal financial assistance programs. This process is frequently referred to as "CEQA-Plus". Therefore, the City must also complete certain studies (biological and cultural) and analyses to satisfy various federal environmental requirements.

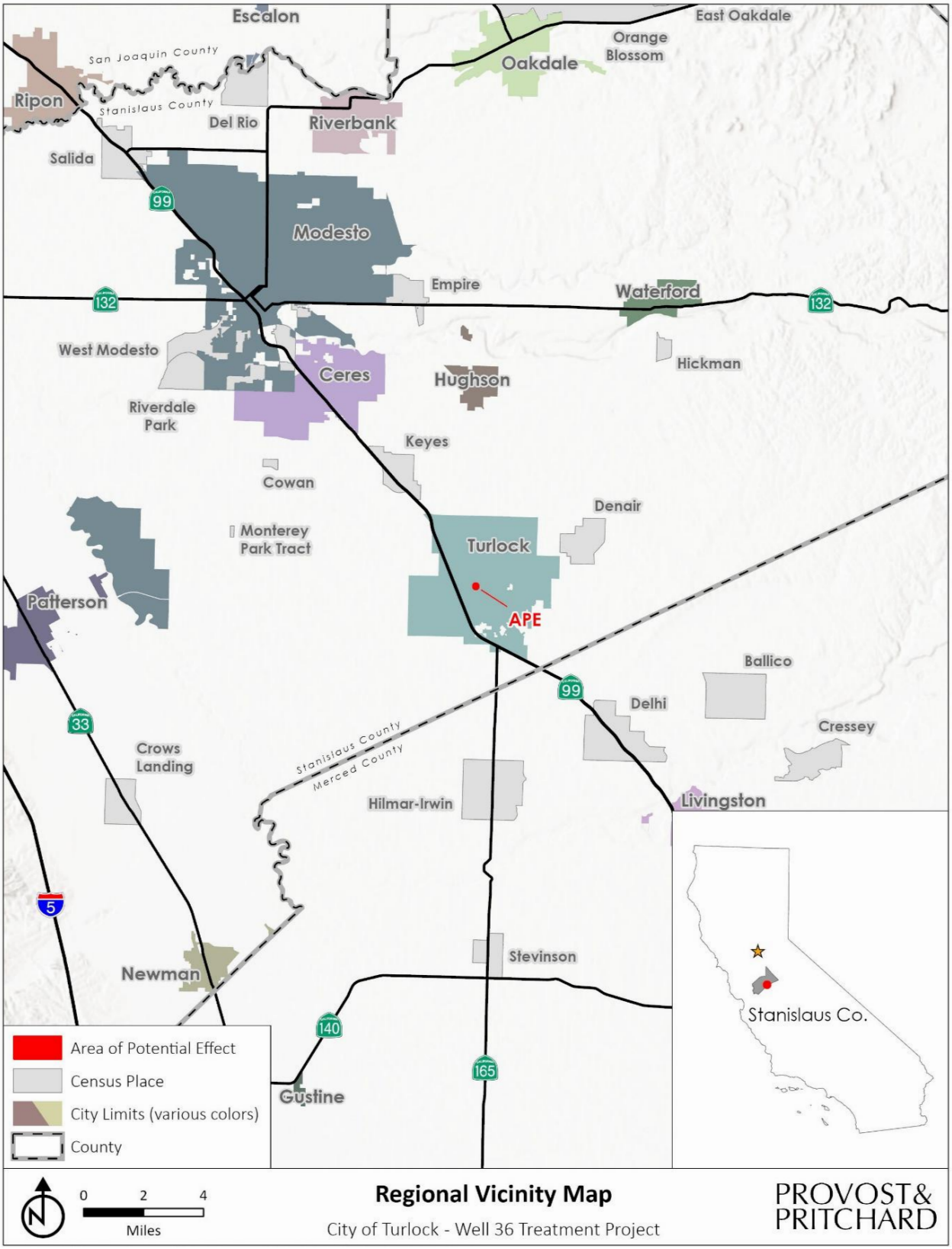


Figure 2-1: Regional Location Map



Figure 2-2: Aerial Site Map

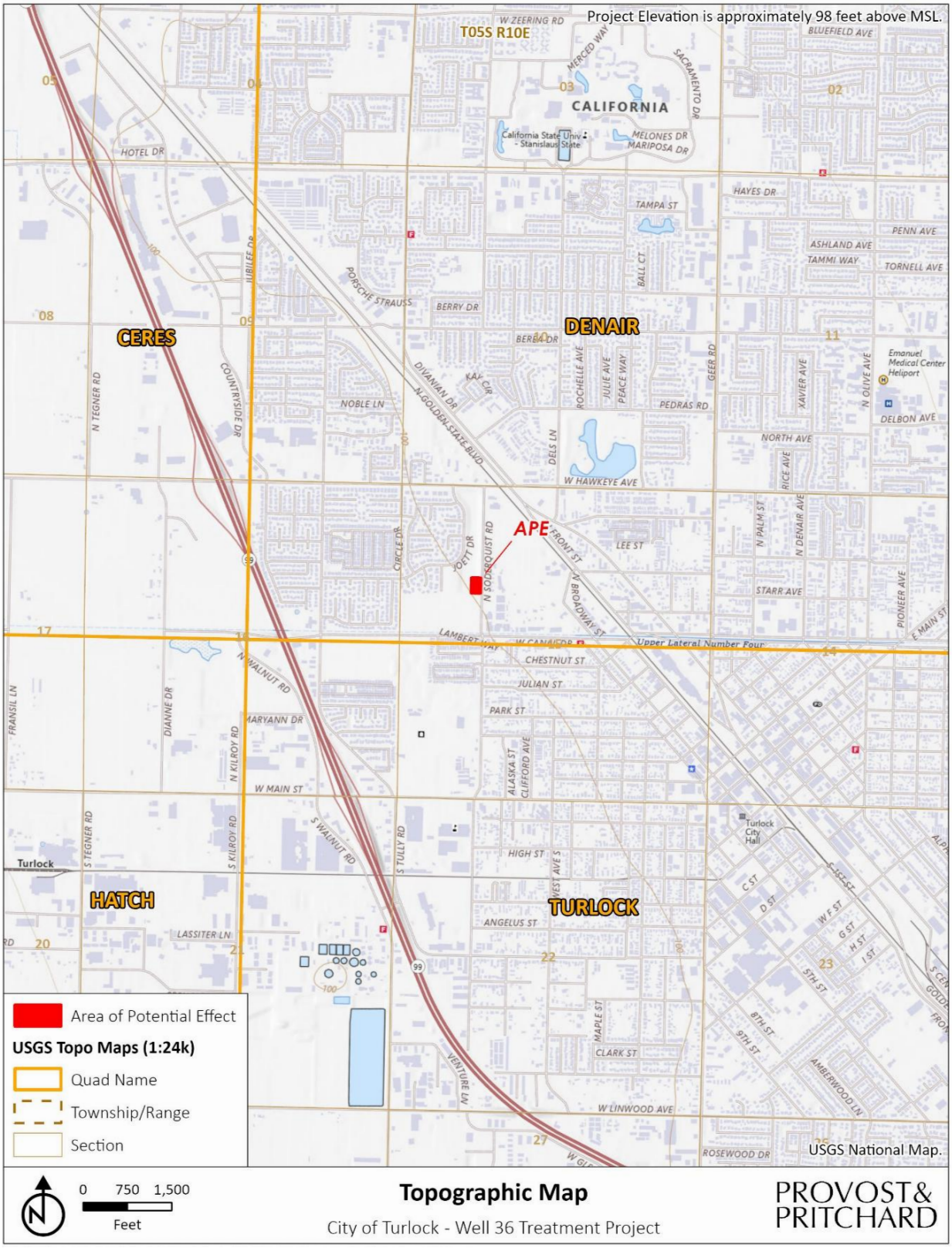


Figure 2-3: Topo Quad Map

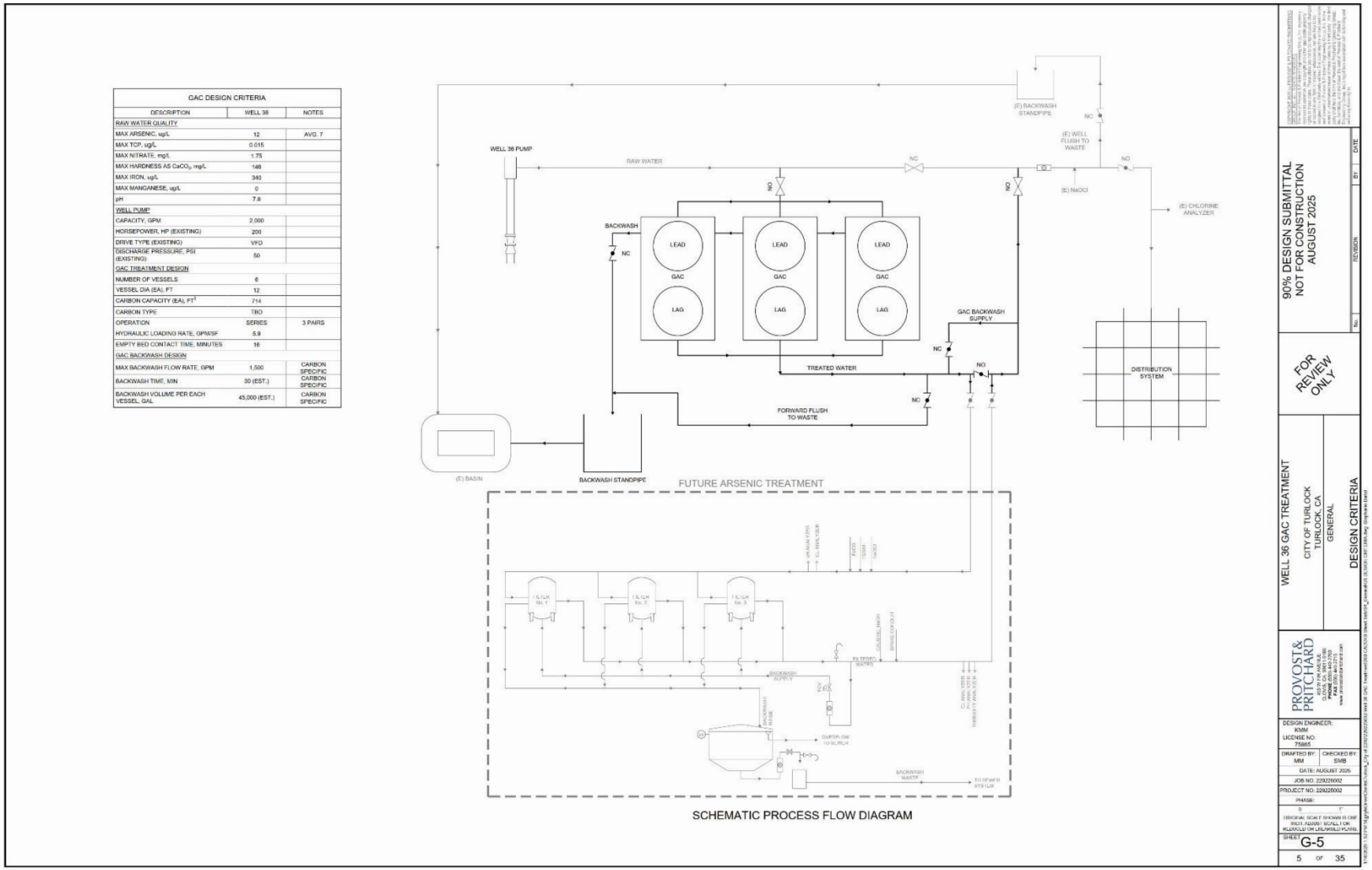


Figure 2-4: Site Plan

CHAPTER 3 DETERMINATION

3.1 POTENTIAL ENVIRONMENTAL IMPACTS

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

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

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

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

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

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

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

3.2 DETERMINATION

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

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

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

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

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

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

Adrienne Werner — 12/22/25

Signature — Date

Adrienne Werner, Development Services Director

Printed Name/Position

CHAPTER 4 ENVIRONMENTAL IMPACT ANALYSIS

4.1 AESTHETICS

Table 4-1: Aesthetics Impacts

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

4.1.1 BASELINE CONDITIONS

The proposed Project is located at the existing Well 36 site at Summerfaire Park. The Project site is bordered by public uses, such as parkland and a dual use stormwater basin to the north and west, the Stanislaus County Fairgrounds to the east, and the Turlock Sports Park to the south. The Project site is located within the western section of the City, approximately 1.2 miles east of the City Limits. Turlock is located in Stanislaus County at the intersection of State Routes 99 and 165. The City is surrounded by farmland, consisting primarily of row crops and orchards.

4.1.2 IMPACT ANALYSIS

a) Have substantial adverse effect on a scenic vista?

No Impact. The proposed Project is not located within a scenic vista or public viewshed of any sensitive aesthetic resources. Scenic features seen from the City include the vast expanse of agricultural land and the Sierra Nevada Mountains to the east, which are generally regarded as aesthetic resources in the San Joaquin Valley. The Project site is not within the viewshed of any scenic vistas, nor would the views of the Sierra Nevada Mountains be obstructed by the proposed Project. Therefore, there would be no impact.

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

Less than Significant Impact. There are not any designated State Scenic Highways near the Project site. The nearest designated State Scenic Highway is Interstate 5, located approximately 16 miles to the west of the site.[3] While the proposed Project would remove approximately 15 trees, the Project would not impact any aesthetic or historic resources within the vicinity of a designated State Scenic Highway. Therefore, impacts would be less than significant.

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

No Impact. The Project is located at an existing well site in an urbanized area. The site borders public uses, such as parkland and a dual-use stormwater basin to the north and west, the Stanislaus County Fairgrounds to the east, and the Turlock Sports Park to the south. The proposed Project would be constructed on a site that features an existing well and there would be no conflict with zoning or other regulations regarding scenic quality. The proposed Project would meet the applicable City development standards governing aesthetics. Therefore, there would be no impact.

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

Less than Significant Impact. The proposed Project would result in new fencing, landscaping, and the construction of two commercial drive approaches, six 12-foot diameter GAC Treatment Vessels, and Ductile iron process piping (12-inch and 16-inch). For the future arsenic treatment on site, the major components include three 12-foot diameter filter vessels, a 20-foot diameter wash water equalization basin, a 35-foot by 60-foot chemical storage enclosure, and ductile iron and HDPE. None of the materials utilized as a part of the proposed Project are expected to cause substantial light or glare. Components added to the site would be similar to those currently existing at the well site. Additionally, landscaping is proposed on each side of the site which would shield public views into the site. Therefore, impacts would be less than significant.

4.1.3 FEDERAL CROSS-CUTTING TOPIC

4.1.3.1 WILD, SCENIC, AND RECREATIONAL RIVERS ACT

The National Wild and Scenic Rivers Act was established in 1968 to maintain the natural beauty, biology, and wildness of federally designated "wild," "scenic," or "recreational" rivers that may be threatened by construction of dams, diversions, and canals. The act seeks to preserve these designated rivers in their free-flowing condition and to protect their immediate environments for the benefit and enjoyment of present and future generations. There are no designated "wild" or "scenic" rivers located within or in proximity to the proposed Project site.

[3] (California Department of Transportation, 2018)

4.2 AGRICULTURE AND FORESTRY RESOURCES

Table 4-2: Agriculture and Forest Impacts

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

4.2.1 BASELINE CONDITIONS

The proposed Project is located in the City of Turlock, which is in southern Stanislaus County. Stanislaus County is located in the northern portion of California's San Joaquin Valley, California's agricultural heartland. For crop year 2021-2022, Stanislaus County is ranked as the sixth top county in the State in agricultural production with an estimated gross economic value of approximately 3.6 billion dollars.[4] Top commodities include almonds, silage, and dairy products.

4.2.2 IMPACT ANALYSIS

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

No Impact. As demonstrated in Figure 4-1, the Project site is designated as Urban and Built-Up Land.[5] Implementation of the proposed Project would not result in the conversion of farmland to a non-agricultural use. Therefore, there would be no impact.

[4] (California Department of Food and Agriculture, 2024)
[5] (California Department of Conservation, 2022)

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

No Impact. The Project site is not zoned for agricultural use, and it is not under a Williamson Act contract.[6] Therefore, there would be no impact

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?

c and d) No Impact. The Project site is located within an urban area and zoned low-density residential by the City.[7] The site features existing water system facilities. As a result, the site has not been identified as containing forest land or forest resources that would be converted as a part of the proposed Project. "Forest land" is defined by Public Resources Code Section 12220(g) as "…land that can support 10-percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits." The Project site does not meet the definition of a forest, and as a result the Project would not be located within a forest. Therefore, there would be no impact.

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

No Impact. The proposed Project involves the development of a water treatment system on non-agricultural land and non-forest land. The proposed Project would not impact Farmland or forest land. Therefore, there would be no impact.

4.2.3 FEDERAL CROSS-CUTTING TOPIC

4.2.3.1 FARMLAND PROTECTION ACT

The Farmland Protection and Policy Act (FPPA) was enacted in 1981 to minimize the loss of prime farmland and unique farmlands because of federal actions that converted these lands to non-agricultural uses. The act ensures that federal programs are compatible with state and local governments, and private programs and policies to protect farmland.

As defined by the FPPA, prime farmland is farmland that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses. A unique farmland is land other than prime farmland that is used for production of specific, high-value food and fiber crops; it has the special combination of soil quality, location, growing season, and moisture supply needed to economically produce sustained, high quality or high yields of specific crops.

As previously concluded, the proposed Project is not located on land classified by the Department of Conservation (DOC) as Prime Farmland, Farmland of Statewide Importance, Unique Farmland, or Farmland of Local Importance. These classifications recognize a land's suitability for agricultural production by considering the physical and chemical characteristics of the soil, such as soil temperature range, depth of the groundwater table, flooding potential, rock fragment content, and rooting depth. The classifications

[6] (California Department of Conservation, 2022)
[7] (City of Turlock, 2014)

also consider location, growing season, and moisture available to sustain high-yield crops. Together, Important Farmland and Grazing Land are defined by the DOC as "Agricultural Land."

The proposed Project would be on land that is classified as "Urban and Built-Up Land," which consists of 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, construction, institutional, public administration, railroad and other transportation yards, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, water control structures, and other developed purposes.[8] Therefore, no farmland would be converted as a result of the Project, and the Project would not conflict with the Farmland Protection and Policy Act or adversely affect prime or unique farmland.

[88] (California Department of Conservation, 2025)

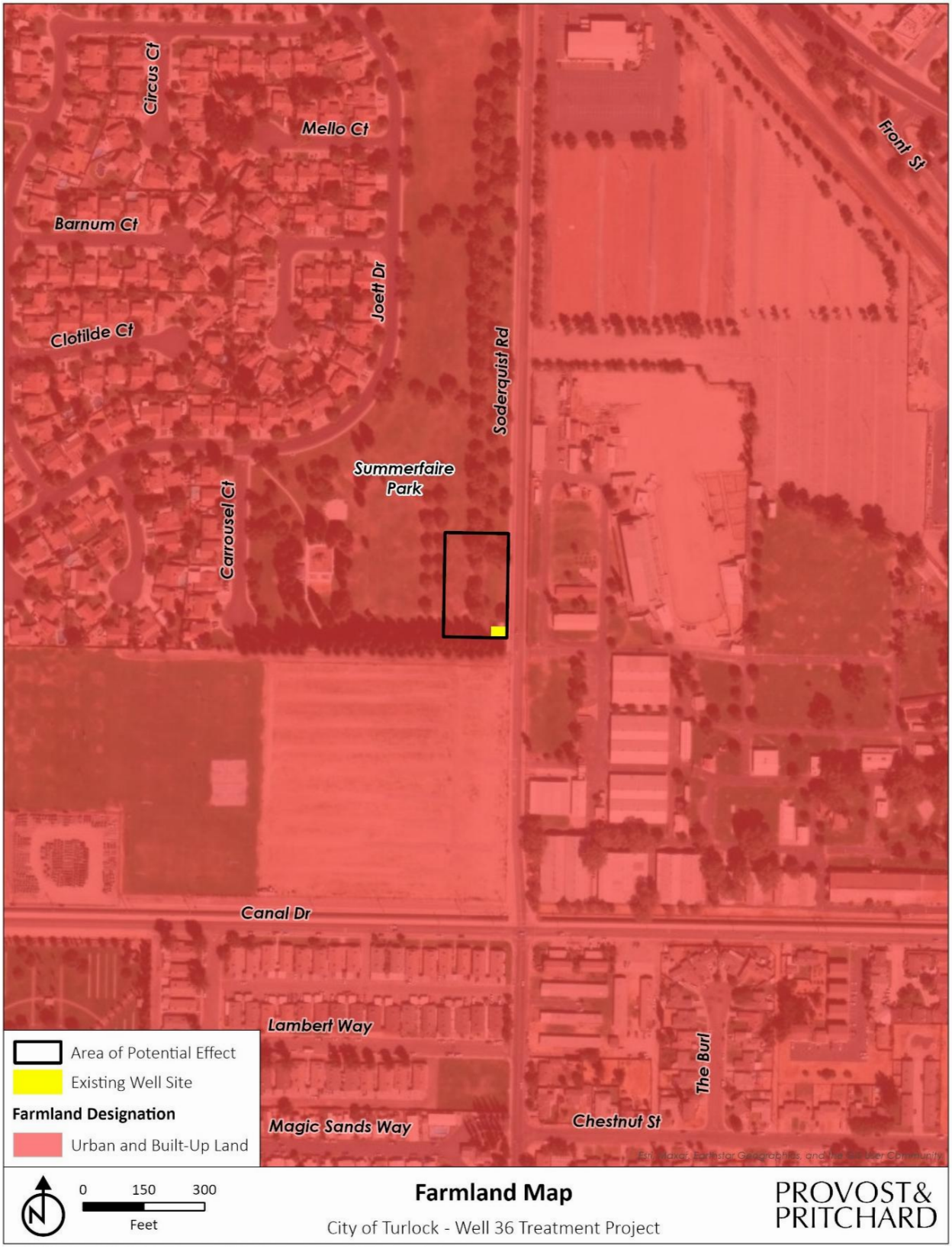


Figure 4-1: Farmland Designation Map

4.3 AIR QUALITY

Table 4-3: Air Quality Impacts

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

4.3.1 BASELINE CONDITIONS

The Project site is located within the boundaries of the San Joaquin Valley Air Pollution Control District (SJVAPCD) and the San Joaquin Valley Air Basin (SJVAB). The SJVAB is positioned within the San Joaquin Valley of California. The San Joaquin Valley is bounded by the Sierra Nevada Mountain Range to the east and the Coastal Mountain Range to the west. Wind within the SJVAB typically channels south-southwest during the summer months, while wind flows to the north-northwest during the winter months. Wind velocity for the region is considered low for an area of such size.[9] Due to a lack of strong wind and the natural confinement of the mountain ranges surrounding the SJVAB, the region experiences some of the worst air quality in the world.

Regulatory Attainment Designations

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

The United States Environmental Protection Agency (USEPA) designates areas for ozone, CO, and NO_2 as "does not meet the primary standards," "cannot be classified," or "better than national standards." For SO_2, areas are designated as "does not meet the primary standards," "does not meet the secondary standards," "cannot be classified," or "better than national standards." However, the CARB terminology of attainment, nonattainment, and unclassified is more frequently used. The USEPA uses the same sub-

[9] (San Joaquin Valley Air Pollution Control District, 2025)

categories for nonattainment status: serious, severe, and extreme. In 1991, USEPA assigned new nonattainment designations to areas that had previously been classified as Group I, II, or III for PM_{10} based on the likelihood that they would violate national PM_{10} standards. All other areas are designated "unclassified."

According to the USEPA, Stanislaus County was in non-attainment for two pollutant concentrations, with $PM_{2.5}$ (2012) being classified as in serious non-attainment and 8-hour Ozone (2015) classified as being in extreme non-attainment as of September 3rd, 2025.[10]

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

Pollutant	Averaging Time	State Standard	Federal Standard	State Attainment Status	Federal Attainment Status
Ozone (O_3)	*1 hour*	*0.09 ppm*	*N/A*	*Nonattainment/ Severe*	*N/A*
	8 hours	*0.070 ppm*	*0.070 ppm (4^{th} highest in 3 years)*	*Nonattainment*	*Nonattainment/ Extreme*
Carbon Monoxide (CO)	*1 hour*	*20 ppm*	*35 ppm*	*Attainment/ Unclassified*	*Attainment/ Unclassified*
	8 hours	*9.0 ppm*	*9 ppm*	*Attainment/ Unclassified*	*Attainment/ Unclassified*
Particulate Matter 10 microns in size (PM_{10})	*24 hours*	*50 µg/m^3*	*150 µg/m^3 (expected number of days above standard < or equal to 1)*	*Nonattainment*	*Attainment*
	Annual	*20 µg/m^3*	*N/A*		*N/A*
Particulate Matter 2.5 microns in size ($PM_{2.5}$)	*24 hours*	*N/A*	*35 µg/m^3*	*N/A*	*Nonattainment*
	Annual	*12 µg/m^3*	*12.0 µg/m^3*	*Nonattainment*	
Nitrogen Dioxide (NO_2)	*1 hour*	*0.18 ppm*	*0.100 ppm*	*Attainment*	*Attainment/ Unclassified*
	Annual	*0.030 ppm*	*0.053 ppm*		
Sulfur Dioxide (SO_2)	*1 hour*	*0.25 ppm*	*0.075 ppm (99^{th} percentile over 3 years)*	*Attainment*	*Attainment/ Unclassified*
	3 hours	*N/A*	*0.5 ppm*	*N/A*	
	24 hours	*0.04 ppm*	*0.14 ppm*	*Attainment*	
	Annual	*N/A*	*0.030 ppm*	*N/A*	
Lead (Pb)	*Monthly*	*1.5 µg/m^3*	*N/A*	*Attainment*	*N/A*
	Rolling 3-month average	*N/A*	*0.15 µg/m^3*	*N/A*	*Attainment/ Unclassified*
Sulfates	*24 hours*	*25 µg/m^3*	*N/A*	*Attainment*	*N/A*
Hydrogen Sulfide (H_2S)	*1 hour*	*0.03 ppm*	*N/A*	*Unclassified*	*N/A*
Visibility Reducing Particles (VRP)	*8 hours*	*Visibility of 10 miles or more at relative humidity less than 70 %*	*N/A*	*Unclassified*	*N/A*
Vinyl Chloride	*24 hours*	*0.01 ppm*	*N/A*	*Attainment*	*N/A*

** For more information on standards visit: https://ww3.arb.ca.gov/research/aaqs/aaqs2.pdf*
*** No Federal 1-hour standard. Reclassified extreme nonattainment for the Federal 8-hour standard 9/3/2025.*
****Secondary Standard*
Source: http://www.valleyair.org/aqinfo/attainment.htm. Accessed 9/3/2025.

[10] (United States Environmental Protection Agency, 2025)

Construction Generated Emissions

Construction of the Project is assumed to be completed over approximately two years. Emissions associated with the Project were calculated using the CalEEMod Air Quality Model, Version 2022.1.1.30 (California Emissions Estimator Modeling). 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 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.

Thresholds of Significance

Air pollutant emissions have regional effects and localized effects. This analysis assesses the regional effects of the Project's criteria pollutant emissions in comparison to SJVAPCD thresholds of significance for short-term construction activities and long-term operation of the Project. Localized emissions from Project construction and operation are also assessed using concentration-based thresholds that determine if the Project would result in a localized exceedance of any ambient air quality standards or would make a cumulatively considerable contribution to an existing exceedance.

The primary pollutants of concern during Project construction and operation are ROG (reactive organic gases), NO_X, PM_{10}, and $PM_{2.5}$. The SJVAPCD Guide for Assessing and Mitigating Air Quality Impacts, adopted in 2015, contains thresholds for ROG and Nitrogen Oxides (NO_X); Sulfur Oxides (SO_X), CO, PM_{10}, and $PM_{2.5}$.

Ozone is a secondary pollutant that can be formed miles away from the source of emissions through reactions of ROG and NO_X emissions in the presence of sunlight. Therefore, ROG and NOx are termed ozone precursors. The SJVAB often exceeds the State and national ozone standards. Therefore, if the Project emits a substantial quantity of ozone precursors, the Project may contribute to an exceedance of the ozone standard. The SJVAB also exceeds air quality standards for PM_{10}, and $PM_{2.5}$; therefore, substantial Project emissions may contribute to an exceedance for these pollutants.

The SJVAPCD adopted significance thresholds for construction-related and operational ROG, NO_X, PM, CO, and SO_X, these thresholds are included in Table 4-5.

Table 4-5: Project-Level Air Quality CEQA Thresholds of Significance

Pollutant	Significance Threshold	
	Construction Emissions (tons/year)	Operational Emissions (tons/year)
CO	100	100
NO_x	10	10
ROG	10	10
SO_x	27	27
PM_{10}	15	15
$PM_{2.5}$	15	15

Source: SJVAPCD. 2015. Guidance for Assessing and Mitigating Air Quality Impacts. Website: https://ww2.valleyair.org/media/g4nl3p0g/gamaqi.pdf. Accessed September 3, 2025.

4.3.2 IMPACT ANALYSIS

Short-Term Construction Generated Emissions

Estimated construction-generated emissions are summarized in Table 4-6.

Table 4-6: Unmitigated Short-Term Construction Generated Emissions of Criteria Air Pollutants

Source	Annual Emissions (Tons per Year)					
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Maximum Annual Project Construction Emissions	0.06	0.59	0.90	<0.005	0.02	0.02
SJVAPCD Threshold	*10*	*10*	*100*	*27*	*15*	*15*
Threshold Exceeded?	No	No	No	No	No	No

Long-Term Operational Generated Emissions

Estimated operational-generated emissions are summarized in Table 4-7.

Table 4-7: Unmitigated Long-Term Operational Generated Emissions of Criteria Air Pollutants

Source	Annual Emissions (Tons per Year)					
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Maximum Annual Project Construction Emissions	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
SJVAPCD Threshold	*10*	*10*	*100*	*27*	*15*	*15*
Threshold Exceeded?	No	No	No	No	No	No

Maximum Daily Emissions of Criteria Air Pollutants

Daily construction and operational emissions generated by the Project are summarized in Table 4-8.

Table 4-8: Maximum Daily Emissions of Criteria Air Pollutants

Source	Daily Emissions Maximum (in pounds)					
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Construction – Summer	1.06	16.2	10.1	0.08	3.36	1.16
Construction – Winter	0.49	4.81	6.91	0.01	0.19	0.17
Operational – Summer	0.01	<0.005	<0.005	<0.005	<0.005	<0.005
Operational – Winter	0.01	0.00	0.00	0.00	0.00	0.00
SJVAPCD Threshold	*100*	*100*	*100*	*100*	*100*	*100*
Threshold Exceeded?	No	No	No	No	No	No

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

No Impact. The Project would not conflict with or obstruct implementation of any applicable air quality plan. The proposed Project would not exceed any threshold for air quality emissions that has been set by the SJVAPCD. Therefore, there would be no impact.

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

Less than Significant Impact. The proposed Project would not result in a cumulatively considerable net increase of any of the criteria pollutant for which the Project region is non-attainment. As shown in Table 4-6, Table 4-7, and Table 4-8, the Project would not exceed an emissions threshold which has been set

by the SJVAPCD for construction or operational related emissions. Therefore, impacts would be less than significant.

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

Less than Significant Impact. As discussed above, the proposed Project would not result in significant long-term operational emissions. Construction-related emissions, shown in Table 4-6 and Table 4-8, would be temporary in nature and would cease upon Project construction. While short-term construction activities could result in temporary increases in pollutant concentrations, these emissions would be limited in duration and would cease once construction is complete. Sensitive receptors, such as children, the elderly, and individuals with existing health conditions, may occasionally be present in the park where the Project is located; however, the Project would not exceed the SJVAPCD's daily emission thresholds. Due to the distance from nearby residences and the low levels of emissions that are expected to be generated from the proposed Project, significant impacts to sensitive receptors are not expected to occur. Any potential exposure of sensitive receptors to pollutant concentrations would be minimal and temporary. As a result, impacts would be 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 proposed Project would not result in long-term emissions of odors that could adversely affect a substantial number of people. While construction activities would involve the temporary use of gasoline- and diesel-powered equipment that may emit exhaust fumes and odors, these emissions would be short-term and limited to the construction phase. Upon completion of construction, no odor-generating activities would occur. Therefore, impacts would be less than significant.

4.3.3 FEDERAL CROSS-CUTTING TOPIC

4.3.3.1 CLEAN AIR ACT (CAA)

Under the federal CAA, federal actions conducted in air basins that are not in attainment with the federal ozone standard (such as the SJVAB) must demonstrate conformity with the State Implementation Plan (SIP). Conformity to a SIP is defined in the federal CAA as meaning conformity to a SIP's purpose of eliminating or reducing the severity and number of violations of the national standards and achieving an expeditious attainment of such standards. The SJVAPCD has published Regulation IX, Rule 9110 (referred as the General Conformity Rule) that indicates how most federal agencies can make such a determination.[11]

The SJVAPCD specifies that a project is conforming to the applicable attainment or maintenance plan if it:

- *complies with all applicable SJVAPCD rules and regulations,*
- *complies with all applicable control measures from the applicable plans, and*
- *is consistent with the growth forecast in the applicable plans.*

The SJVAPCD does not require a detailed quantification of construction emissions unless the project's indirect source emissions are expected to increase pollutant emissions of ROG or NOx in excess of 10 tons per year. Construction emissions associated with the proposed Project are not expected to exceed this screening threshold; therefore, the Project would be considered to comply with SJVAPCD conformity criteria.

[11] The SJVAPCD's Rule 9110 is consistent with USEPA 's General Conformity Rule, Determining Conformity of General Federal Actions to State or Federal Implementation Plans (40 CFR, Part 93), available online at http://www.valleyair.org/rules/currntrules/r9110.pdf.

4.4 BIOLOGICAL RESOURCES

Table 4-9: Biological Resources Impacts

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

4.4.1 BASELINE CONDITIONS

The area of potential effect (APE) or Project site is located in the San Joaquin Valley, within the northwest section of the City of Turlock in the southeastern edge of Stanislaus County, California. The Project site is located at Summerfaire Park and includes an active well that produces approximately 2,000 gpm, Chlorination facilities, a pump discharge header equipped with two blind flanged tees separated by an isolation gate valve, and paved walkways. Surrounding lands are residential neighborhoods with paved roads to the west, recreational fields for sports to the south, and businesses to the north and east. The topography of the site has an incline from the west to east with elevations ranging from approximately 93 to 106 feet above mean sea level.

Like most of California, the site experiences a Mediterranean climate. Warm, dry summers are followed by cool, moist winters. In the summer, average high temperatures range between 80- and 95-degrees Fahrenheit (°F), but do not often exceed 100 °F, and the humidity is generally low. Winter temperatures are often below 65 °F during the day and rarely exceed 70 °F. On average, the City of Turlock receives approximately 12 inches of precipitation in the form of rain yearly, most of which occurs between November and April[12] and the APE would be expected to receive similar amounts of precipitation.

4.4.1.1 HYDROLOGY

The nearest surface water to the Project is the freshwater pond at Donnely Park located 0.4 miles northeast from the APE. While not mapped on NWI or National Hydrography Dataset, ponded areas occur at Summerfaire Park during the late winter/early spring during higher precipitation years.

4.4.1.2 SOILS

One soil mapping unit representing a soil type was identified within the APE and is listed in Table 4-10 (see Appendix D of Appendix B for the Web Soil Survey Report). The soil is displayed with its core properties in the table below, according to the Major Land Resource Area of California. This soil is primarily used for pastureland and to grow a variety of crops.

Table 4-10: List of Soils Located Onsite and Their Basic Properties

Soil	Soil Map Unit	Percent of Site	Hydric Soil Category	Drainage	Permeability	Runoff
Hilmar	Loamy sand, 0 to 1 percent slopes	100%	Nonhydric	Somewhat excessively drained	Moderately low to moderately high	Medium

Hydric soils are defined as soils that are saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions such that, under sufficiently wet conditions, hydrophytic vegetation can be supported. Hydric soil ratings are derived from specific soil properties as well as climate, parent material, vegetation, landform type, and biological activity of a certain location. The soil mapping unit located on the APE is not identified as hydric.

A biological survey for the 1.0-acre site was performed in August of 2025, and a Biological Evaluation was prepared in October of 2025.

4.4.1.3 BIOTIC HABITATS

Ruderal was the one biotic habitat that was observed within the proposed Project site. This habitat and its constituent plant and animal species are described in more detail in the following sections.

4.4.1.3.1 RUDERAL

The site is located on the southeast corner of Summerfaire Park. Paved walkways lined the southern and eastern boundaries of the APE. A paved well site with fencing was present at the southeastern corner. The vegetation community was dominated by a frequently mowed lawn of Bermuda grass (Cynodon dactylon), hairy crabgrass (Digitaria sanguinalis), and white clover (Trifolium repens). Other herbaceous vegetation included burr clover (Medicago polymorpha), California poppy (Eschscholzia californica), common dandelion (Taraxacum officinale), common groundsel (Senecio vulgaris), and lawn daisy (Bellis perennis). Various ornamental trees were present including redwoods (Sequoioideae) along the southern boundary of the APE and both Callery pear trees (Pyrus calleryana) and western sycamores (Platanus racemosa) within the central/eastern section in rows.

[12] (The National Oceanic and Atmospheric Administration, 2025)

The survey of the site resulted in the identification of numerus bird species including American kestrel (Falco sparverius), Anna's hummingbird (Calypte anna), California scrub jay (Aphelocoma californica), European starling (Sturnus vulgaris), house finch (Haemorhous mexicanus), lesser goldfinch (Spinus psaltria), Say's phoebe (Sayornis saya), rock pigeon (Columba livia), and yellow-billed magpie (Pica nuttallii). Domestic dogs (Canis lupus familiaris) and western tiger swallowtails (Papilio rutulus) were also observed.

The ruderal habitat within the APE provides marginal habitat for a variety of wildlife year-round. This habitat likely serves foraging birds, including raptors, during the day, as well as bats, coyotes, and other nocturnal animals at night. Ornamental trees may also serve as nesting habitat for songbirds.

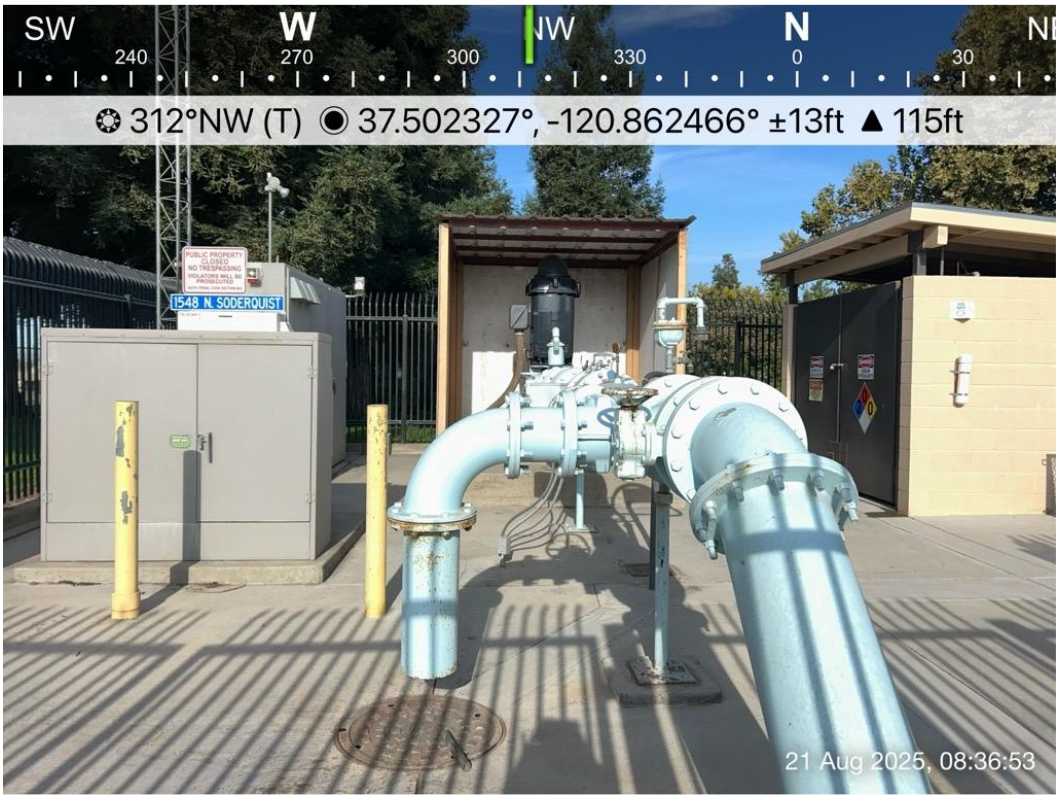


Figure 4-2: Well Site

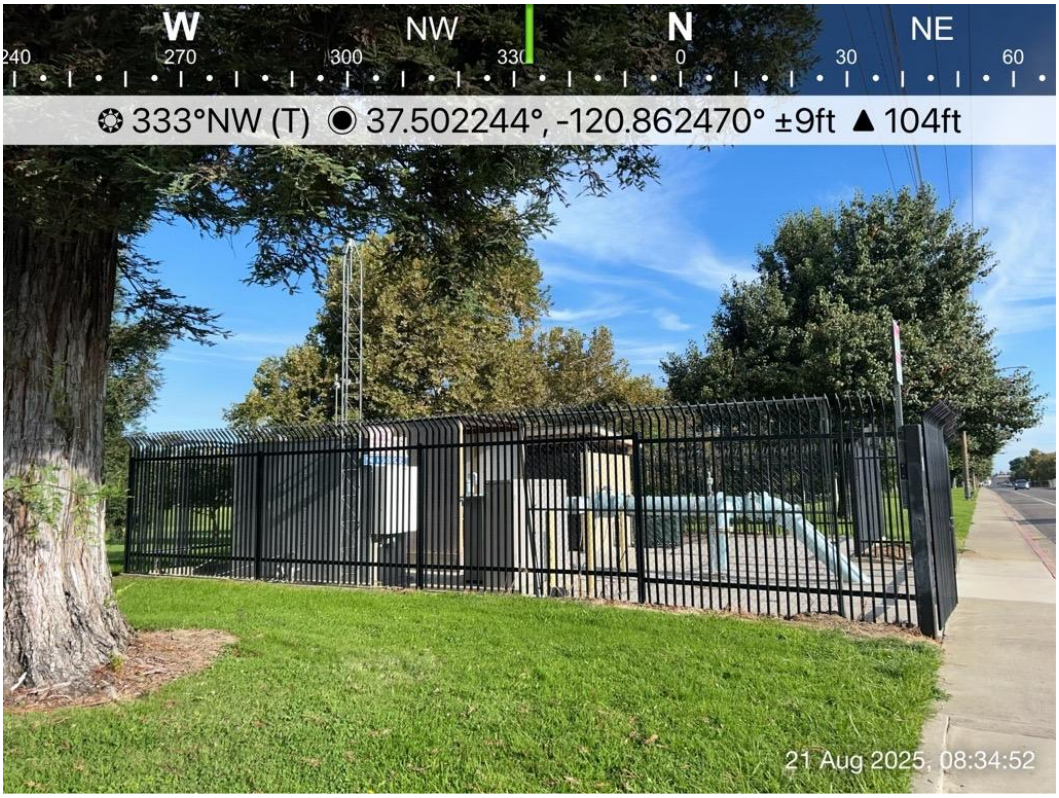


Figure 4-3: Conditions Outside the Well Site

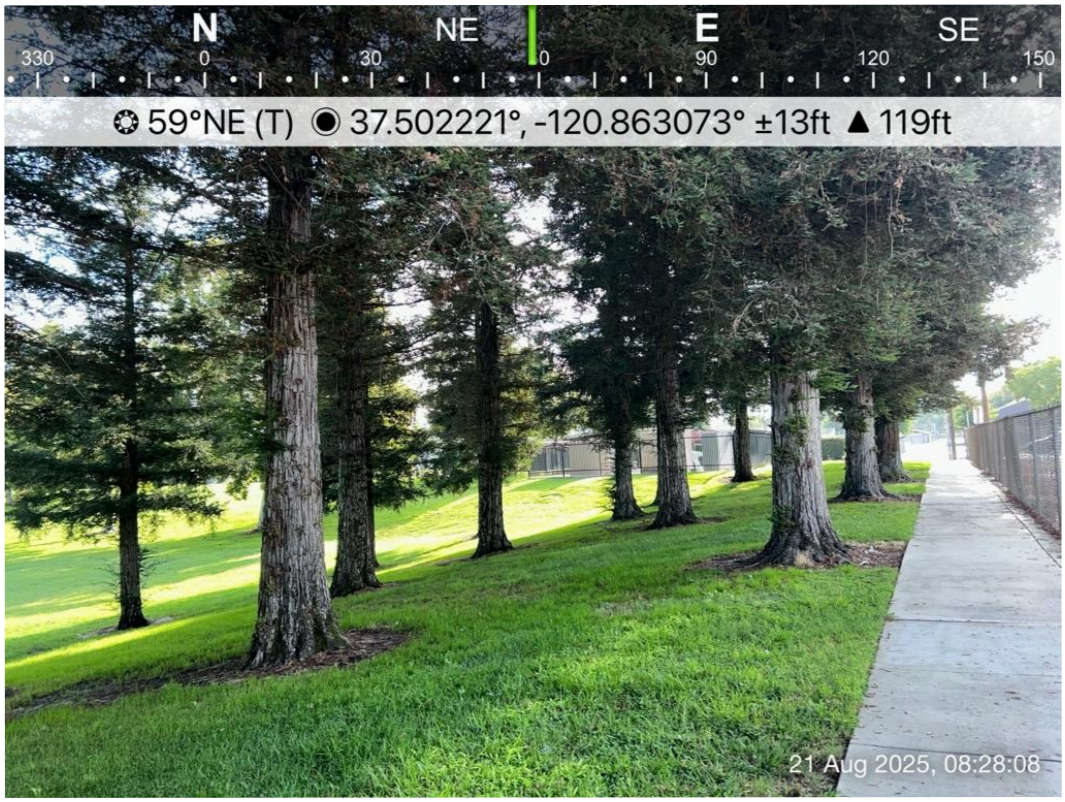


Figure 4-4: Park Outside the Well Site

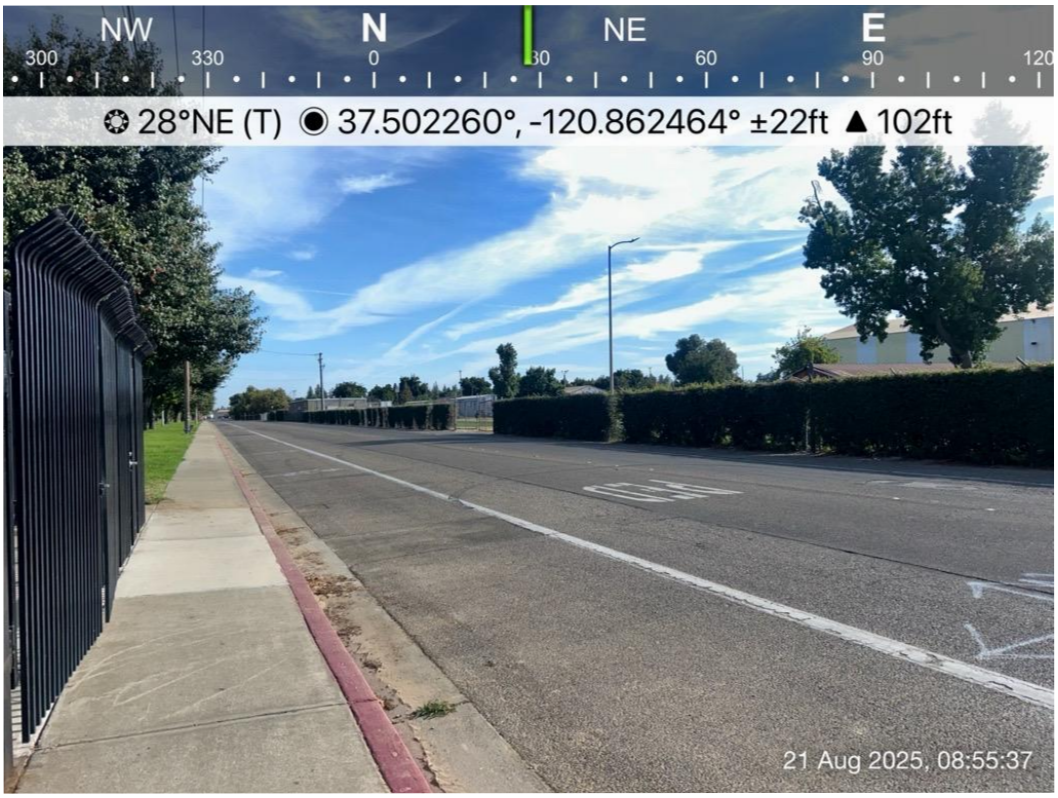


Figure 4-5: Road Alongside the Well Site

4.4.1.4 NATURAL COMMUNITIES OF SPECIAL CONCERN AND RIPARIAN HABITAT

Natural communities of special concern are those that are of limited distribution, distinguished by significant biological diversity, or home to special status species. California Department of Fish and Wildlife (CDFW) has classified and mapped all natural communities in California. Just as the special status plant and animal species, these natural communities of special concern can be found within the California Natural Diversity Database (CNDDB). There are no recorded observations of a natural community of special concern mapped within the site and no natural communities of special concern were observed during the field survey.

Riparian habitat is composed of plant communities that occur along the banks, and sometimes over the banks, of most waterways and is an important habitat for numerous wildlife species. The CDFW has jurisdiction over most riparian habitat in California. No waterways or riparian habitat were observed within or adjacent to the APE during the field survey.

4.4.1.5 DESIGNATED CRITICAL HABITAT

The United States Fish and Wildlife Service (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, which may require special management and protection. According to the United States Fish and Wildlife Service's Information for Planning and Consultation system (IPaC), designated critical habitat is absent from the APE.

4.4.1.6 WILDLIFE MOVEMENT CORRIDORS AND NATIVE WILDLIFE NURSERY SITES

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. While the ruderal habitat of the APE consists of an open area which species could move through, it does not contain the typical features of a wildlife movement corridor.

Native wildlife nursery sites are areas where a species or group of similar species raise their young in a concentrated place, such as maternity bat roosts. The numerous trees within the APE could serve as nesting sites for migratory birds, however, groups of nests were absent from the trees during the survey and nesting activity was not observed.

4.4.1.7 SPECIAL STATUS PLANTS AND ANIMALS

California contains several rare plant and animal species. In this context, "rare" is defined as a species known to have low populations or limited distributions. Conversion of habitats to accommodate human population growth in turn reduces the already-limited suitable habitat for rare species. This results in rare and sensitive species becoming increasingly more vulnerable to extirpation. State and federal regulations have provided the CDFW and USFWS with mechanisms 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 California Natural Diversity Database (CNPS) has its list of native plants considered rare, threatened, or endangered. Collectively these animals and plants are referred to as "special status species."

A query of the CNDDB for occurrences of special status plant and animal species was conducted for the Denair USGS 7.5-minute quadrangle that contains the APE and for the 8 surrounding USGS quadrangles: Ceres, Cressey, Hatch, Montpelier, Paulsell, Riverbank, Turlock, and Waterford. A query of the IPaC was also completed for the APE. These species, and their potential to occur within the APE, are listed in Table 4-11 and Table 4-12, below. Other special status species that did not show up in the CNDDB query, but

have the potential to occur in the vicinity, are also included in Table 4-12. Species lists obtained from CNDDB and IPaC are available in Appendix B and Appendix C of Appendix B, respectively. All relevant sources of information, as discussed in the Study Methodology section of this report, as well as field observations, were used to determine if any special status species have the potential to occur within the APE.

Table 4-11: List of Special Plants with Potential to Occur on the APE and/or in the Vicinity

Species	Status*	Habitat	Occurrence within the Site
Beaked clarkia (*Clarkia rostrata*)	CNPS 1B	Found in woodlands and valley foothill grasslands on the west slope of the Sierra Nevada range, around 1,650 feet in elevation. Blooms April – May.	**Absent.** The APE does not provide suitable habitat and is outside the current known elevational range of this species. The consistent lawn maintenance and landscaping would inhibit this species from establishing within the site.
California alkali grass (*Puccinellia simplex*)	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 3,000 feet. Blooms March – May.	**Absent.** The APE does not provide mineral springs or wetland-riparian habitat to support this species and CNDDB lists this species as "extirpated" from the region. The consistent lawn maintenance and landscaping would inhibit this species from establishing within the APE.
Colusa grass (*Neostapfia colusana*)	FT, CE, CNPS 1B	Found in vernal pools within the San Joaquin Valley at elevations below 450 feet. Blooms May – August.	**Absent.** The APE does not provide suitable vernal pool habitat to support this species and CNDDB lists this species as "extirpated" from the region. The consistent lawn maintenance and landscaping would inhibit this species from establishing within the APE.
Greene's tuctoria (*Tuctoria greenei*)	FE, CNPS 1B	Found in the San Joaquin Valley and other parts of California in vernal pools within valley grassland, wetland, and riparian communities at elevations below 3,500 feet. Blooms May – September.	**Absent.** The APE does not provide suitable vernal pool habitat to support this species and CNDDB lists this species as "extirpated" from the region. The consistent lawn maintenance and landscaping would inhibit this species from establishing within the APE.
Hairy Orcutt grass (*Orcuttia pilosa*)	FE, CE, CNPS 1B	Found in vernal pools in valley grassland, wetland, and riparian communities at elevations below 650 feet. Blooms May – September.	**Absent.** The APE does not provide suitable vernal pool habitat to support this species. The consistent lawn maintenance and landscaping would inhibit this species from establishing within the APE.
Heartscale (*Atriplex cordulata* var. *cordulata*)	CNPS 1B	Found in the Central Valley in saline or alkaline soils within shadscale scrub, valley grassland, and wetland-riparian communities at elevations below 250 feet. Blooms June – July.	**Absent.** Suitable habitat for this species is absent from the APE. The consistent lawn maintenance and landscaping would inhibit this species from establishing within the APE.
Hoover's calycadenia (*Calycadenia hooveri*)	CNPS 1B	Found in valley and foothill grassland and cismontane woodland communities on exposed, rocky, barren soil at elevations between 300 and 1,300 feet. Blooms June – September.	**Absent.** The APE does not provide suitable habitat and is outside the current known elevational range of this species and CNDDB lists this species as "possibly extirpated" from the region. The consistent lawn maintenance and landscaping would inhibit this species from establishing within the APE.

Species	Status*	Habitat	Occurrence within the Site
Hoover's spurge (*Euphorbia hooveri*)	FT, CNPS 1B	Found in vernal pools within valley grassland, freshwater wetland, and riparian communities at elevations below 800 feet. Blooms July – September.	**Absent.** The APE does not provide suitable vernal pool habitat to support this species. The consistent lawn maintenance and landscaping would inhibit this species from establishing within the APE.
Merced monardella (*Monardella leucocephala*)	CNPS 1A	Found in the San Joaquin Valley, associated with valley and foothill grasslands. Grows along rivers in moist, sandy soils at elevations between 150 and 350 feet. Blooms May – July.	**Absent.** CNDDB lists this species as "extirpated" from the region. The consistent lawn maintenance and landscaping would inhibit this species from establishing within the APE.
San Joaquin Valley Orcutt grass (*Orcuttia inaequalis*)	FT, CE, CNPS 1B	Found in the eastern San Joaquin Valley and the Sierra Nevada foothills in vernal pools within valley grassland, freshwater wetland, and wetland-riparian communities at elevations below 2,600 feet. Blooms April – September.	**Absent.** The APE does not provide suitable vernal pool habitat to support this species and CNDDB lists this species as "extirpated" from the region. The consistent lawn maintenance and landscaping would inhibit this species from establishing within the APE.
Subtle orache (*Atriplex subtilis*)	CNPS 1B	Found in the San Joaquin Valley in saline depressions in alkaline soils within valley and foothill grassland communities at elevations below 300 feet. Blooms June – October.	**Absent.** Suitable habitat for this species is absent from the APE. The consistent lawn maintenance and landscaping would inhibit this species from establishing within the APE.
Succulent owl's-clover (*Castilleja campestris* var. *succulenta*)	FT, CE, CNPS 1B	Occurs usually in wetlands and vernal pools but occasionally in non-wetlands. Often found in acidic soils at elevations below 2,500 feet. Blooms April – July.	**Absent.** The APE does not provide suitable vernal pool habitat to support this species. The consistent lawn maintenance and landscaping would inhibit this species from establishing within the APE.

Table 4-12: List of Special Status Animals with Potential to Occur on the APE and/or in the Vicinity

Species	Status*	Habitat	Occurrence within the Site
Burrowing owl (*Athene cunicularia*)	CCE, CSSC	Resides in open, dry grasslands, deserts, scrublands, and other areas with low growing vegetation. Nests and roosts underground in existing burrows created by mammals, most often by ground squirrels, and human-made structures.	**Unlikely.** No small mammal burrows were observed within the APE. The consistent lawn maintenance and landscaping as well as the adjacent traffic would inhibit this species from establishing within the APE. The nearest recorded observation of this species within the vicinity was approximately 15 miles north/ northwest of the APE in 1994 at an irrigated pasture.
California tiger salamander – central California DPS (*Ambystoma californiense*)	FT, CT	Requires vernal pools or seasonal ponds for breeding and small mammal burrows for aestivation. Generally found in grassland and oak savannah plant communities in central California from sea level to 1,500 feet in elevation. Can migrate up to 1.3 miles to breed.	**Absent.** The APE does not provide suitable upland or aquatic habitat to support this species as vernal pools and small mammal burrows were absent from the APE. The consistent lawn maintenance and landscaping would inhibit this species from establishing within the APE.
Crotch's bumble bee (*Bombus crotchii*)	CCE	Occurs throughout coastal California, as well as east to the Sierra Nevada-Cascade crest, and south into Mexico. Food plant genera include snapdragons, scorpionweeds, primroses, poppies, and buckwheats. Nests are often	**Unlikely.** While this species could travel through the site, nectar sources were scarce. The routine lawn maintenance and landscaping would inhibit this species from establishing within the APE. The nearest recorded observation of this species within the vicinity was on

Species	Status*	Habitat	Occurrence within the Site
		located underground in abandoned rodent nests, or above ground in tufts of grass, old bird nests, rock piles, or cavities in dead trees. This species overwinters under leaf litter or soft soil.	iNaturalist approximately 14.5 miles southeast of the APE in 2023 along active cropland.
Green sturgeon – southern DPS (*Acipenser medirostris*)	FT	Spawning occurs primarily in cool (51- 59 °F) sections of mainstem rivers in deep pools (26- 30 feet) with substrate containing small to medium sized sand, gravel, cobble, or boulders, such as the Sacramento, Feather, and Yuba Rivers. Presence in upper Stanislaus and San Joaquin Rivers may indicate spawning. Non-spawning adults occupy marine/estuarine waters. The Delta Estuary is important for rearing juveniles.	**Absent.** The APE does not provide suitable aquatic habitat to support this species.
Hardhead (*Mylopharodon conocephalus*)	CSSC	Occurs in low- to mid-elevation streams in the Sacramento-San Joaquin drainage. Clear, deep pools with sand-gravel-boulder bottoms and slow-moving water are required. This species is often sympatric with Sacramento pikeminnow and Sacramento sucker. Hardhead are typically absent from streams occupied by sunfishes and from heavily altered habitats.	**Absent.** The APE does not provide suitable aquatic habitat to support this species.
Least Bell's vireo (*Vireo bellii pusillus*)	FE, CE	This migratory species breeds in southern California. Breeding habitat consists of dense, low, shrubby, riparian vegetation in the vicinity of water or dry river bottoms. By the early 1980s, this species was extirpated from most of its historic range in California, including the Central Valley.	**Absent.** The APE does not provide suitable riparian habitat to support this species and CNDDB lists this species as "possibly extirpated" from the region. The APE is located outside of the current known range of this species.
Monarch butterfly (*Danaus plexippus*)	FPT	Roosts in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby. Larval host plants consist of milkweeds. Winter roost sites extend along the Pacific Coast from northern Mendocino to Baja California, Mexico.	**Unlikely.** While this species could travel through the site, roosting habitat was absent and the site is outside the overwintering range for this species. The routine lawn maintenance and landscaping would inhibit the growth of milkweed and other nectar sources for this species. The nearest recorded observation of this species within the vicinity was on iNaturalist approximately 1.4 miles west/northwest of the APE in 2023 in a residential area.
Northern California legless lizard (*Anniella pulchra*)	CSSC	Found primarily underground, burrowing in loose, moist, and sandy soil. Forages in loose soil and leaf litter during the day. Occasionally observed on the surface at dusk and night.	**Absent.** The APE does not provide suitable soil or leaf litter for this species to burrow or forage. The consistent lawn maintenance and landscaping as well as the surrounding development would inhibit this species from establishing within the APE.

Species	Status*	Habitat	Occurrence within the Site
Northwestern pond turtle (*Actinemys marmorata*)	FPT, CSSC	An aquatic turtle of ponds, marshes, slow-moving rivers, streams, and irrigation ditches with riparian vegetation. Requires adequate basking sites and sandy banks or grassy open fields to deposit eggs.	**Absent.** The APE does not provide suitable aquatic habitat to support this species. The frequent mowing and landscaping within and adjacent to the APE as well as the surrounding development would deter this species from occupying the area.
Steelhead – Central Valley DPS (*Oncorhynchus mykiss irideus* pop.11)	FT	This winter-run fish begins migration to fresh water during peak flows during December through February. The spawning season is typically from February to April. After hatching, this species will move to deeper, mid-channel habitats in late summer and fall. In general, both juveniles and adults prefer complex habitat with boulders, submerged clay, undercut banks, and large woody debris.	**Absent.** The APE does not provide suitable aquatic habitat to support this species.
Swainson's hawk (*Buteo swainsoni*)	CT	Nests in large trees in open areas adjacent to grasslands, grain or alfalfa fields, or livestock pastures suitable for supporting rodent populations.	**Possible.** The ornamental redwoods within the southern portion of the APE can support a Swainson's hawk nest while Summerfaire Park and nearby fields can provide foraging habitat. The nearest recorded observation of this species within the vicinity was approximately 2 miles northwest of the APE in 2007 within cropland.
Townsend's big-eared bat (*Corynorhinus townsendii*)	CSSC	Occurs in a variety of habitats, but prefers cool, dark roost sites, and is often found in caves and mines. They roost in the open, hanging from walls and ceilings. Western populations typically forage on moths in areas of dense foliage.	**Unlikely.** While Summerfaire Park can provide foraging opportunity for this species, the disturbance from the frequent lawn maintenance, routine landscaping, and traffic would inhibit this sound-sensitive species from establishing within and adjacent to the APE. The nearest recorded observation of this species within the vicinity was approximately 8.5 miles north/northwest of the APE in 2012 at the Santa Fe Avenue bridge over Tuolumne River.
Tricolored blackbird (*Agelaius tricolor*)	CT, CSSC	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 foraging in dairy farm feed fields.	**Unlikely.** The lawn of the APE offers very minimal and disturbed foraging opportunity unlikely to sustain large colonies of this species. No riparian habitat was present within the APE for this species to use for nesting. The nearest recorded observation of this species within the vicinity was approximately 3.5 miles south/southeast of the APE in 1933 within marshland that has since been converted to cropland.
Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*)	FT	Lives in mature elderberry shrubs in the Central Valley and adjacent foothills from Tehama County south through Merced and Mariposa Counties with two scattered populations in Madera and Fresno	**Absent.** Elderberry shrubs required by this species were absent from the APE.

Species	Status*	Habitat	Occurrence within the Site
		Counties. Adults are active from March to June.	
Vernal pool fairy shrimp (*Branchinecta lynchi*)	FT	Occupies vernal and seasonal pools, with clear to tea-colored water, in grass or mud-bottomed swales, and basalt depression pools.	**Absent.** The APE does not provide suitable vernal pool habitat to support this species.
Vernal pool tadpole shrimp (*Lepidurus packardi*)	FE	Occurs in vernal pools, clear to tea-colored water, in grass or mud-bottomed swales, and basalt depression pools.	**Absent.** The APE does not provide suitable vernal pool habitat to support this species.
Western spadefoot (*Spea hammondii*)	FPT, CSSC	The majority of the time this species is terrestrial and occurs in small mammal burrows and soil cracks, sometimes in the bottom of dried pools. Prefers open areas with sandy or gravelly soils, in a variety of habitats including mixed woodlands, grasslands, coastal sage scrub, chaparral, sandy washes, lowlands, river floodplains, alluvial fans, playas, alkali flats, foothills, and mountains. Vernal or seasonal pools, that hold water for a minimum of three weeks, are necessary for breeding.	**Absent.** The APE does not provide suitable upland or aquatic habitat to support this species. Small mammal burrows for this species to use as refuge were absent from the APE. The consistent lawn maintenance and landscaping as well as the adjacent traffic and development would inhibit this species from establishing within the APE.

***EXPLANATION OF OCCURRENCE DESIGNATIONS AND STATUS CODES**

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

STATUS CODES

FE	Federally Endangered	CE	California Endangered
FT	Federally Threatened	CCE	California Endangered (Candidate)
FPT	Federally Threatened (Proposed)	CT	California Threatened
FPT	Federally Threatened (Proposed)	CSSC	California Species of Special Concern

CNPS LISTING

1A	Plants presumed extinct in California.
1B	Plants rare, threatened, or endangered in California and elsewhere.

4.4.2 IMPACT ANALYSIS

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

Less than Significant Impact with Mitigation Incorporated. Of the 12 regionally occurring special status plant species, all are considered absent from or unlikely to occur within the APE due to past or ongoing disturbance and/or the absence of suitable habitat. Since it is unlikely that these species would occur onsite, implementation of the Project should have no impact on these 12 special status species through construction mortality, disturbance, or loss of habitat. Mitigation measures are not warranted.

Of the 17 regionally occurring special status animal species, 16 are considered absent from or unlikely to occur within the APE due to past or ongoing disturbance and/or the absence of suitable habitat. These species include: burrowing owl, California tiger salamander, green sturgeon, hardhead, least Bell's vireo, monarch butterfly, northern California legless lizard, northwestern pond turtle, steelhead, Townsend's big-eared bat, tricolored blackbird, valley elderberry longhorn beetle, vernal pool fairy shrimp, vernal pool tadpole shrimp, and western spadefoot. Since it is unlikely that these species would occur onsite, implementation of the Project should have no impact on these 15 special status species through construction mortality, disturbance, or loss of habitat. Mitigation measures are not warranted.

Project-related mortality and/or nest abandonment of Migratory Birds, Raptors, and Special Status Birds

The site and adjacent areas contain suitable nesting and foraging habitat for a variety of protected bird species, such as migratory birds, raptors, and special status birds including Swainson's hawk. It is anticipated that during the nesting bird season, protected birds could nest on the ground or in shrubs and trees within and adjacent to the site, as well as forage within the site. Protected birds located within or adjacent to the site during construction have the potential to be injured or killed by Project-related activities. In addition to the direct "take" of protected birds within the site and adjacent areas, these birds nesting in these areas could be disturbed by Project-related activities resulting in nest abandonment. Projects that adversely affect the nesting success of protected birds or result in the mortality of these birds would be a violation of State and federal laws and considered a potentially significant impact under CEQA and NEPA.

While foraging habitat for protected birds, such as Swainson's hawk, is marginally present on the site, suitable foraging habitat is located adjacent to the site and within the vicinity of the site. Loss of the foraging habitat from implementation of the Project is not considered a significant impact.

Implementation of mitigation measures BIO-2a through BIO 2c as outlined below in Section 4.4.4 will reduce potential impacts to protected nesting birds to a less than significant level under CEQA and NEPA and will help the Project comply with State and federal laws protecting these bird species.

Therefore, impacts would be less than significant with mitigation incorporated.

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. Riparian habitat is absent from the APE. There are no CNDDB-designated "natural communities of special concern" recorded within the APE. Mitigation is not warranted. Therefore, there would be no impact.

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

No Impact. Typical wetlands, vernal pools, and other waters were absent from the APE. There are no designated wild and scenic rivers within the APE; therefore, the Project would not result in direct impacts to wild and scenic rivers. Mitigation measures are not warranted. Therefore, there would be no impact.

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?

No Impact. Wildlife movement corridors are routes that animals regularly and predictably follow during seasonal migration, dispersal from native ranges, daily travel within home ranges, and inter-population movements. Movement corridors in California are typically associated with valleys, ridgelines, and rivers and creeks supporting riparian vegetation. While the ruderal habitat of the APE consists of an open area which species could move through, it does not contain the typical features of a wildlife movement corridor.

Native wildlife nursery sites are areas where a species or group of similar species raise their young in a concentrated place, such as maternity bat roosts. The numerous trees within the APE could serve as nesting sites for migratory birds. However, groups of nests were absent from the trees during the survey and nesting activity was not observed. Therefore, there would be no impact.

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

No Impact. The Project appears to be consistent with the goals and policies of the Stanislaus County General Plan. There are no known Habit Conservation Plans or Natural Community Conservation Plans in the Project vicinity. Mitigation measures are not warranted. Therefore, there would be no impact.

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

No Impact. The Project is not located within the boundaries of an adopted Habitat Conservation Plan; Natural Communities Conservation Plan; or other approved local, regional, or state habitat conservation plan. There would be no impact and mitigation measures are not warranted. Therefore, there would be no impact.

4.4.3 FEDERAL CROSS-CUTTING TOPIC

4.4.3.1 FEDERAL ENDANGERED SPECIES ACT

Regulations in the federal Endangered Species Act of 1973 and subsequent amendments govern the conservation of endangered and threatened species and the ecosystems on which they depend. USFWS and the National Marine Fisheries Service (NMFS) oversee the act. USFWS has jurisdiction over plants, wildlife, and resident fish, and NMFS has jurisdiction over anadromous fish, marine fish, and marine mammals. Section 7 requires federal agencies to consult with USFWS and NMFS if they determine that a proposed project may affect a listed species or destroy or adversely modify designated critical habitat. Under Section 7, the federal lead agency must obtain incidental take authorization or a letter of concurrence, stating that the project is not likely to adversely affect federally listed species. Section 7 requirements do not apply to nonfederal actions. Because the USEPA is the source of State Revolving Fund monies that may be distributed to Stanislaus County, its distribution is a federal action covered by Section 7. Appendix B presents a Biological Evaluation intended to provide the basis for compliance with Section 7 of the ESA.

Section 9 prohibits take of any fish or wildlife species listed as endangered, including the destruction of habitat that prevents the species' recovery. "Take" is defined as any action or attempt to hunt, harm, harass, pursue, shoot, wound, capture, kill, trap, or collect a species. Section 9 prohibitions also apply to threatened species unless a special rule governing take was defined at the time the species became listed.

The “take” prohibition in Section 9 applies only to fish and wildlife species. However, Section 9 also prohibits the unlawful removal and possession, or malicious damage or destruction, of any endangered plant from federal land. Section 9 prohibits acts to remove, cut, dig up, damage, or destroy an endangered plant species in non-federal areas in knowing violation of any State law or in the course of criminal trespass. Candidate species and species that are proposed for or under petition for listing receive no protection under Section 9.

See discussion under checklist item a.

4.4.3.2 FISH AND WILDLIFE CONSERVATION ACT

The Fish and Wildlife Conservation Act (Act), approved September 29, 1980, declares that fish and wildlife are of ecological, educational, esthetic, cultural, recreational, economic, and scientific value to the Nation. The Act acknowledges that historically, fish and wildlife conservation programs have focused on more recreationally and commercially important species within any particular ecosystem, without provisions for the conservation and management of nongame fish and wildlife. The purposes of this Act are to encourage all federal departments and agencies to utilize their statutory and administrative authority, to the maximum extent practicable and consistent with each agency's statutory responsibilities and to conserve and to promote conservation of non-game fish and wildlife and their habitats. The Act authorizes financial and technical assistance to the States for the development, revision, and implementation of conservation plans and programs for nongame fish and wildlife. The Act defines "nongame fish and wildlife" as wild vertebrate animals in an unconfined state, that are not ordinarily taken for sport, fur, or food; not listed as endangered or threatened species; and not marine mammals within the meaning of the Marine Mammal Protection Act. The original Act authorized $5 million for each of Fiscal Years 1982 through 1985, for grants for development and implementation of comprehensive State nongame fish and wildlife plans and for administration of the Act.

See discussions under checklist items a, b, and d above.

4.4.3.3 MIGRATORY BIRD TREATY ACT

The Migratory Bird Treaty Act (MBTA) (Title 16, Section 703 and following sections of the United States Code [16 USC 703 et seq.]), first enacted in 1918, provides protection of international migratory birds and authorizes the Secretary of the Interior to regulate the taking of migratory birds. The MBTA states that it is unlawful, except as permitted by regulations, to pursue, take, or kill any migratory bird, or any part, nest, or egg of any such bird. The current list of species protected by the MBTA is found under Title 50, Section 10.13 of the CFR (50 CFR 10.13). The list includes nearly all birds native to the United States.

In December 2017, the United States Department of the Interior's Office of the Solicitor issued a revised legal interpretation (Opinion M-37050) of the MBTA's prohibition on the take of migratory bird species. Opinion M-37050 concludes that "consistent with the text, history, and purpose of the MBTA, the statute's prohibitions on pursuing, hunting, taking, capturing, killing, or attempting to do the same apply only to affirmative actions that have as their purpose the taking or killing of migratory birds, their nests, or their eggs" (DOI 2017). According to Opinion M-37050, take of a migratory bird, its nest, or eggs that is incidental to another lawful activity does not violate the MBTA, and the MBTA's criminal provisions do not apply to those activities. Opinion M-37050 may affect how the MBTA is interpreted but does not legally change the regulation itself.

The United States Court of Appeals for the Ninth Circuit, the controlling federal appellate court for California, also has held that habitat modification that harms migratory birds "does not 'take' them within the meaning of the MBTA (Seattle Audubon Soc. v. Evans, 952 F.2d 297, 303, 1981).”

See discussion under checklist item a.

4.4.3.4 BALD AND GOLDEN EAGLE PROTECTION ACT

The Bald and Golden Eagle Protection Act affords additional legal protection to bald eagles and golden eagles. This law prohibits the take, sale, purchase, barter, offer of sale, purchase, or barter, transport, export or import, at any time or in any manner of any bald or golden eagle, alive or dead, or any part, nest, or egg thereof (16 United States Code [USC] 668---668d). The Bald and Golden Eagle Protection Act also defines take to include "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest, or disturb," and includes criminal and civil penalties for violating the statute. The USFWS further defines the term "disturb" as agitating or bothering an eagle to a degree that causes or is likely to cause injury, or either a decrease in productivity or nest abandonment by substantially interfering with normal breeding, feeding, or sheltering behavior.

See discussion under checklist item a).

4.4.3.5 MAGNUSON-STEVENS FISHERY CONSERVATION AND MANAGEMENT ACT

The Magnuson-Stevens Fishery Conservation and Management Act, as amended (16 USC 180 I), requires that Essential Fish Habitat (EFH) be identified and described in federal fishery management plans. Federal agencies must consult with NMFS on any activity that they fund, permit, or carry out that may adversely affect EFH. The EFH regulations require that federal agencies obligated to consult on EFH also provide NMFS with a written assessment of the effects of any action on EFH (50 CFR 600.920). NMFS is required to provide EFH conservation and enhancement recommendations to federal agencies. The statute also requires federal agencies receiving NMFS EFH conservation recommendations to provide a detailed written response to NMFS within 30 days of receipt, detailing how they intend to avoid, mitigate, or offset the impact of activity on EFH (Section 305[b][4][B]).

EFH is defined as those waters and substrates necessary to fish for spawning, breeding, feeding, or growth to maturity. For the purposes of interpreting the definition of EFH, "waters" includes aquatic areas and their associated physical, chemical, and biological properties that are used by fish, and may include areas historically used by fish where appropriate; "substrate" includes sediment, hard bottom, structures underlying the waters, and associated biological communities; "necessary" means habitat required to support a sustainable fishery and a healthy ecosystem; and "spawning, breeding, feeding, or growth to maturity" covers all habitat types used by a species throughout its life cycle. No EFH is located in the Project site.

4.4.3.6 CLEAN WATER ACT

4.4.3.6.1 SECTION 404

Section 404 of the Clean Water Act (CWA) requires project proponents to obtain a permit from the United States Army Corps of Engineers before performing any activity involving a discharge of dredged or fill material into waters of the United States Waters of the United States include:

- *Navigable waters of the United States,*
- *Interstate waters,*
- *All other waters where the use or degradation or destruction of the waters could affect interstate or foreign commerce,*
- *Tributaries to any of these waters, and*
- *Wetlands that meet any of these criteria or that are adjacent to any of these waters or their tributaries.*

Many surface waters and wetlands in California meet the criteria for waters of the United States.

4.4.3.6.2 SECTION 402

The CWA Section 402 regulates construction-related stormwater discharges to surface waters through the National Pollutant Discharge Elimination System program, which is administered by USEPA. In California, the State Water Resources Control Board is authorized by USEPA to oversee the program through the Regional Water Quality Control Boards (RWQCBs) which, in this case, is the Central Valley (Region 5) RWQCB.

4.4.3.6.3 SECTION 401

Under CWA Section 401(a)(1), the applicant for a federal license or permit to conduct an activity that may result in a discharge into waters of the United States must provide the federal licensing or permitting agency with a certification that any such discharge will not violate state water quality standards. The RWQCBs administer the Section 401 program to prescribe measures for projects that are necessary to avoid, minimize, and mitigate adverse effects on water quality and ecosystems.

No State or federally protected wetlands or waters are on the proposed Project site.

4.4.4 MITIGATION

BIO-1 (**Best Management Practices [*BMPs*]):** The Project proponent will require that all workers employ the following BMPs to avoid and minimize potential impacts to special status species:

- Vehicles will observe a 15-mph speed limit while on unpaved access routes.
- All open trenches, holes, sumps, and other excavations greater than 6-inches with sidewalls steeper than a 1:1 (45 degree) slope will have an escape ramp of earth or a non-slip material with a less than 1:1 slope or these will be covered with barrier material such that animals are unable to dig or squeeze under the barrier and become entrapped.
- Workers will inspect areas beneath parked vehicles, equipment, and materials prior to mobilization. If special status species are detected, the individual will be allowed to leave of its own volition. "Take" of a State or federal special status (rare, California Species of Special Concern, threatened, or endangered) species is prohibited without the necessary federal or State take permit(s).

BIO-2a (***Avoidance*):** The Project's construction activities will occur, if feasible, between September 16 and January 31 (outside of the nesting bird season) to avoid impacts to nesting birds

BIO-2b (***Pre-construction Surveys*):** If activities must occur within nesting bird season (February 1 to September 15), a qualified biologist will conduct a pre-construction survey for Swainson's hawk nests onsite and within a 0.5-mile radius within ten calendar days prior to the start of construction. This survey will be conducted in accordance with the *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley,*[13] or current guidance. The survey would also include inspecting nesting migratory birds within up to 100 feet outside of the APE and for other nesting raptors up to 500 feet outside of the APE. All raptor nests would be considered "active" upon the nest-building stage. If no active nests are observed, no further mitigation is required. If construction is delayed or halted for more than ten (10) days, another pre-construction survey for nesting birds will be conducted.

[13] (Swainson's Hawk Technical Advisory Committee, 2000)

BIO-2c (*Avoidance Buffers*): On discovery of any active nests or breeding colonies near work areas, a qualified biologist will determine appropriate avoidance buffer distances based on applicable CDFW and/or USFWS guidelines, the biology of the species, conditions of the nest(s), and the level of Project disturbance.

4.5 CULTURAL RESOURCES

Table 4-13: Cultural Resources Impacts

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

4.5.1 BASELINE CONDITIONS

The Project site or APE is located in Stanislaus County, in the San Joaquin Basin of the Central Valley of California. In 1868, prominent grain farmer John William Mitchell established a claim of 160 acres within Stanislaus County. Mitchell founded Turlock on December 22, 1871, and it was later incorporated in 1908. The settlement comprised a post office, a depot, a grain warehouse, and a few other buildings. (See Appendix C).

4.5.1.1 PEDESTRIAN SURVEY

An intensive pedestrian survey was conducted on September 25, 2025, by Kleinfelder. The survey was completed using 10-meter transects, covering 100 percent of the 1-acre APE. No new or previously recorded cultural resources were identified during the survey of the Project's APE. Based on the results of this study, Kleinfelder recommends a finding of no historic properties affected by this undertaking and a finding of no significant impact to historical resources for the purposes of CEQA. (See Appendix C).

4.5.1.2 RECORDS SEARCH

On September 10, 2025, a records search of the APE and a 0.5-mile buffer around the APE was conducted at the Central California Information Center (CCIC) at California State University, Stanislaus (Records Search File No.: 13481N). The purpose of the record search is to identify if any prehistoric and/or historical period cultural resources and studies had been previously documented in the APE to better understand the archaeological sensitivity of the area. The CCIC records search results identified no previously cultural resource intersecting the APE and 11 previous cultural resource studies within the 0.5-mile radius (Table 1 of Appendix B in Appendix C). There were no cultural resources were found to have been previously documented within the APE, and two previously recorded cultural resources were found to have been identified within the 0.5-mile radius of the APE (Appendix C).

4.5.1.3 NATIVE AMERICAN OUTREACH

The Native American Heritage Commission (NAHC) was contact by Kleinfelder, and a Sacred Lands File (SLF) search was requested to identify whether sacred lands or tribal cultural resources are located within the study area and to obtain a list of tribes affiliated with the region who may be able to provide additional information regarding any areas of tribal concern. The results of the SLF search was negative for the Site (Appendix C). The NAHC response also included a list of Native American tribes who may have knowledge of cultural resources in the Project area. Kleinfelder has sent general tribal outreach letters to all the tribes

identified by the NAHC. To date no responses have been received. The NAHC Native American contacts list is provided in Appendix C.

4.5.2 IMPACT ANALYSIS

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

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

a-b) Less than Significant Impact. a-b) As demonstrated in Appendix C, the records search performed by CCIC did not identify any historical or archaeological resources at the Project site. Although it is unlikely that such resources would be discovered during construction or operation of the Proposed Project, **CUL-1** is to be considered. Therefore, impacts would be less than significant.

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

Less than Significant with Mitigation Incorporated. There is no evidence or record that indicates the Project site has the potential to be an unknown burial site or the site of buried human remains. In the unlikely event human remains are discovered in the Project area, mitigation shall be implemented. Mitigation measure **CUL-2** outlined below would be implemented and any impacts resulting from the discovery of remains would be reduced to less than significant.

4.5.3 FEDERAL CROSS-CUTTING TOPIC

4.5.3.1 NATIONAL HISTORIC PRESERVATION ACT

The National Historic Preservation Act of 1966, as amended, created the National Register of Historic Places and extended protection to historic places of State, local, and national significance. It established the Advisory Council on Historic Preservation, State Historic Preservation Officer (SHPO), Tribal Preservation Officers, and a preservation grants-in-aid program. Section 106 directs federal agencies to take into account effects of their actions ("undertakings") on properties in or eligible for the National Register. Section 106 of the act is implemented by regulations of the Advisory Council on Historic Preservation (36 Code of Federal Regulations [CFR] Part 800).

The United States Department of the Interior criteria and procedures for evaluating a property's eligibility for inclusion in the National Register are at 36 CFR Part 60. The 36 CFR Part 800 regulations, implementing Section 106, call for consultation with the SHPO, Native American tribes, and interested members of the public throughout the Section 106 compliance process. The four principal steps are to:

- *Initiate the Section 106 process (36 CFR Part 800.3),*
- *Identify historic properties, cultural resources that are eligible for inclusion in the National Register of Historic Places (36 CFR Part 800.4),*
- *Assess the effects of the undertaking to historic properties within the area of potential effect (36 CFR Part 800.5), and*
- *Resolve adverse effects (36 CFR Part 800.6).*

Adverse effects on historic properties often are resolved through preparation of a Memorandum of Agreement (MOA), developed in consultation with Reclamation, the SHPO, Native American tribes, the Advisory Council on Historic Preservation, and interested members of the public. The MOA stipulates procedures that treat historic properties to mitigate adverse effects (36 CFR Part 800.14[b]).

No historic properties have been identified within the area of potential effects. Therefore, the proposed Project would not have an adverse effect on historic properties.

4.5.4 MITIGATION

CUL-1 (Archaeological Remains) Should archeological remains or artifacts be unearthed during any stage of project activities, work in the area of the discovery shall cease until the area is evaluated by a qualified archaeologist. If mitigation is warranted, the project proponent shall abide by recommendations of the archaeologist.

CUL-2 (Human Remains) Pursuant to California Health and Safety Code §7050.5, if known or suspected Native American or other human remains are encountered, all ground-disturbing work must cease in the vicinity of the discovery, and the County Coroner contacted. The respectful treatment and disposition of remains and associated grave offerings shall be in accordance with PRC §5097.98. The applicant and successors interest are ultimately responsible for ensuring compliance with this condition.

4.6 ENERGY

Table 4-14: Energy Impacts

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

4.6.1 BASELINE CONDITIONS

The Project site is located in the City of Turlock. The Project site is served by Pacific Gas and Electric Company (PG&E) for its natural gas needs and is serviced by Turlock Irrigation District or its electricity needs.

4.6.2 IMPACT ANALYSIS

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

Less than Significant Impact. 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 factors were assumed using default data from the CalEEMod 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 would generate (CalEEMod default values), (2) default average trip distance by land use in CalEEMod, 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 73,113.89 gallons of diesel fuel and 7,037.07 gallons of gasoline fuel (see Appendix A). 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. All equipment will meet current energy-efficiency requirements. In addition, the energy consumption for construction activities would not be ongoing as they would be limited to the duration of Project construction.

Long-term operational emissions associated with the Project would include the use of the GAC treatment and future arsenic treatment systems. Operation of the proposed well treatment facilities would require some energy to be expended, likely in the form of electricity. However, the amount of energy required to power the facility is expected to be negligible. Maintenance would continue to be provided on an as-needed basis by existing City staff and would not result in an increase in vehicle trips or vehicle miles

traveled. Furthermore, there is no population growth associated with the Project. Therefore, impacts would be less than significant.

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

No Impact. State and local authorities regulate energy use and consumption. These regulations at the State level are intended to reduce energy use and GHG (greenhouse gas) emissions. These include, among others, AB 1493 – Light-Duty Vehicle Standards; California Code of Regulations Title 24, Part 6 – Energy Efficiency Standards; and California Code of Regulations Title 24, Parts 6 and 11 – California Energy Code and Green Building Standards. The proposed Project would not conflict with or obstruct a State or local plan for renewable energy or energy efficiency. Therefore, there would be no impact.

4.7 GEOLOGY AND SOILS

Table 4-15: Geology and Soils Impacts

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☒	☐
ii. Strong seismic ground shaking?	☐	☐	☒	☐
iii. Seismic-related ground failure, including liquefaction?	☐	☐	☐	☒
iv. Landslides?	☐	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994) creating substantial direct or indirect risks to life or property?	☐	☐	☐	☒
e) Have soils incapable of adequately supporting the use of septic tanks or alternative 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?	☐	☐	☐	☒

4.7.1 BASELINE CONDITIONS

The proposed Project is located in Stanislaus County, in California's Great Valley Geomorphic Province. The Sacramento Valley makes up the northern third, and the San Joaquin Valley makes up the southern two-thirds of the Great Valley Geomorphic Province. Both valleys receive water by large rivers flowing west from the Sierra Nevada Mountain Range, with smaller tributaries flowing east from the Coastal Mountain Ranges.

4.7.1.1 GEOLOGY AND SOILS

Most of the surface of the Great Valley Geomorphic Province is covered by Quaternary (present day to 1.6 million years ago) alluvium.[14] From the time the Great Valley Geomorphic Province first began to form, sediments derived from erosion of igneous and metamorphic rocks and consolidated marine sediments in the surrounding mountains were transported into the area by streams. According to the Soil Survey Geographic Database, the soil at the Project site consists of Hilmar loamy sand, 0 to 1 percent slope.[15]

4.7.1.2 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. The San Joaquin Fault is the closest fault, approximately 17 miles west of the Project site.[16] The nearest major fault is the Calaveras fault zone, located approximately 50 miles west of the Project site.[17]

4.7.1.3 LIQUEFACTION

The potential for liquefaction, which is the loss of soil strength due to seismic forces, is dependent on soil types and density, depth to groundwater, and the duration and intensity of ground shaking. Although no specific liquefaction hazard areas have been identified in the City,[18] this potential is recognized throughout the San Joaquin Valley, where unconsolidated sediments and a high-water table coincide.[19]

4.7.1.4 SOIL SUBSIDENCE

Subsidence occurs when a large land area settles due to over-saturation or extensive withdrawal of groundwater, oil, or natural gas. These areas are typically composed of open-textured soils that become saturated. The soil located at the Project site is moderately well-drained with a low to moderate risk of subsidence.[20]

4.7.1.5 DAM AND LEVEE FAILURE

According to the California Department of Water Resources Dam Breach Inundation Map, the Project is not in an area that would be susceptible to flooding as a result of dam or levee failure.[21]

4.7.2 IMPACT ANALYSIS

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

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

ii. Strong seismic ground shaking?

[14] (City of Turlock, 2012)
[15] (Esri, 2024)
[16] (California Department of Conservation, 2015)
[17] (California Department of Conservation, 2015)
[18] (City of Turlock, 2012)
[19] (California Department of Conservation, 2024)
[20] (United States Department of Agriculture, 2019)
[21] (Department of Water Resources Division of Safety of Dams, 2015)

a-i and a-ii) Less Than Significant Impact. The Project site and its surroundings are located in an area traditionally characterized by relatively low seismic activity. As discussed above, 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 San Joaquin Fault is the closest fault, approximately 17 miles southwest of the Project site. The nearest major fault is the Calaveras fault zone, approximately 50 miles west of the Project site. Neither fault is anticipated to cause damage to the proposed well infrastructure if there were a fault occurrence.

The proposed Project involves the construction of a water treatment system and does not include the development of habitable structures. The operation of the Project would not require permanent staff on-site or an increase in the number of employees required for routine maintenance. Instead, routine maintenance and repairs would be performed infrequently, on an as-needed basis, by current City employees.

Therefore, implementation of the proposed Project would not cause potential substantial direct or indirect effects, including the risk of loss, injury, or death involving a rupture of a known earthquake fault or involving strong seismic ground shaking. Any impact would be less than significant.

iii. Seismic-related ground failure, including liquefaction?

a-iii) No Impact. Liquefaction is a process that involves the temporary transformation of soil from a solid state to a fluid form during intense and prolonged ground shaking. Water saturated areas with shallow depth to groundwater and uniform sands, loose-to-medium in density, are prone to liquefaction. The land in the area has not been classified as susceptible to liquefaction.[22] Implementation of the proposed Project would not cause potential substantial direct or indirect effects, including the risk of loss, injury, or death due to liquefaction. Therefore, there would be no impact.

iv. Landslides?

a-iv) No Impact. As the proposed Project is located on the San Joaquin Valley floor, no major geologic landforms exist on or near the site that could result in a landslide event. Implementation of the proposed Project would not cause potential substantial direct or indirect effects from landslides, including the risk of loss, injury, or death. Therefore, there would be no impact.

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

Less Than Significant Impact. Earthmoving activities associated with the proposed Project would include excavation, trenching, grading, and infrastructure construction that would disturb approximately 1 acre of soil. These activities have the potential to expose soils to erosion processes. The extent of the erosion depends on the steepness of the slope, vegetation/groundcover, soil compactness, runoff concentration, and weather. The proposed Project would be located within a dual use basin and would require 6,000 cubic yards of fill to level off the Project site. Construction of the Project is anticipated to be completed within two years, which includes 12 months for the grading and construction of the water treatment system and 12 months for the future arsenic treatment. Construction would utilize BMPs detailed in the California Storm Water Best Management Practice Handbook for Construction Activity.[23] While the Project would require fill to be imported, there would be a low potential for soil erosion or the loss of topsoil. A Storm Water Pollution Prevention Plan (SWPPP) is needed for projects that disturb one acre or more. The proposed Project is under one acre, so no SWPPP would be required. If an acre or more of

[22] (California Department of Conservation, 2024)
[23] (California Stormwater Quality Association, 2002)

ground disturbance is needed, then a SWPPP would be obtained. Therefore, impacts would be less than significant.

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

No Impact. As mentioned above, 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 a result, lateral spreading, liquefaction, subsidence, and collapse are also not likely to occur. Therefore, there would be no impact.

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

Less Than Significant Impact. According to the Turlock General Plan, Hilmar sandy loam, the soil present at the Project site, has high sand content, low clay content, and low to moderate silt content.[24] This soil type has low shrink-swell potential and a low plasticity index. These soil types are not classified as expansive in Chapter 18 of the California Building Code, the most recently adopted building code that replaced the Uniform Building Code in California.[25] 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. The proposed Project does not include the construction or use of septic systems or any other alternative wastewater systems. Therefore, there would be no impact.

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

No Impact. No known paleontological resources have been identified at the Project site, which currently serves as an existing well site in an urban area with extensive ground disturbance. No unique geologic features have been identified at or within the vicinity of the Project site. The proposed Project would have no impact to unique paleontological resources or unique geologic features.

[24] (City of Turlock, 2012)
[25] (Building Standards Commission , 2024)

4.8 GREENHOUSE GAS EMISSIONS

Table 4-16: Greenhouse Gas Emissions Impacts

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

4.8.1 BASELINE CONDITIONS

Commonly identified GHG emissions and sources include the following:

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

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

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

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

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

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

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

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

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

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

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

Emissions of GHGs contributing to global climate change are largely attributable to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors. About three-quarters of human emissions of CO_2 to the global atmosphere during the past 20 years are due to fossil fuel burning. Atmospheric concentrations of CO_2, CH_4, and N_2O have increased by at least 40 percent, 150 percent, and 20 percent respectively since the year 1750. GHG emissions are typically expressed in carbon dioxide-equivalents (CO_2e), based on the GHG's Global Warming Potential (GWP). The GWP is dependent on the lifetime, or persistence, of the gas molecule in the atmosphere. For example, one ton of CH_4 has the same contribution to the greenhouse effect as approximately 25 tons of CO_2. Therefore, CH_4 is a much more potent GHG than CO_2. In accordance with SJVAPCD's *CEQA Greenhouse Gas Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects,*[26] 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.

4.8.2 IMPACT ANALYSIS

Project Related Emissions

Short-term construction emissions associated with the Project were calculated using CalEEMod, Version 2022.1.1.30. The emissions modeling includes emissions generated by off-road equipment, haul trucks, and worker commute trips. Emissions were quantified based on an anticipated construction schedule of approximately 12 months for the GAC treatment and another 12 months for the future arsenic treatment. Remaining assumptions were based on the default parameters contained in the model. Modeling assumptions and output files are included in Appendix A. Estimated construction-generated emissions are summarized in Table 4-17. GHGs impact the environment over time as they increase and contribute to climate change.

[26] (San Joaquin Air Pollution Control District, 2009)

Table 4-17: Short Term Construction Related GHG Emissions

	Emissions (MT CO2e) in Tons per Year
Maximum Annual Construction CO2e Emissions	155
AB 32 Consistency Threshold for Land-Use Development Projects*	1,100
AB 32 Consistency Threshold for Stationary Source Projects*	10,000
Threshold Exceeded?	No

Construction related generation of GHGs would be a maximum of 155 Metric Tons of Carbon Dioxide Equivalent (MT CO2e) per year. While there are some operational emissions associated with the Project these are expected to be negligible due to the nature of the Project. The Project would not exceed the AB 32 consistency threshold for land use projects for both short term construction emissions and long-term operational emissions as a result.

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. The Project would not generate GHG emissions, either directly or indirectly, that would have a significant impact on the environment. As shown in Table 4-17 , the proposed Project is not expected to result in the generation of GHG emissions that would exceed the AB 32 consistency threshold of 1,100 MT CO_2e annually during construction. Operational activities would be negligible. Therefore, impacts would be less than significant.

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

No Impact. The Project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. The Project would be in compliance with all SJVAPCD policies and regulations and would not exceed an applicable threshold for GHG emissions. Therefore, there would be no impact.

4.9 HAZARDS AND HAZARDOUS MATERIALS

Table 4-18: Hazards and Hazardous Materials Impacts

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

4.9.1 BASELINE CONDITIONS

4.9.1.1 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 Section 65962.5 requires the California Environmental Protection Agency to develop an updated Cortese List on at least an annual basis. The Department of Toxic Substances Control (DTSC) is responsible for a portion of the information contained in the Cortese List. Other State and local government agencies are required to provide additional hazardous material release information for the Cortese List. DTSC's EnviroStor database provides DTSC's component of Cortese List data (DTSC, 2010). In addition to the EnviroStor database, the State Water Resources Control

Board (SWRCB) GeoTracker database provides information on regulated hazardous waste facilities in California, including underground storage tank (UST) cases and non-UST cleanup programs, including the Spills, Leaks, Investigations, &Cleanups program; Department of Defense sites; and Land Disposal program.

A search of the DTSC EnviroStor database[27] and the SWRCB GeoTracker[28] performed on August 21, 2025, identified two sites of potential environmental concern in the vicinity of the Project site.

4.9.1.1.1 TURLOCK REHAB CENTER (ENVIROSTOR ID: T10000004808):

This site is located approximately 0.26 miles east of the Project site. According to the DTSC, the media of potential concern is soil, with lead identified as the potential contaminant. Historical investigations have indicated the presence of environmental concerns associated with a former military target range operated between 1942 and 1945. Although the site has since been repurposed for agricultural use, a golf driving range, and, currently, youth athletic fields and associated parking, there is no documented evidence that contaminated soil was ever remediated or removed.

The Central Valley Regional Water Quality Control Board has recommended that the United States Army Corps of Engineers reopen the case to conduct further soil sampling and characterization to assess potential residual contamination. However, based on the site's distance from the Project site and the absence of any known pathways connecting the subject site to the local groundwater aquifer or the Project site, it is unlikely that this site would pose a direct environmental risk to the proposed Project.

4.9.1.1.2 DURITE CLEANERS (GEOTRACKER GLOBAL ID: 50720004):

A site identified as having potential pollutant concerns is located approximately 0.93 miles east of the Project site. It was referred to the Regional Water Quality Control Board on August 7, 1991. The database entry does not specify any identified contaminants of concern or affected environmental media. The site has remained inactive for over three decades, and no documented evidence of contamination has been reported to date. Given the absence of known hazardous substances, the prolonged period of inactivity, and the site's distance from the Project site, it is not expected to present an environmental concern or pose any risk to the Project site.

4.9.1.2 AIRPORTS

Modesto City-County Airport is located approximately 11.4 miles northwest of the Project and Turlock Municipal Airport is approximately 10 miles east-southeast of the site.

4.9.1.3 EMERGENCY RESPONSE PLAN

Turlock adopted the Stanislaus County Multi-Jurisdictional Hazard Mitigation Plan, updated in 2022.[29] The plan identifies measures to reduce natural and manmade hazard impacts and to facilitate recovery following hazardous events.

4.9.1.4 SENSITIVE RECEPTORS

Potential sensitive receptors in the form of residential neighborhoods exist to the west of the Project site. This neighborhood does not directly abut the Project site.

[27] (Department of Toxic Substances Control, 2025)
[28] (State Water Resouces Control Board, 2025)
[29] (Stanislaus County, 2022)

4.9.2 IMPACT ANALYSIS

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

Less than Significant Impact. The treatment system proposed as a part of the Project would involve GAC filtration and future arsenic treatment facilities. The GAC filtration system is a widely used and effective treatment technology for removing various volatile organic compounds (VOCs), including TCP, from water.

Storage, handling, and distribution of the necessary chemicals would be monitored and comply with all regulations set forth by all applicable local, State, and federal departments and agencies. The routine transport, use, or disposal of hazardous materials would not create a significant hazard to the public or environment; 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. Construction of the proposed Project may involve the use of hazardous materials associated with construction equipment, such as diesel fuel, lubricants, and solvents. Any potential accidental hazardous materials spills during construction are the responsibility of the contractor to remediate in accordance with industry BMP's and State and local regulations. With responsible storage, handling, and distribution of the treatment chemicals, Project operation would result in a less than significant impact to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

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 proposed Project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one quarter of an existing or proposed school. No school, public or private, exists within one quarter mile of the Project site, nor is one currently proposed within one quarter mile of the site. Therefore, there would 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 proposed Project would not be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. As discussed above there are two sites that were identified on GeoTracker and EnviroStor databases that are approximately 0.26 and 0.93 miles away from the Project site. These two sites are not located within the immediate vicinity of the Project site and would not create a significant hazard to the public or the environment following construction and operation of the proposed Project. Therefore, 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 proposed Project is not located within an airport land use plan or within two miles of an airport. Modesto City-County Airport is located approximately 11.4 miles northwest of the Project site and Turlock Municipal Airport is approximately 10 miles east-southeast of the site. Operation at the Project site would not generate excessive noise and any construction noise would be temporary. There would be no impact.

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

Less than Significant Impact. The proposed Project involves constructing and operating a water treatment system on an approximately 1-acre site, currently developed as a detention basin and the existing Well 36 site. Construction traffic associated with the Project would be minimal and temporary, lasting approximately 12 months for the GAC treatment and another 12 months for the future arsenic treatment. Operational traffic would consist of as-needed maintenance trips and would have no effect on roadways or emergency access. Partial road closures and detours are not anticipated during construction, but, if necessary, would be temporary and minimal in nature, as alternate routes would be made available. The community streets adjacent to the Project are not part of any emergency response plan or evacuation plan for the area. Therefore, Project-related impacts to emergency evacuation routes or emergency response routes on local roadways would be considered less than significant.

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

No Impact. The proposed Project is located in the City of Turlock, substantially surrounded by urban uses. The nearest State Responsibility Area is located approximately 16 miles west of the Project site. The nearest fire hazard severity zone is located approximately 10 miles south of the site (see Section 4.20). The proposed Project does not include any residential components, nor would it require any employees to be stationed permanently at the site on a daily basis. Therefore, there would be no impact.

4.10 HYDROLOGY AND WATER QUALITY

Table 4-19: Hydrology and Water Quality Impacts

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

4.10.1 BASELINE CONDITIONS

The proposed Project would be located within the San Joaquin Valley of California. The San Joaquin 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 San Joaquin Valley receives an average of 12 inches of precipitation in the form of rainfall yearly, most of which occurs between October and March. Turlock Sub-basin groundwater is the primary source of drinking water for the City. The Turlock Sub-basin, a subunit of the San Joaquin Valley Groundwater Basin, is not considered critically over drafted. Recently, as a member

of the Stanislaus Regional Water Authority (SRWA), the City entered into a water sales agreement with Turlock Irrigation District to purchase surface water every year. The City's SRWA Regional Surface Water Supply Plant began operations in December 2023.[30] A surface water supply reduces the demand on the aquifer and contributes to goals for sustainability.

According to the USEPA, the proposed Project is located within the Pear Slough-San Joaquin River watershed; Hydrologic Unit Code: 180400020205.[31]

4.10.2 IMPACT ANALYSIS

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

Less than Significant Impact. The proposed Project would not violate any water quality standards or waste discharge requirements, nor would it substantially degrade surface or groundwater quality. The proposed Project includes the installation of GAC treatment to remove TCP, ensuring treated water from Well 36 and associated storage tanks meets all applicable water quality standards. The system consists of six 12-inch GAC vessels, with provisions for a future arsenic treatment system. Both treatment systems would be maintained through regular inspections by City staff.

Any runoff or backwash water generated would be directed to a basin drop inlet and an existing storm drain pipeline located in the southern portion of the Project site would be rerouted.

The proposed Project would comply with construction BMP's and if an acre or more of ground disturbance is needed, then a SWPPP would be obtained as part of construction and operational permits. In order to minimize polluted run-off during construction activities, the contractor would comply with all California Division of Occupational Safety and Health 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 to water quality standards, waste discharge requirements, and surface and groundwater would be less than significant.

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

Less than Significant Impact. The proposed Project would bring Well 36 into reliable compliance with State drinking water standards but would not increase the overall production of water across the City's active well system. Treating Well 36 would not impact the amount of water being pumped from the underlying aquifer.

The only impervious surfaces being introduced as part of the proposed Project would include the drive approach/access road and various equipment pads. Approximately 16,300 square feet of impervious surface, composed of concrete and asphalt concrete, would be installed. This would include the access road and drive approaches, GAC vessel pad, Insulated Concrete Form vessel pad, washwater equalization (EQ) pad, and a chemical enclosure. The increase in impervious surface area would be expected to have minimal impact on groundwater recharge as the site is located within the City where stormwater is managed through an existing storm drain system. Additionally, backwash water generated by the treatment system would discharge into a basin drop inlet. As part of the Project, an existing storm drain

[30] (West Turlock Subbasin Groundwater Sustainability Agency, 2025)
[31] (United States Environmental Protection Agency, 2025)

pipeline located in the southern portion of the site would be intercepted and rerouted to accommodate this flow.

The Project site is in the West Turlock Subbasin Groundwater Sustainability Agency. Together with the East Turlock Subbasin Groundwater Sustainability Agency, the Turlock Subbasin Groundwater Sustainability Plan was adopted at a public hearing on January 6, 2022. Implementation of the proposed Project would not interfere substantially with groundwater recharge such that the Project would impede sustainable groundwater management of the Turlock Sub-basin, nor would it substantially decrease ground water supplies. Therefore, impacts would be less than significant.

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

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

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?

Less than Significant Impact. There are no streams or rivers onsite or in the immediate vicinity. The proposed Project includes the import of approximately 6,000 CY of fill to level the area, which would result in minor changes to existing drainage patterns. However, this would not cause significant alteration of the Project site's overall topography. The site would be graded to prevent storm runoff from pooling around the equipment. Additionally, the soil at the site is moderately well drained, which supports proper drainage.

Construction of the Project is anticipated to be completed within 12 months for the GAC treatment and another 12 months for the future arsenic treatment, which would include grading and construction of the water treatment system. Construction would likely begin in summer/fall of 2026 and end by the summer/fall of 2028. Construction would utilize BMP's detailed in the California Storm Water Best Management Practice Handbook for Construction Activity.[32]

The proposed Project would not significantly alter the existing drainage pattern on the site or in the surrounding rea, as no streams or rivers would be affected and only a limited amount of impervious surface, approximately 16,300 square feet, would be added for features such as access roads, equipment pads, and a chemical enclosure. While this may result in minor changes to drainage, the site is within the City and connected to an existing storm drain system, which is designed to manage stormwater effectively. As such, the Project would not cause substantial erosion, siltation, or flooding; exceed stormwater system capacity; or introduce significant sources of polluted runoff. As a result, the impacts on the existing drainage pattern of the Project site would be less than significant.

[32] (California Stormwater Quality Association, 2025)

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

No Impact. The Project site is not located in a 100-year flood zone, an area subject to inundation dues to tsunamis, a seiche zone, or in an area at risk of inundation (see Figure 4-6). Therefore, there would be no impact.

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

No Impact. The proposed Project is intended to provide clean drinking water to the residents of Turlock. The proposed water treatment Project would not affect any watershed within the Turlock Sub-basin. The proposed Project would also not cause any increase in overall water production for the City. The proposed Project would not conflict with or obstruct implementation of any water quality control plan or sustainable groundwater management plan. Therefore, there would be no impact.

4.10.3 FEDERAL CROSS-CUTTING TOPIC

4.10.3.1 FLOOD PLAIN MANAGEMENT- EXECUTIVE ORDER NUMBERS 11988, 12148, AND 13690

The Federal Emergency Management Agency (FEMA) designates flood hazard and frequency for cities and counties on its Flood Insurance Rate Maps. The proposed Project site is not within a designated 100-year floodplain, on a floodplain map, or otherwise designated by FEMA.

4.10.3.2 RIVERS AND HARBORS ACT

The Rivers and Harbors Act of 1899 prohibits construction of any bridge, dam, dike, or causeway over or in navigable waterways of the United States without Congressional approval. Under Section 10 of the Act, the building of any wharfs, piers, jetties, and other structures is prohibited without Congressional approval, and excavation or fill within navigable waters requires the approval of the Chief of Engineers. The United States Army Corps of Engineers (USACE) is authorized to issue permits for the discharge of refuse matter into or affecting navigable waters under Section 13 of the act.

The proposed Project would not be constructed in a location that would affect a navigable waterway, requiring permit or approval by USACE.

4.10.3.3 SAFE DRINKING WATER ACT, SOLE SOURCE AQUIFER PROTECTION

The Safe Drinking Water Act (SDWA) required USEPA to establish criteria through which an aquifer may be declared a critical aquifer protection area. Since 1977, it has been used by communities to help prevent contamination of groundwater from federally funded projects. These aquifers are defined as "sole source aquifers." USEPA's Sole Source Aquifer (SSA) Program was established under Section 1424(e) of the SDWA. These are, essentially, aquifers that are the only drinking water supply for the population of a region.

The SSA designation protects an area's groundwater resources by requiring USEPA to review all proposed projects within the designated area that will receive federal financial assistance. The SSA Program states that if USEPA determines an area to have an aquifer which is the sole or principal drinking water source for the area, that if contaminated would create a significant hazard to public health, a notice of that determination needs to be published in the Federal Register. After publication of any such notice, no

commitment for federal financial aid may be applied for any project that the Administrator determines may contaminate the aquifer through a recharge zone, so as to create a significant hazard to public health.[33]

The Project is not located in a Sole Source Aquifer.

[33] (United States Environmental Protection Agency, 2025)

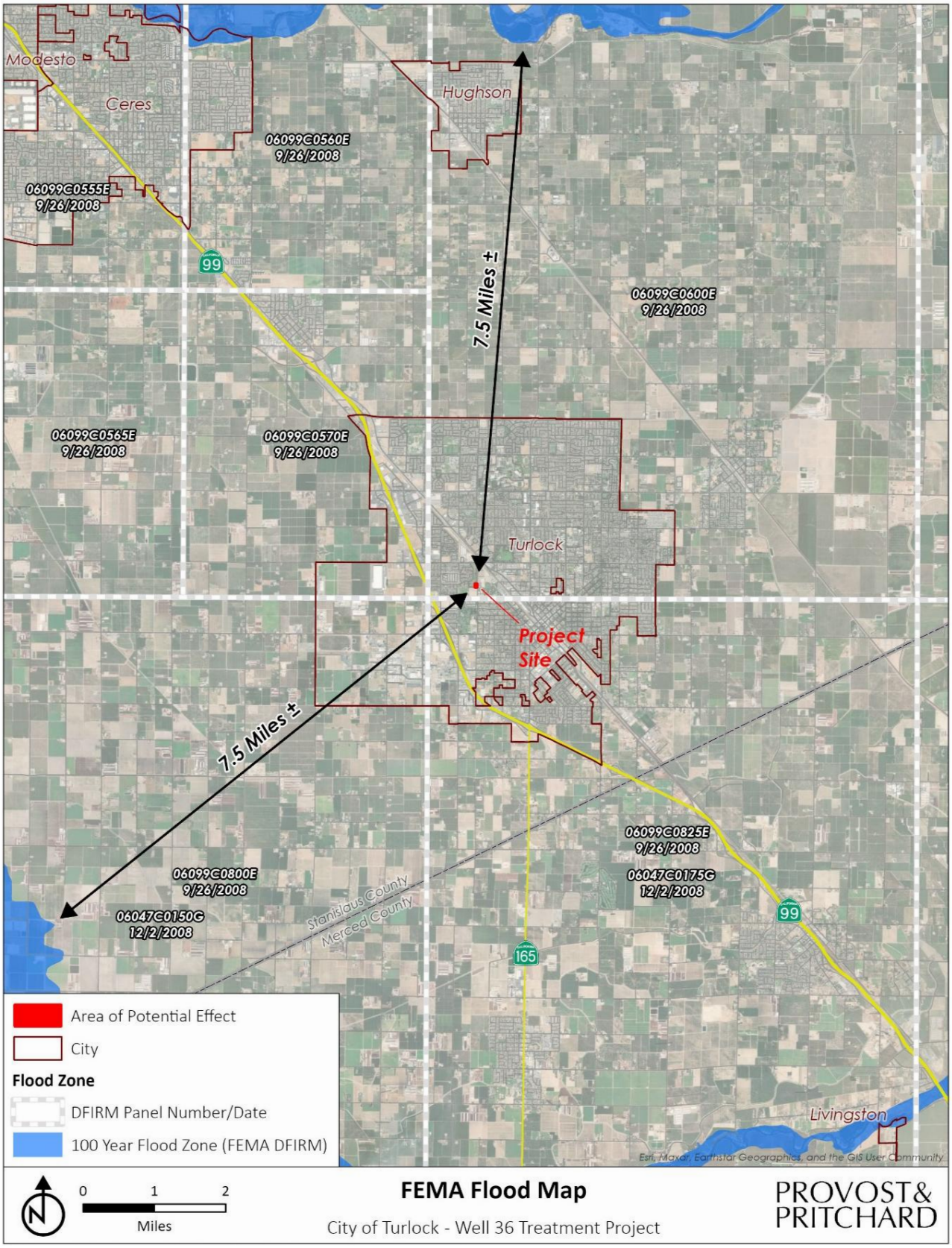


Figure 4-6: FEMA Flood Map

4.11 LAND USE AND PLANNING

Table 4-20: Land Use and Planning Impacts

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

4.11.1 BASELINE CONDITIONS

The proposed Project is located at an existing well site in the City of Turlock at the southeast corner of Summerfaire Park. The well site is bordered by public uses, such as parkland and a dual-use stormwater basin to the north and west, the Stanislaus County Fairgrounds to the east, and the Turlock Sports Park to the south. The existing zoning of the Project site is Low-Density Residential, which extends to the neighborhood to the west.[34] The General Plan designates the existing Project site as Park. The land to the east and south of the Project site is designated as Public, while the land to the north is designated as Heavy Commercial and the land to the west is designated as Low Density Residential by the General Plan. Land to the south and east are zoned as Public/semi-Public, while land the north is zoned Heavy Commercial. [35]

4.11.2 IMPACT ANALYSIS

a) Would the project physically divide an established community?

No Impact. The Project site would be located on a previously-developed site that is zoned as Low-Density Residential by the City's Official Zoning Map and designated as Park Land by the General Plan. The proposed Project would be constructed on a site that is previously developed and would not result in the physical division of any established community. Partial road closures and detours during construction may be necessary, but alternate routes would be provided if required. 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 proposed Project takes place on a site that contains an existing well but would expand the footprint of that site to include the water treatment facilities proposed in the water treatment Project. The expanded footprint would partially convert a dual use park/basin to serve the Project. The City's Park distribution ratio, as established by the General Plan, is 3.5 acres of park land per 1,000 residents. Under the General Plan, dual-use storm drainage basins are not counted towards parks acreage.[36] The land conversion would not change the zoning of the Project site. Implementation of the

[34] (City of Turlock, 2014)
[35] (City of Turlock, 2012)
[36] (City of Turlock, 2012)

Project would not conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating environmental effects. There would be no impact.

4.11.3 FEDERAL CROSS-CUTTING TOPIC

4.11.3.1 COASTAL ZONE MANAGEMENT ACT

The Coastal Zone Management Act was enacted in 1972. This act, administered by the National Oceanic and Atmospheric Administration, provides management of the nation' s coastal resources. The California coastal zone generally extends 1,000 yards inland from the mean high tide line. The Project site is more than 100 miles from the coastline. Therefore, the proposed Project would not conflict with the Coastal Zone Management Act.

4.12 MINERAL RESOURCES

Table 4-21: Mineral Resources Impacts

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

4.12.1 BASELINE CONDITIONS

According to the Turlock General Plan, the City overlays two geologic units: the Modesto Formation and the Riverbank Formation.[37] The formations are made of alluvial fan deposits: sand, gravel, silt, and clay. Turlock does not include any known historic or current mining operations aside from minor excavations for fill material. This is not considered a significant resource. While the Modesto and Riverbank Formations may be able to supply sand and gravel for construction purposes, most sand and gravel used for this purpose in Turlock are sourced from operations along the Merced and Tuolumne Rivers.[38]

The California Geologic Energy Management Division (CalGEM) maintains a database of oil wells. According to the CalGEM Well Finder, there is a plugged well approximately 0.8 miles northeast of the Project site.[39] The Project site is not delineated on a local land use plan as a locally important mineral resources recovery site.

4.12.2 IMPACT ANALYSIS

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

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?

a) and b) No Impact. The Turlock General Plan indicates that the City does not have any historic mining operations with the exception of minor excavations.[40] In addition, CalGEM has no record of active or inactive oil or gas wells or petroleum resources on the Project site or in the immediate vicinity. Therefore, implementation of the proposed Project would not result in the loss of availability of a known mineral resource since no known mineral resources that would be of value to the region and residents of the State have been identified in this area. Furthermore, the Project site has not been designated as a locally

[37] (City of Turlock, 2012)
[38] (City of Turlock, 2012)
[39] (California Department of Conservation, 2020)
[40] (City of Turlock, 2012)

important mineral resource recovery site by a general plan, specific plan, or land use plan. Therefore, there would be no impact

4.13 NOISE

Table 4-22: Noise Impacts

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

4.13.1 BASELINE CONDITIONS

There are a variety of noise generators in Turlock, including traffic, railroad operations, and agricultural production. Traffic and railroad noise are the most dominant sources of ambient noise near the Project site. State Route 99 runs through the western area of Turlock, about 3,300 feet west of Project site, and is the leading source of traffic noise in the area due to high volume. The Project site is approximately 1,380 feet from the Union Pacific railroad, another regular source of noise in the area. According to Turlock's General Plan, 18 freight trains pass through the City daily.[41] Passenger trains presently do not operate on Union Pacific tracks in Turlock. The construction period for the proposed water treatment system would be approximately 12 months for the GAC treatment and another 12 months for the future arsenic treatment. Truck trips would be limited to daily construction and as-needed maintenance when construction is over.

4.13.2 IMPACT ANALYSIS

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

Less than Significant Impact. The Project site is located within Summerfaire Park, which can have irregular numbers of users during any given time, typically influenced by the season. According to Figure 9-2: Existing Noise Contours in the Turlock General Plan, portions of both the existing well and Summerfaire Park are within zones that regularly experience noise levels ranging from 60–65 decibels (dB). Both properties are located on N. Soderquist Road, which the City has designated as a collector with one lane

[41] (City of Turlock, 2012)

of vehicle traffic in each direction. The Turlock General Plan specifies that playgrounds, parks, and recreation land uses should not exceed a maximum of 65 dB in their outdoor activity areas.

The construction phase of the proposed Project would involve temporary noise sources, originating predominantly from off-road equipment such as excavators, graders, dump trucks, loaders, and concrete pump trucks. According to the Federal Highway Administration Construction Noise Handbook, excavators have an Lmax (maximum noise level recorded during a measurement period) noise limit of 85 A-weighted decibels (dBA) at 50 feet, graders have a limit of 85 dBA, dump trucks have an Lmax noise limit of 84 dBA at 50 feet, loaders have an Lmax noise limit of 80 dBA at 50 feet, and concrete pump trucks have a limit of 82 dBA.[42] The dBA noise measurement adjusts measurements to reflect human hearing sensitivity whereas dB noise measurements, as used in the Turlock General Plan, measure sound intensity without considering how humans perceive different frequencies.

The proposed Project is located in an area with inherent noise, mainly from existing vehicle traffic. Project implementation would contribute minimally to the existing conditions during Project operation as well as construction, which would be completed within 12 months for the GAC treatment and another 12 months for the future arsenic treatment. Implementation would not generate significant new noise and would follow the City's noise standards. The proposed Project would comply with the Turlock General Plan guidelines regarding construction.

The proposed Project would produce noise over the normally allowed standards. However, due to the distance from the nearest sensitive receptors and the construction being temporary, the impacts would be less than significant.

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

Less than Significant Impact. The construction phase of the Project would have excavation and grading as part of development of the well treatment and associated infrastructure. Construction on the Project site would include the use of excavators, bulldozers, skid steers, dump trucks, loaders, a concrete pump truck, graders, and a water truck. The proposed Project would not require drilling into concrete. The Federal Transportation Administration does not consider excavators, bulldozers, dump trucks, loaders, concrete pump trucks, and/or graders as impact equipment, or devices that create high levels of noise and vibration.[43] Total construction would last approximately 12 months for the GAC treatment and another 12 months for the future arsenic treatment. The proposed Project would not generate excessive ground borne vibration or ground borne noise. Therefore, impacts would be less than significant.

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

No Impact. The proposed Project is not located within an airport land use plan or within two miles of an airport. Modesto City-County Airport is located approximately 11.4 miles northwest of the Project site and Turlock Municipal Airport is approximately 10 miles east-southeast of the site. Furthermore, the proposed Project does not involve the development of habitable structures or require the presence of permanent staff onsite. Therefore, there would be no impact.

[42] (Federal Highway Administration, 2017)
[43] (Federal Highway Administration, 2017)

4.14 POPULATION AND HOUSING

Table 4-23: 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?	☐	☐	☐	☒

4.14.1 BASELINE CONDITIONS

Turlock's 2012 General Plan projects population buildout for the City through 2030 based on a growth rate of 1.9 percent.[44] According to the United States Census Bureau's website, the City's population in 2023 was estimated at 72,400.[45] Additionally, the City had an estimated 25,105 housing units in 2023.[46]

4.14.2 IMPACT ANALYSIS

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)?

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

A and b) No impact. The proposed Project involves the construction of a water treatment system for an existing well. The goal of the proposed Project is not to induce population growth, but rather to bring drinking water quality into compliance with State regulations for TCP and arsenic. The proposed Project would not encourage population growth directly or indirectly. No housing or habitable structures would be built, nor would any be removed. Implementation of the proposed Project would not result in the displacement of people or existing housing. The proposed Project would also not induce substantial unplanned growth as a result of the construction of new infrastructure. Therefore, there would be no impact.

4.14.3 FEDERAL CROSS-CUTTING TOPIC

4.14.3.1 ENVIRONMENTAL JUSTICE EXECUTIVE ORDER 12898

Executive Order (EO) 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, was issued in 1994. The EO directs federal agencies to identify and address the disproportionately high and adverse human health or environmental effects of their actions on minority

[44] (City of Turlock, 2012)
[45] (United States Census Bureau, 2023)
[46] (United States Census Bureau, 2023)

and low-income populations, to the greatest extent practicable and permitted by law. On January 21, 2025, EO 14173 was issued and rescinded EO 12898.[47]

[47] (The White House, 2025)

4.15 PUBLIC SERVICES

Table 4-24: Public Services

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

4.15.1 BASELINE CONDITIONS

4.15.1.1 Fire Protection:

The nearest existing Fire Department is Station No. 34, generally located 0.8 miles north of the Project site. Other fire stations within Turlock City limits include Station No. 31, 32, and 33.

4.15.1.2 Police Protection:

Turlock Police Department is the law enforcement service provider for the Project site and operates from the Public Safety Facility at 244 N. Broadway Avenue, approximately 0.8 southeast of the Project site.

4.15.1.3 Schools:

The nearest school is Roselawn High School, about 0.6 miles to the east of the Project site. There are a total of eight elementary schools, two middle junior high schools, and four high schools within the Turlock Unified School District.[48]

4.15.1.4 Parks:

The Project site is located within Summerfaire Park. It is bordered to the south by Turlock Sports Park, while the Stanislaus County Fairgrounds lie directly to the east, across the eastern portion of N. Soderquist Road. Additionally, the Turlock Regional Sports Complex is situated approximately two miles north of the Project site.

4.15.1.5 Landfills:

Fink Road Sanitary Landfill, located in Crows Landing approximately 16.5 miles to the southwest of the Project site, serves the City of Turlock. There are additional waste stations, such as the Bertolotti transfer station and the Stanislaus County household hazardous waste collection facility, within the greater Modesto metropolitan area.

[48] (Turlock Unified School District, n.d.)

4.15.2 IMPACT ANALYSIS

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

i. Fire Protection:

ii. Police Protection:

iii. Schools:

iv. Parks:

v. Other public facilities:

i-v) No Impact. The Project would not result in physical changes that would require new or physically altered governmental facilities or create a need for new or physically altered governmental facilities. The Project would have no impact on service ratios, response times, or other performance objectives for the public services identified. Therefore, there would be no impact.

4.16 RECREATION

Table 4-25: Recreation Impacts

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

4.16.1 BASELINE CONDITIONS

The City of Turlock has a total of 249 acres of built parks.[49] The Project site is slightly less than one acre and is located on approximately 16.8 acres of park, which includes a play structure, basketball court, water basin, well, and water inlet. The Turlock Sports Park abuts the south end of the Project site and the Stanislaus County Fairgrounds is located east the site, immediately across N. Soderquist Road. The Pedretti Park sports complex is also located approximately 1.2 miles northwest of the site.

4.16.2 IMPACT ANALYSIS

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

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

A and b) Less than Significant Impact. The proposed Project includes the construction and operation of a new water treatment system at an existing well site. Although the Project would convert a small portion of existing Summerfaire Park facilities into water treatment systems, this would likely not result in an increase in the usage of other parks in the area. The proposed Project would not increase the demand for recreational facilities or put a strain on the existing recreational facilities. Existing employees will operate and maintain the system. Project implementation would not result in population growth. Therefore, there would be a less than significant impact.

[49] (City of Turlock, 2012)

4.17 TRANSPORTATION

Table 4-26: Transportation Impacts

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

4.17.1 BASELINE CONDITIONS

The Project site is located at the existing Well 36 site, along N. Soderquist Road. The City of Turlock has designated N. Soderquist Road as a collector street with one lane of traffic in each direction. State Route 99 is the nearest highway, about 3,300 feet west of the Project site. The Project site is located within Summerfaire Park and adjacent to public/semi-public land uses.

4.17.2 IMPACT ANALYSIS

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

No Impact. Construction traffic associated with the proposed Project would be minimal and temporary, lasting approximately 12 months for the GAC treatment and another 12 months for the future arsenic treatment. Construction and material staging would take place within the Project site, on approximately 1 acre of the site. Operational traffic would be minimal, consisting of routine maintenance and inspections that are already completed regularly for Well 36. Project implementation would not conflict with a plan, ordinance, or policy regarding circulation. Therefore, there would be no impact.

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

Less than Significant Impact. Section 15064.3 Subdivision (b) of the CEQA guidelines specify for Land Use Projects, "Vehicle miles traveled exceeding an applicable threshold of significance may indicate a significant impact. Generally, projects within one-half mile of either an existing major traffic stop or a stop along an existing high-quality transit corridor should be presumed to cause a less than significant transportation impact. Projects that decrease vehicle miles traveled in the project area compared to existing conditions should be presumed to have a less than significant transportation impact."

Guidelines also specify, "Quantitative Analysis. If existing models or methods are not available to estimate the vehicles miles traveled for the particular project being considered, a lead agency may analyze the

project vehicle miles traveled qualitatively. Such a qualitative analysis would evaluate factors such as the availability of transit, proximity to other destinations, etc. For many projects, a qualitative analysis of construction traffic may be appropriate."

No models or methods are available for use of this Project. Instead, the proposed Project is evaluated qualitatively.

While the construction of the proposed Project would increase vehicle trips to the site during construction, this would be temporary and cease upon completion of construction. During operations, no new vehicle trips are anticipated due to regular maintenance activities for Well 36 covering the needed maintenance for the proposed facilities. As a result, the proposed Project would be determined to be consistent with Section 15064.3 Subdivision (b) to not have a significant impact on transportation impacts. Impacts 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)?

Less than Significant Impact. The Project proposes construction of two commercial drive approaches and an access road of approximately 40 feet (designed as a half-circle shape), with both drive approaches providing access to N. Soderquist Road. This design would not increase hazards due to a geometric design feature or incompatible uses. N. Soderquist Road is not a high traffic road and, if required, a road encroachment permit would be obtained from the City Public Works Department. Therefore, there would be a less than significant impact.

d) Would the project result in inadequate emergency access?

Less than Significant Impact. As mentioned above, the Project proposes the construction of two commercial drive approaches and an access road. This addition and the water treatment infrastructure would not significantly impede emergency access. During construction, the mobile equipment coming to and from the site would not block emergency access as N. Soderquist Road is not a busy road. Therefore, impacts would be less than significant.

4.18 TRIBAL CULTURAL RESOURCES

Table 4-27: 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 I of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision I of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☒	☐	☐

4.18.1 BASELINE CONDITIONS

The Project site or APE falls within a territory ethnographically attributed to the Northern Valley Yokuts, who comprised approximately 60 tribelets, each with a few hundred to several thousand members, living throughout the San Joaquin Valley. The Northern Valley Yokuts occupied an area straddling the San Joaquin River, south of the Mokelumne River, east of the Diablo Range, and north of the sharp bend that the San Joaquin River takes to the northeast.

4.18.1.1 PUBLIC RESOURCES CODE SECTION 21080.3.1 ET SEQ. (CODIFICATION OF AB 52, 2013-14)

Public Resources Code Section 21080.3.1, et seq. (codification of AB 52, 2013-14) requires that a lead agency, within 14 days of determining that it would undertake a project, must notify in writing any California Native American Tribe traditionally and culturally affiliated with the geographic area of the project if that Tribe has previously requested notification about projects in that geographic area. The notice must briefly describe the project and inquire whether the Tribe wishes to initiate request formal consultation. Tribes have 30 days from receipt of notification to request formal consultation. The lead agency then has 30 days to initiate the consultation, which then continues until the parties come to an agreement regarding necessary mitigation or agree that no mitigation is needed, or one or both parties determine that negotiation occurred in good faith, but no agreement would be made. The City of Turlock has not received any AB 52 letters from any tribe requesting notification.

4.18.1.2 NATIVE AMERICAN OUTREACH

Kleinfelder contacted the NAHC and requested a SLF search identify whether sacred lands or tribal cultural resources are located within the study area. The results of the SLF search were negative for the Site (Appendix C). The NAHC response also included a list of Native American tribes who may have knowledge of cultural resources in the Project area. Kleinfelder sent letters to the list of tribal contacts identified below. No response letters from tribes were received. Copies of the letters and a summary of outreach efforts are included in Appendix C.

The following Native American tribal representatives were contacted:

- *Amah Mutsun Tribal Band, Valentin Lopez, Chairperson*
- *Amah Mutsun Tribal Band, Ed Ketchum, Vice-Chairperson*
- *Northern Valley Yokut / Ohlone Tribe, Timothy Perez, Tribal Compliance Officer*
- *Northern Valley Yokut / Ohlone Tribe, Katherine Perez, Chairperson*
- *Southern Sierra Miwuk Nation, Jazzmyn Gegere, Director of CRP*
- *Southern Sierra Miwuk Nation, Sandra Chapman, Chairperson*
- *Tule River Indian Tribe, Felix Christman, Tribal Historic Preservation Officer*
- *Tule River Indian Tribe, Kerri Vera, Environmental Department*
- *Wuksachi Indian Tribe/Eshom Valley Band, Kenneth Woodrow, Chairperson*

4.18.2 IMPACT ASESSMENT

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:

vi. 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

vii. 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 I of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision I of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

vi-vii. Less than Significant Impact with Mitigation Incorporated. The City, as the lead agency, has not received any tribal letters pursuant to Public Resources Code Section 21080.3.1, et seq. (AB 52) officially requesting notification of any projects. Additionally, a records search of the Project site indicated that there were no known tribal cultural resources on-site. In the unlikely event of a discovery, mitigation will be implemented. With incorporation of mitigation measures CUL-1 and CUL-2 described above in Section 4.5, impacts resulting from the discovery of remains interred on the Project site or the discovery of another tribal cultural resource would be less than significant.

4.18.3 MITIGATION

See CUL-1 and CUL-2 outlined in Section 4.5.4.

4.19 UTILITIES AND SERVICE SYSTEMS

Table 4-28: Utilities and Service Systems Impacts

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

4.19.1 BASELINE CONDITIONS

4.19.1.1 WATER SUPPLY

The City's groundwater is sourced from the Turlock Sub-basin, a subunit of the San Joaquin Valley Groundwater Basin. The Turlock Sub-basin is not considered critically over-drafted. As a member of the SRWA, the City entered into a water sales agreement with Turlock Irrigation District to purchase surface water every year.[50] The SRWA Regional Surface Water Supply Project began operations in 2023.

4.19.1.2 WASTEWATER COLLECTION AND TREATMENT

Wastewater is handled by the Turlock Regional Water Quality Control Facility (RWQCF) which provides tertiary treatment of wastewater from the City of Turlock. The RWQCF is located approximately two miles southwest of the Project site. Minimal amount of wastewater would be generated during Project construction.

4.19.1.3 LANDFILLS

Fink Road Sanitary Landfill in Crows Landing serves the City of Turlock. It is located approximately 16.5 miles southwest of the Project site.

[50] (West Turlock Subbasin Groundwater Sustainability Agency, 2025)

4.19.2 IMPACT ANALYSIS

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

Less than Significant Impact. The proposed Project would involve minor utility modifications, including the rerouting of an existing storm drain pipeline located in the southern portion of the Project site to accommodate Project improvements. In addition, site runoff and backwash water generated by the Project would be directed to an existing drop inlet within the abutting detention basin. These activities would not require the construction of new or expanded water or wastewater treatment facilities, nor would the Project interfere with the AT&T facilities in the area. The Project would not require the relocation or construction of new electric power, natural gas, or telecommunications infrastructure, as existing utility connections in the area are sufficient to serve the proposed Project. Therefore, impacts would be less than significant.

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

No Impact. The proposed Project involves the construction and operation of a treatment system for an existing municipal water well that already supplies water to the City of Turlock. The purpose of the Project is to improve water quality through GAC treatment and future arsenic removal, ensuring compliance with drinking water standards. The Project itself would not result in increased water demand, other than a minimal amount of water needed for system backwashing, which would outfall into the basin drop inlet. All other treated water would continue to be used to serve existing and future demand within Turlock. As the proposed Project utilizes an existing water source and does not add substantial new or expanded demand, sufficient water supplies are available to serve the Project during normal, dry, and multiple dry years. Therefore, there would be no impact.

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

Less than Significant Impact. The proposed Project would generate a minimal volume of backwash water and site runoff, which would discharge into the existing drop inlet within the detention basin abutting the site. These discharges are not expected to substantially increase the volume of wastewater conveyed to the City's wastewater treatment system. Given the limited volume of wastewater generation associated with the proposed Project, the City's wastewater treatment system is expected to have adequate capacity to accommodate the Project's demand in addition to existing service commitments. Therefore, the impact would be less than significant.

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?

Less than Significant Impact. There would be minimal waste associated with the operational phase of the Project. Any waste associated with construction would be the responsibility of the contractor to dispose of. The waste generation from construction of the proposed Project is not expected to be substantial, nor would it have a significant impact on existing waste facilities that would serve the Project. Therefore, impacts would be less than significant.

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

No Impact. The proposed Project would involve the construction of a new water treatment system. The operation of the proposed Project would produce little solid waste. As discussed above, any waste generated during the construction of the proposed improvements would be the responsibility of the contractor to dispose of. The proposed Project would comply with federal, State, and local regulations regarding solid waste. There would be no impact.

4.20 WILDFIRE

Table 4-29: Wildfire Impacts

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

4.20.1 BASELINE CONDITIONS

The Project site is located in the City of Turlock and is substantially surrounded by urban uses. According to the California Department of Forestry and Fire Protection, the City of Turlock is designated as a Local Responsibility Area and is not within a State Responsibility Area (SRA) or Very High Fire Hazard Severity Zone (VHFHSZ). The nearest SRA to the Project is located approximately 16.5 miles to the west, while the nearest VHFHSZ is about 18 miles west [51] [52] Construction of the proposed Project would take at an existing well site that has been previously developed. As a result, the site lacks naturally occurring vegetation.

4.20.2 IMPACT ANALYSIS

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

b) If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project due to slope, prevailing winds, and other factors, exacerbate wildfire risks and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

c) If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project require the installation or maintenance of associated infrastructure (such as roads,

[51] (California Department of Forestry and Fire Protection, State Responsability Area (SRA) Viewer, 2025)
[52] (California Department of Forestry and Fire Protection, Fire Hazard Severity Zones, 2025)

fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

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

a–d) No Impact. As noted above, the proposed Project is not located in, or near, an SRA or lands classified as a VHFHSV.[53] [54] The nearest SRA is approximately 16.5 miles to the west of the Project site, while the nearest VHFHSZ is about 18 miles west of the site. Therefore, there would be no impact.

[53] (California Department of Forestry and Fire Protection, State Responsability Area (SRA) Viewer, 2025)
[54] (California Department of Forestry and Fire Protection, Fire Hazard Severity Zones, 2025)

4.21 CEQA MANDATORY FINDINGS OF SIGNIFICANCE

Table 4-30: CEQA Mandatory Findings of Significance

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

4.21.1 STATEMENT OF FINDINGS

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

Less than Significant with Mitigation Incorporated. The analysis conducted in this IS/MND results in a determination that the proposed Project, with incorporation of mitigation measures, would have a less than significant effect on the environment. The potential for impacts to biological resources, cultural resources, and tribal cultural resources from the implementation of the proposed Project would be less than significant with the incorporation of the mitigation measures identified in this analysis. Accordingly, the proposed Project would 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 elimination of examples 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 involves the construction of a GAC treatment facility with future plans for an arsenic treatment system on an approximately 1-acre site, the effects of which would not result in significant cumulatively-considerable impacts. Implementation of the proposed Project would not result in significant cumulative impacts, and all potential impacts would be less than significant through the implementation of basic regulatory requirements and 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 analysis conducted in this IS/MND results in a determination that the proposed Project would have a less than significant effect on the environment. All potential impacts to human beings have been found to be unsubstantial and would be considered less than significant.

CHAPTER 5 MITIGATION, MONITORING, AND REPORTING PROGRAM

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

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

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

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

Mitigation, Monitoring, and Reporting Program						
Item	Mitigation Measure	When Monitoring is to Occur	Frequency of Monitoring	Agency Responsible for Monitoring	Method to Verify Compliance	Verification of Compliance
Biological Resources						
BIO-1	The Project proponent will require that all workers employ the following best management practices (BMPs) to avoid and minimize potential impacts to special status species: • Vehicles will observe a 15-mph speed limit while on unpaved access routes. • All open trenches, holes, sumps, and other excavations greater than 6-inches with sidewalls steeper than a 1:1 (45 degree) slope will have an escape ramp of earth or a non-slip material with a less than 1:1 slope or these will be covered with barrier material such that animals are unable to dig or squeeze under the barrier and become entrapped. • Workers will inspect areas beneath parked vehicles, equipment, and materials prior to mobilization. If special status species are detected, the individual will either be allowed to leave of its own volition. "Take" of a State or federal special status (rare, California Species of Special Concern, threatened, or endangered) species is prohibited without the necessary federal or State take permit(s).	During Construction Activities	Daily	City of Turlock		
BIO-2A	(Avoidance) The Project's construction activities will occur, if feasible, between September 16 and January 31 (outside of the nesting bird season) to avoid impacts to nesting birds.	September 16 to January 31	Once, during construction activities	City of Turlock		
BIO-2B	(Pre-construction Surveys) If activities must occur within nesting bird season (February 1 to September 15), a qualified biologist will conduct a pre-construction survey for Swainson's hawk nests onsite and within a 0.5-mile radius within ten calendar days prior to the start of construction. This survey will be conducted in accordance with	February 1 to September 15	Once, during construction activities	City of Turlock		

Mitigation, Monitoring, and Reporting Program						
Item	Mitigation Measure	When Monitoring is to Occur	Frequency of Monitoring	Agency Responsible for Monitoring	Method to Verify Compliance	Verification of Compliance
	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. The survey would also include inspecting nesting migratory birds within up to 100 feet outside of the APE and for other nesting raptors up to 500 feet outside of the APE. All raptor nests would be considered "active" upon the nest-building stage. If no active nests are observed, no further mitigation is required. If construction is delayed or halted for more than ten (10) days, another pre-construction survey for nesting birds will be conducted.					
BIO-2C	(Avoidance Buffers) On discovery of any active nests or breeding colonies near work areas, a qualified biologist will determine appropriate avoidance buffer distances based on applicable CDFW and/or USFWS guidelines, the biology of the species, conditions of the nest(s), and the level of Project disturbance.	Prior to construction Activities	Once, prior to ground disturbing activities and the start of construction	City of Turlock		
Cultural Resources						
CUL-1	(Archaeological Remains) In the event archaeological resources are encountered during any ground-disturbing activities associated with the Project, then all ground-disturbing work at the location, plus within a reasonable buffer zone, must be immediately suspended. The approving County department shall be contacted and a qualified professional archaeologist retained to analyze the significance of the find and formulate further mitigation (e.g., Project relocation, excavation plan, and protective cover) in consultation with culturally affiliated tribes or other descendant groups, where applicable.	During Construction Activities	Daily	City of Turlock		
CUL-2	(Human Remains) Pursuant to California Health and Safety Code §7050.5, if known or suspected Native American or other human remains are	During Construction Activities	Daily	City of Turlock		

Mitigation, Monitoring, and Reporting Program						
Item	Mitigation Measure	When Monitoring is to Occur	Frequency of Monitoring	Agency Responsible for Monitoring	Method to Verify Compliance	Verification of Compliance
	encountered, all ground-disturbing work must cease in the vicinity of the discovery, and the County Coroner contacted. The respectful treatment and disposition of remains and associated grave offerings shall be in accordance with PRC §5097.98. The applicant and successors interest are ultimately responsible for ensuring compliance with this condition.					
Tribal Cultural Resources						
See **CUL-1** and **CUL-2.**						

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APPENDICES

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City of Turlock Well 36 Detailed Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	City of Turlock Well 36
Construction Start Date	8/1/2026
Operational Year	2029
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.10
Precipitation (days)	29.0
Location	37.50248475132405, -120.86271512641824
County	Stanislaus
City	Turlock
Air District	San Joaquin Valley APCD
Air Basin	San Joaquin Valley
TAZ	2218
EDFZ	14
Electric Utility	Turlock Irrigation District
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.30

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description

Other Non-Asphalt Surfaces	43.6	1000sqft	1.00	1.00	0.00	0.00	—	Well treatment system for a City well.

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.25	1.06	16.2	10.1	0.08	0.42	2.98	3.36	0.39	0.79	1.16	—	11,187	11,187	0.27	1.64	24.3	11,707
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.59	0.49	4.81	6.91	0.01	0.19	< 0.005	0.19	0.17	< 0.005	0.17	—	1,305	1,305	0.05	0.01	< 0.005	1,309
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.40	0.34	3.25	4.93	0.01	0.12	0.08	0.13	0.11	0.03	0.11	—	932	932	0.04	0.03	0.15	935
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.07	0.06	0.59	0.90	< 0.005	0.02	0.01	0.02	0.02	0.01	0.02	—	154	154	0.01	< 0.005	0.02	155

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	1.25	1.06	16.2	10.1	0.08	0.42	2.98	3.36	0.39	0.79	1.16	—	11,187	11,187	0.27	1.64	24.3	11,707
2027	0.57	0.48	4.56	6.90	0.01	0.17	< 0.005	0.17	0.15	< 0.005	0.15	—	1,304	1,304	0.05	0.01	< 0.005	1,309
2028	0.66	0.63	4.30	6.91	0.01	0.15	0.13	0.29	0.14	0.03	0.17	—	1,305	1,305	0.05	0.01	0.43	1,309
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.59	0.49	4.81	6.91	0.01	0.19	< 0.005	0.19	0.17	< 0.005	0.17	—	1,304	1,304	0.05	0.01	< 0.005	1,309
2027	0.57	0.48	4.56	6.90	0.01	0.17	< 0.005	0.17	0.15	< 0.005	0.15	—	1,304	1,304	0.05	0.01	< 0.005	1,309
2028	0.55	0.46	4.30	6.91	0.01	0.15	< 0.005	0.15	0.14	< 0.005	0.14	—	1,305	1,305	0.05	0.01	< 0.005	1,309
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.16	0.14	1.44	1.79	< 0.005	0.05	0.08	0.13	0.05	0.03	0.08	—	465	465	0.02	0.03	0.15	473
2027	0.40	0.34	3.25	4.93	0.01	0.12	< 0.005	0.12	0.11	< 0.005	0.11	—	932	932	0.04	0.01	< 0.005	935
2028	0.26	0.22	1.70	2.67	< 0.005	0.06	0.01	0.07	0.05	< 0.005	0.06	—	489	489	0.02	< 0.005	0.01	491
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.03	0.03	0.26	0.33	< 0.005	0.01	0.01	0.02	0.01	0.01	0.01	—	77.0	77.0	< 0.005	< 0.005	0.02	78.3
2027	0.07	0.06	0.59	0.90	< 0.005	0.02	< 0.005	0.02	0.02	< 0.005	0.02	—	154	154	0.01	< 0.005	< 0.005	155
2028	0.05	0.04	0.31	0.49	< 0.005	0.01	< 0.005	0.01	0.01	< 0.005	0.01	—	81.0	81.0	< 0.005	< 0.005	< 0.005	81.3

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	< 0.005	< 0.005	< 0.005	< 0.005	0.00	< 0.005

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	< 0.005	< 0.005	< 0.005	< 0.005	0.00	< 0.005
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	< 0.005	< 0.005	< 0.005	< 0.005	0.00	< 0.005

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005
Energy	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
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	< 0.005	< 0.005	< 0.005	< 0.005	0.00	< 0.005
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	0.01	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	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
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005
Energy	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
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	< 0.005	< 0.005	< 0.005	< 0.005	0.00	< 0.005
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005
Energy	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
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	< 0.005	< 0.005	< 0.005	< 0.005	0.00	< 0.005

3. Construction Emissions Details

3.1. Site Preparation (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.52	0.44	3.74	5.54	0.01	0.19	—	0.19	0.17	—	0.17	—	858	858	0.03	0.01	—	861
Dust From Material Movement	—	—	—	—	—	—	0.16	0.16	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.05	0.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.8	11.8	< 0.005	< 0.005	—	11.8
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.95	1.95	< 0.005	< 0.005	—	1.95
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.01	0.25	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	40.1	40.1	< 0.005	< 0.005	0.15	40.7
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.43	0.25	12.5	3.04	0.07	0.20	2.78	2.98	0.20	0.76	0.96	—	10,289	10,289	0.23	1.63	24.1	10,805
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.51	0.51	< 0.005	< 0.005	< 0.005	0.51
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	< 0.005	0.18	0.04	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	141	141	< 0.005	0.02	0.14	148
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.08	0.08	< 0.005	< 0.005	< 0.005	0.08
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	23.3	23.3	< 0.005	< 0.005	0.02	24.5

3.3. Grading (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.22	1.02	9.19	9.69	0.02	0.42	—	0.42	0.39	—	0.39	—	1,714	1,714	0.07	0.01	—	1,720

Dust From Material Movement	—	—	—	—	—	—	1.38	1.38	—	0.67	0.67	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	0.23	0.24	< 0.005	0.01	—	0.01	0.01	—	0.01	—	42.3	42.3	< 0.005	< 0.005	—	42.4
Dust From Material Movement	—	—	—	—	—	—	0.03	0.03	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	< 0.005	0.04	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.00	7.00	< 0.005	< 0.005	—	7.02
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.02	0.37	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	60.1	60.1	< 0.005	< 0.005	0.22	61.1

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.36	1.36	< 0.005	< 0.005	< 0.005	1.38
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.23	0.23	< 0.005	< 0.005	< 0.005	0.23
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Building Construction (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.59	0.49	4.81	6.91	0.01	0.19	—	0.19	0.17	—	0.17	—	1,304	1,304	0.05	0.01	—	1,309
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road	0.59	0.49	4.81	6.91	0.01	0.19	—	0.19	0.17	—	0.17	—	1,304	1,304	0.05	0.01	—	1,309
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.10	0.99	1.42	< 0.005	0.04	—	0.04	0.04	—	0.04	—	268	268	0.01	< 0.005	—	269
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.18	0.26	< 0.005	0.01	—	0.01	0.01	—	0.01	—	44.4	44.4	< 0.005	< 0.005	—	44.5
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Building Construction (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.57	0.48	4.56	6.90	0.01	0.17	—	0.17	0.15	—	0.15	—	1,304	1,304	0.05	0.01	—	1,309
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.57	0.48	4.56	6.90	0.01	0.17	—	0.17	0.15	—	0.15	—	1,304	1,304	0.05	0.01	—	1,309
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road	0.40	0.34	3.25	4.93	0.01	0.12	—	0.12	0.11	—	0.11	—	932	932	0.04	0.01	—	935
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.06	0.59	0.90	< 0.005	0.02	—	0.02	0.02	—	0.02	—	154	154	0.01	< 0.005	—	155
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Building Construction (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.55	0.46	4.30	6.91	0.01	0.15	—	0.15	0.14	—	0.14	—	1,305	1,305	0.05	0.01	—	1,309
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.55	0.46	4.30	6.91	0.01	0.15	—	0.15	0.14	—	0.14	—	1,305	1,305	0.05	0.01	—	1,309
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.18	0.15	1.39	2.23	< 0.005	0.05	—	0.05	0.04	—	0.04	—	421	421	0.02	< 0.005	—	423
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipm	0.03	0.03	0.25	0.41	< 0.005	0.01	—	0.01	0.01	—	0.01	—	69.7	69.7	< 0.005	< 0.005	—	70.0
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Paving (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.56	0.47	4.05	5.31	0.01	0.15	—	0.15	0.14	—	0.14	—	823	823	0.03	0.01	—	826
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.03	0.26	0.33	< 0.005	0.01	—	0.01	0.01	—	0.01	—	51.9	51.9	< 0.005	< 0.005	—	52.0
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.05	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.59	8.59	< 0.005	< 0.005	—	8.62
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.07	0.07	0.04	0.74	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	135	135	< 0.005	0.01	0.43	137
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	7.81	7.81	< 0.005	< 0.005	0.01	7.92
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.29	1.29	< 0.005	< 0.005	< 0.005	1.31
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.13. Architectural Coating (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.11	0.81	1.12	< 0.005	0.02	—	0.02	0.01	—	0.01	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	0.53	0.53	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.05	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.41	8.41	< 0.005	< 0.005	—	8.44
Architectural Coatings	0.03	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.39	1.39	< 0.005	< 0.005	—	1.40
Architectural Coatings	0.01	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00

Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Non-Asphalt Surfaces	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
Total	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Non-Asphalt Surfaces	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
Total	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Non-Asphalt Surfaces	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
Total	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

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005
Total	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.01	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Landscape	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005
Total	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Site Preparation	Site Preparation	8/30/2026	9/4/2026	5.00	5.00	—
Grading	Grading	9/5/2026	9/17/2026	5.00	9.00	—
Building Construction	Building Construction	9/18/2026	6/13/2028	5.00	453	—
Paving	Paving	6/14/2028	7/14/2028	5.00	23.0	—
Architectural Coating	Architectural Coating	7/15/2028	8/16/2028	5.00	23.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Graders	Diesel	Average	1.00	8.00	148	0.41
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Grading	Graders	Diesel	Average	1.00	6.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	6.00	367	0.40
Grading	Tractors/Loaders/Backhoes	Diesel	Average	1.00	7.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	1.00	4.00	367	0.29
Building Construction	Forklifts	Diesel	Average	2.00	6.00	82.0	0.20
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37

Paving	Cement and Mortar Mixers	Diesel	Average	4.00	6.00	10.0	0.56
Paving	Pavers	Diesel	Average	1.00	7.00	81.0	0.42
Paving	Rollers	Diesel	Average	1.00	7.00	36.0	0.38
Paving	Tractors/Loaders/Backhoes	Diesel	Average	1.00	7.00	84.0	0.37
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	5.00	10.8	LDA,LDT1,LDT2
Site Preparation	Vendor	—	7.17	HHDT,MHDT
Site Preparation	Hauling	150	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	7.50	10.8	LDA,LDT1,LDT2
Grading	Vendor	—	7.17	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	< 0.005	10.8	LDA,LDT1,LDT2
Building Construction	Vendor	< 0.005	7.17	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	17.5	10.8	LDA,LDT1,LDT2

Paving	Vendor	—	7.17	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	< 0.005	10.8	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	7.17	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	0.00	0.00	0.00	0.00	2,614

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	6,000	—	1.00	0.00	—
Grading	—	—	6.75	0.00	—
Paving	0.00	0.00	0.00	0.00	1.00

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	3	74%	74%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Other Non-Asphalt Surfaces	1.00	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2026	0.00	609	0.24	0.34
2027	0.00	609	0.24	0.34
2028	0.00	609	0.24	0.34

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	0.00	0.00	2,614

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Other Non-Asphalt Surfaces	0.00	609	0.2373	0.3390	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Other Non-Asphalt Surfaces	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Other Non-Asphalt Surfaces	0.00	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	24.2	annual days of extreme heat
Extreme Precipitation	2.10	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	0.00	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	0	0	0	N/A
Drought	0	0	0	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	1	1	3
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	1	1	1	2
Drought	1	1	1	2
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	72.5
AQ-PM	92.2
AQ-DPM	84.9
Drinking Water	96.5
Lead Risk Housing	53.6
Pesticides	91.8
Toxic Releases	26.0
Traffic	49.3
Effect Indicators	—
CleanUp Sites	0.00
Groundwater	80.9
Haz Waste Facilities/Generators	81.5
Impaired Water Bodies	0.00
Solid Waste	63.7
Sensitive Population	—
Asthma	84.0
Cardio-vascular	97.3
Low Birth Weights	26.3

Socioeconomic Factor Indicators	—
Education	72.9
Housing	77.8
Linguistic	48.7
Poverty	84.5
Unemployment	92.4

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	39.38149621
Employed	16.16835622
Median HI	21.429488
Education	—
Bachelor's or higher	23.23880405
High school enrollment	13.19132555
Preschool enrollment	7.070447838
Transportation	—
Auto Access	19.3763634
Active commuting	3.823944566
Social	—
2-parent households	28.91056076
Voting	30.78403696
Neighborhood	—
Alcohol availability	56.17862184
Park access	81.35506224
Retail density	56.53791864

Supermarket access	84.04978827
Tree canopy	24.43218273
Housing	—
Homeownership	50.44270499
Housing habitability	46.79840883
Low-inc homeowner severe housing cost burden	58.60387527
Low-inc renter severe housing cost burden	19.96663673
Uncrowded housing	36.46862569
Health Outcomes	—
Insured adults	14.28204799
Arthritis	15.6
Asthma ER Admissions	13.5
High Blood Pressure	31.6
Cancer (excluding skin)	34.5
Asthma	23.6
Coronary Heart Disease	13.8
Chronic Obstructive Pulmonary Disease	11.3
Diagnosed Diabetes	34.4
Life Expectancy at Birth	24.9
Cognitively Disabled	33.5
Physically Disabled	27.7
Heart Attack ER Admissions	3.2
Mental Health Not Good	24.7
Chronic Kidney Disease	27.1
Obesity	15.8
Pedestrian Injuries	76.5
Physical Health Not Good	24.5
Stroke	19.7

Health Risk Behaviors	—
Binge Drinking	43.3
Current Smoker	21.4
No Leisure Time for Physical Activity	27.5
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	47.4
Elderly	35.4
English Speaking	43.0
Foreign-born	43.9
Outdoor Workers	18.4
Climate Change Adaptive Capacity	—
Impervious Surface Cover	70.1
Traffic Density	55.6
Traffic Access	0.0
Other Indices	—
Hardship	83.1
Other Decision Support	—
2016 Voting	35.0

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	94.0
Healthy Places Index Score for Project Location (b)	15.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Well treatment system for a City well.
Construction: Construction Phases	No demolition occurring.
Construction: Dust From Material Movement	Inputting the total material to be imported to the project site.

Appendix B: Biological Evaluation Report

CITY OF TURLOCK

WELL 36 WATER TREATMENT PROJECT BIOLOGICAL EVALUATION

STANISLAUS COUNTY, CALIFORNIA
OCTOBER 2025

PREPARED FOR:
City of Turlock
Stanislaus County, California

PREPARED BY:
Provost & Pritchard Consulting Group
455 W. Fir Ave, Clovis, California 93612

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ACRONYMS AND ABBREVIATIONS

BMP ..... Best Management Practices
CDFW..... California Department of Fish and Wildlife
CEQA ..... California Environmental Quality Act
CESA ..... California Endangered Species Act
CNDDB..... California Natural Diversity Database
CNPS ..... California Native Plant Society
County ..... Stanislaus County
ECOS..... United States Fish and Wildlife Service's Environmental Conservation Online System
EFH ..... Essential Fish Habitat
ESA ..... Endangered Species Act
°F..... degrees Fahrenheit
HCP ..... Habitat Conservation Plan
IPaC ..... United States Fish and Wildlife Service's Information for Planning and Consultation system
MBTA..... Migratory Bird Treaty Act
NCCP..... Natural Community Conservation Plan
NEPA..... National Environmental Policy Act
NMFS..... National Marine Fisheries Service
NPDES..... National Pollutant Discharge Elimination System
NRCS..... Natural Resources Conservation Service
NWI ..... National Wetlands Inventory
OHWM ..... Ordinary High Water Mark
Project ..... Well 36 Water Treatment Project
Provost & Pritchard..... Provost & Pritchard Consulting Group
RWQCB..... Regional Water Quality Control Board
SWPPP ..... Storm Water Pollution Prevention Plan
SWRCB..... State Water Resources Control Board
USACE..... United States Army Corps of Engineers
USC ..... United States Code
USDA ..... United States Department of Agriculture
USEPA..... United States Environmental Protection Agency
USFWS..... United States Fish and Wildlife Service
USGS..... United States Geological Survey
WOTUS ..... Waters of the United States

1 INTRODUCTION

This Biological Evaluation, prepared by Provost & Pritchard Consulting Group (Provost & Pritchard) in compliance with the California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA), includes descriptions of the biological resources present or with potential to occur within the Well 36 GAC Treatment Project (or "Project"), potential Project-related impacts or effects to those resources, and mitigation measures to reduce these impacts to a less-than-significant level under CEQA and NEPA.

1.1 PROJECT DESCRIPTION

The area of potential effect (APE or "site") is located in the San Joaquin Valley, within the northwest section of the City of Turlock in the southeastern edge of Stanislaus County, California (see Figure 1).

The Project site includes an active well that produces approximately 2,000 gallons per minute, Chlorination facilities, Summerfaire Park, pump discharge header equipped with two blind flanged tees separated by an isolation gate valve, and paved walkways. Surrounding lands are residential neighborhoods with paved roads to the west, recreational fields for sports to the south, and businesses to the north and east (see Figure 2).

The Project involves the removal of 15 trees and landscaping on all four sides of the site including security landscaping involving ornamental plants with thorns and approximately 6,000 cubic yards of fill in the existing detention basin. The construction of two commercial drive approaches and an access road, six 12' diameter GAC Treatment Vessels, ductile iron process piping, and a future arsenic treatment facility are a part of the Project.

1.2 REPORT OBJECTIVES

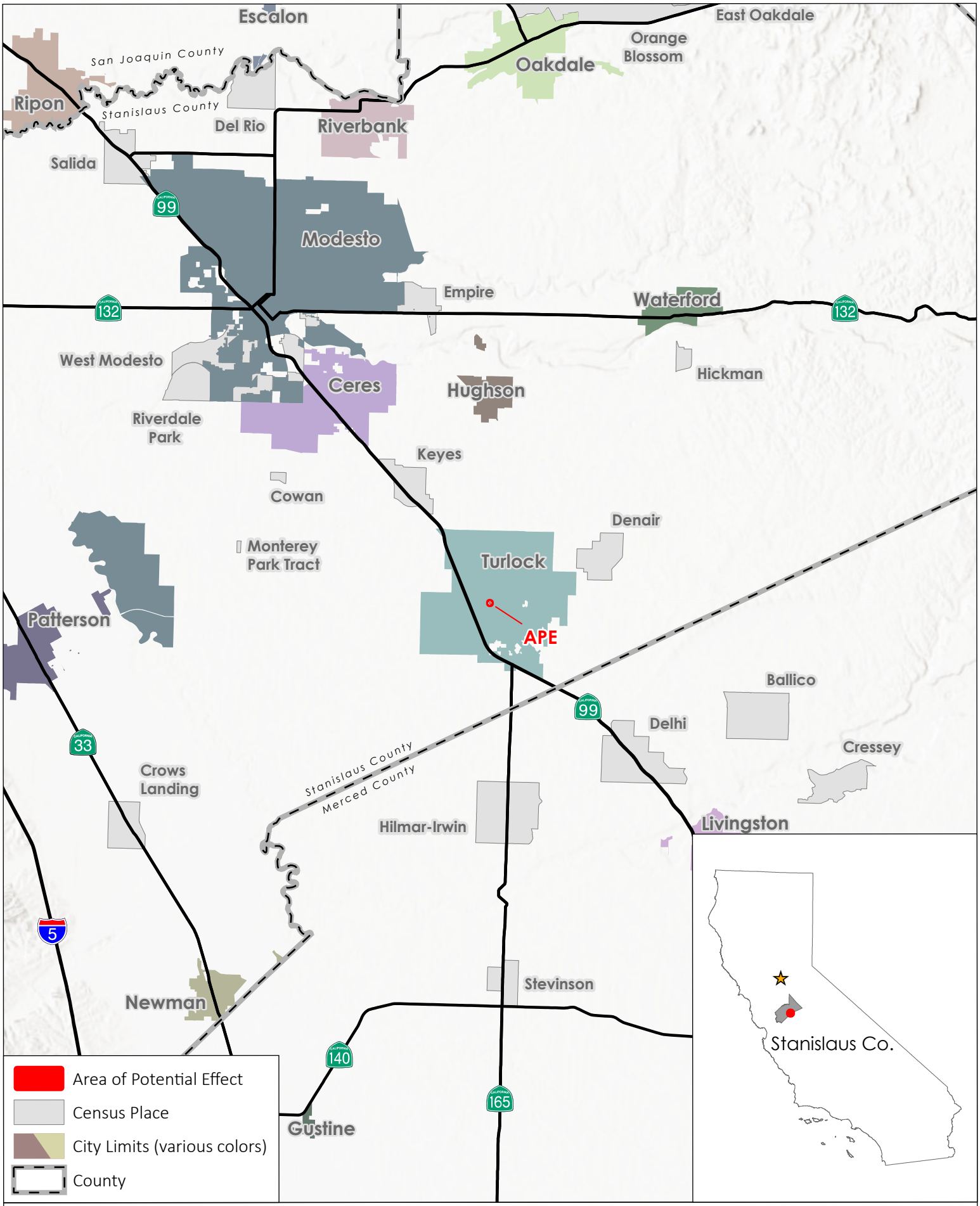
Construction activities such as those proposed by the Project could potentially change biological resources or habitats that are critical for sensitive plant and wildlife species. In cases such as these, development may be regulated by State or federal agencies, and/or addressed by local regulatory agencies.

This report addresses issues related to the following:

- The presence of sensitive biological resources within the APE, or those with the potential to occur within the APE.
- The federal, State, and local regulations regarding these resources.
- 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 to:

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



Regional Vicinity Map

City of Turlock - Well 36 Treatment Project

PROVOST& PRITCHARD

Fig. 1 Page 1-2



0 150 300

Feet

Aerial Map

City of Turlock - Well 36 Treatment Project

PROVOST& PRITCHARD

Fig. 2 Page 1-3

1.3 STUDY METHODOLOGY

A reconnaissance-level field survey of the APE was conducted on August 21, 2025, by Provost & Pritchard biologist, Olivia Arredondo. The survey consisted of walking throughout the APE and visually surveying areas outside of the APE while identifying and noting land uses, biological habitats and communities, and plant and animal species encountered. Habitats were also assessed to help with determining if they could be suitable for various rare or protected plant and animal species. Representative photographs of the site were taken and are presented in Appendix A.

Ms. Arredondo then utilized the results of the field survey to analyze potential Project-related impacts to biological resources based on the resources known to occur or with the potential to occur onsite Sources of information used in preparation of this analysis included: California Department of Fish and Wildlife's California Natural Diversity Database (CNDDB; see Appendix B for the species list) and California Wildlife Habitat Relationships (CWHR) database; California Native Plant Society's (CNPS) Online Inventory of Rare and Endangered Vascular Plants of California; CalFlora's online database of California native plants; Jepson Herbarium's online database (i.e., Jepson eFlora); United States Fish and Wildlife Service's (USFWS) Environmental Conservation Online System (ECOS), Information for Planning and Consultation (IPaC; see Appendix C for the species list) system, and National Wetlands Inventory (NWI); iNaturalist; NatureServe Explorer's online database; United States Department of Agriculture (USDA) Natural Resources Conservation Service's (NRCS) Web Soil Survey (see Appendix D for the Web Soil Survey Report); California Herps website; and various manuals, reports, and references related to plants and animals of the San Joaquin Valley region.

The field survey did not include focused surveys for special status species. The field survey conducted included the appropriate level of detail to assess the significance of potential impacts to sensitive biological resources resulting from implementing the Project. Furthermore, the field survey was sufficient to generally describe aquatic features of the APE that could be claimed as jurisdictional by federal and/or State agencies, such as the United States Army Corps of Engineers (USACE), California Department of Fish and Wildlife (CDFW), Regional Water Quality Control Board (RWQCB), and the State Water Resources Control Board (SWRCB). If Project activities resulted in impacts to aquatic resources and aquatic habitats, this report would be sufficient to support required permit applications, if needed, for the Project.

2 EXISTING CONDITIONS

2.1 REGIONAL SETTINGS

2.1.1 TOPOGRAPHY

The APE is located within the *Denair* U.S. Geological Survey (USGS) 7.5-minute quadrangle within the southeast corner of Section 15, Township 5 South, Range 10 East. The topography of the APE has an incline from the west to east with elevations ranging from approximately 93 to 106 feet above mean sea level (see Figure 2).

2.1.2 CLIMATE

Like most of California, the APE experiences a Mediterranean climate. Warm, dry summers are followed by cool, moist winters. In the summer, average high temperatures range between 80- and 95-degrees Fahrenheit (°F), but do not often exceed 100 °F, and the humidity is generally low. Winter temperatures are often below 65 °F during the day and rarely exceed 70 °F. On average, the City of Turlock receives approximately 12 inches of precipitation in the form of rain yearly, most of which occurs between November and April (The National Oceanic and Atmospheric Administration 2025), and the APE would be expected to receive similar amounts of precipitation.

2.1.3 HYDROLOGY

The nearest surface water to the Project is the freshwater pond at Donnely Park located 0.4 miles northeast from APE. While not mapped on NWI or National Hydrography Dataset, ponded areas occur at Summerfaire Park during the late winter/early spring during higher precipitation years.

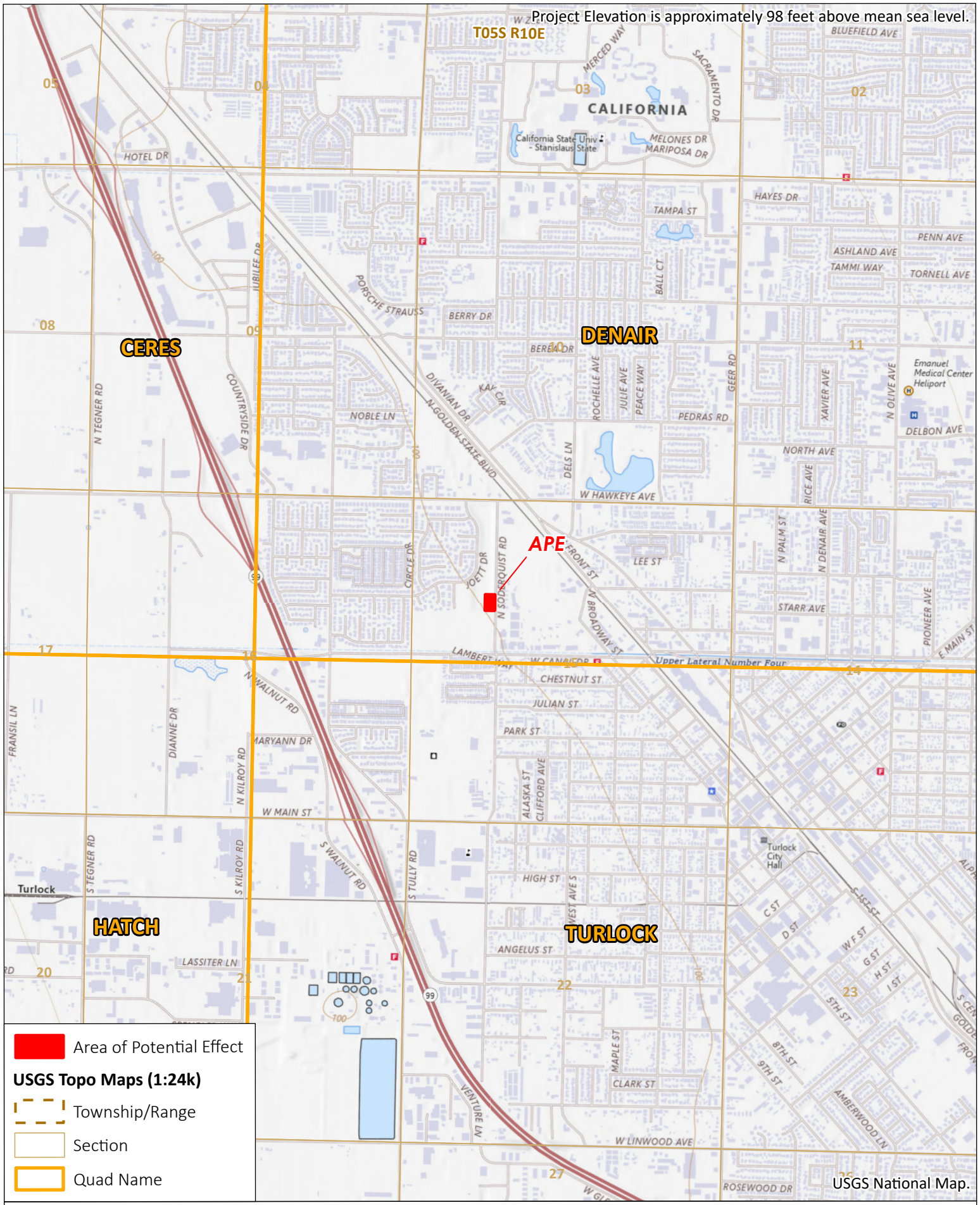
2.1.4 SOILS

One soil mapping unit representing a soil type was identified within the APE and is listed in Table 1 (see Appendix D for the Web Soil Survey Report). The soil is displayed with its core properties in the table below, according to the Major Land Resource Area of California. This soil is primarily used for pastureland and to grow a variety of crops.

Table 1: List of Soils Located Onsite and Their Basic Properties

Soil	Soil Map Unit	Percent of Site	Hydric Soil Category	Drainage	Permeability	Runoff
Hilmar	Loamy sand, 0 to 1 percent slopes	100%	Nonhydric	Somewhat excessively drained	Moderately low to moderately high	Medium

Hydric soils are defined as soils that are saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions such that under sufficiently wet conditions, hydrophytic vegetation can be supported. Hydric soil ratings are derived from specific soil properties as well as climate, parent material, vegetation, landform type, and biological activity of a certain location. The soil mapping unit located on the APE is not identified as hydric.



Topographic Map

City of Turlock - Well 36 Treatment Project

PROVOST& PRITCHARD

Fig. 3 Page 2-2

2.2 BIOTIC HABITATS

One biotic habitat was observed within the APE and included ruderal. This habitat and its constituent plant and animal species are described in more detail in the following sections.

2.2.1 RUDERAL

The APE is located on the southeast corner of Summerfaire Park. Paved walkways lined the southern and eastern boundaries of the APE. A paved well site with fencing was present at the southeastern corner. The vegetation community was dominated by a frequently mowed lawn of Bermuda grass (*Cynodon dactylon*), hairy crabgrass (*Digitaria sanguinalis*), and white clover (*Trifolium repens*). Other herbaceous vegetation included burr clover (*Medicago polymorpha*), California poppy (*Eschscholzia californica*), common dandelion (*Taraxacum officinale*), common groundsel (*Senecio vulgaris*), and lawn daisy (*Bellis perennis*). Various ornamental trees were present including redwoods (*Sequoioideae*) along the southern boundary of the APE and both Callery pear trees (*Pyrus calleryana*) and western sycamores (*Platanus racemosa*) within the central/eastern section in rows.

The survey of the APE resulted in the identification of numerus bird species including American kestrel (*Falco sparverius*), Anna's hummingbird (*Calypte anna*), California scrub jay (*Aphelocoma californica*), European starling (*Sturnus vulgaris*), house finch (*Haemorhous mexicanus*), lesser goldfinch (*Spinus psaltria*), Say's phoebe (*Sayornis saya*), rock pigeon (*Columba livia*), and yellow-billed magpie (*Pica nuttallii*). Domestic dogs (*Canis lupus familiaris*) and western tiger swallowtails (*Papilio rutulus*) were also observed.

The ruderal habitat within the APE provides marginal habitat for a variety of wildlife, year-round. This habitat likely serves foraging birds, including raptors, during the day, as well as bats, coyotes, and other nocturnal animals at night. Ornamental trees may also serve as nesting habitat for songbird.

2.3 NATURAL COMMUNITIES OF SPECIAL CONCERN AND RIPARIAN HABITAT

Natural communities of special concern are those that are of limited distribution, distinguished by significant biological diversity, or home to special status species. CDFW has classified and mapped all natural communities in California. Just as the special status plant and animal species (see Section 2.6), these natural communities of special concern can be found within the CNDDB. There are no recorded observations of a natural community of special concern mapped within the site and no natural communities of special concern were observed during the field survey.

Riparian habitat is composed of plant communities that occur along the banks, and sometimes over the banks, of most waterways and is an important habitat for numerous wildlife species. CDFW has jurisdiction over most riparian habitat in California. No waterways or riparian habitat were observed within or adjacent to the APE during the field survey.

2.4 DESIGNATED CRITICAL HABITAT

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, which may require special management and protection. According to the IPaC, designated critical habitat is absent from the APE.

2.5 WILDLIFE MOVEMENT CORRIDORS AND NATIVE WILDLIFE NURSERY SITES

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, rivers and creeks supporting riparian vegetation. While the ruderal habitat of the APE consists of an open area in which

species could move through, it does not function contain the typical features of a wildlife movement corridor.

Native wildlife nursery sites are areas where a species or group of similar species raise their young in a concentrated place, such as maternity bat roosts. The numerous trees within the APE could serve as nesting sites for migratory birds, however, groups of nests were absent from the trees during the survey and nesting activity was not observed.

2.6 SPECIAL STATUS PLANTS AND ANIMALS

California contains several rare plant and animal species. In this context, "rare" is defined as a species known to have low populations or limited distributions. Conversion of habitats to accommodate human population growth in turn reduces the already-limited suitable habitat for rare species. This results in rare and sensitive species becoming increasingly more vulnerable to extirpation. State and federal regulations have provided the CDFW and USFWS with mechanisms 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 animals and plants are referred to as "special status species."

A query of the CNDDB for occurrences of special status plant and animal species was conducted for the *Denair* USGS 7.5-minute quadrangle that contains the APE, and for the 8 surrounding USGS quadrangles: *Ceres*, *Cressey*, *Hatch*, *Montpelier*, *Paulsell*, *Riverbank*, *Turlock,* and *Waterford*. A query of the IPaC was also completed for the APE. These species, and their potential to occur within the APE, are listed in Table 2 and Table 3, below. Other special status species that did not show up in the CNDDB query, but have the potential to occur in the vicinity, are also included in Table 3. Species lists obtained from CNDDB and IPaC are available in Appendix B and Appendix C, respectively. All relevant sources of information, as discussed in the Study Methodology section of this report, as well as field observations, were used to determine if any special status species have the potential to occur within the APE.

Table 2: List of Special Status Plants with Potential to Occur on the APE and/or in the Vicinity

Species	Status*	Habitat	Occurrence within the Site
Beaked clarkia (*Clarkia rostrata*)	CNPS 1B	Found in woodlands and valley foothill grasslands on the west slope of the Sierra Nevada range, around 1,650 feet in elevation. Blooms April – May.	**Absent.** The APE does not provide suitable habitat and is outside the current known elevational range of this species. The consistent lawn maintenance and landscaping would inhibit this species from establishing within the site.
California alkali grass (*Puccinellia simplex*)	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 3,000 feet. Blooms March – May.	**Absent.** The APE does not provide mineral springs or wetland-riparian habitat to support this species and CNDDB lists this species as "extirpated" from the region. The consistent lawn maintenance and landscaping would inhibit this species from establishing within the APE.
Colusa grass (*Neostapfia colusana*)	FT, CE, CNPS 1B	Found in vernal pools within the San Joaquin Valley at elevations	**Absent.** The APE does not provide suitable vernal pool habitat to support this species and CNDDB lists

Species	Status*	Habitat	Occurrence within the Site
		below 450 feet. Blooms May – August.	this species as "extirpated" from the region. The consistent lawn maintenance and landscaping would inhibit this species from establishing within the APE.
Greene's tuctoria (*Tuctoria greenei*)	FE, CNPS 1B	Found in the San Joaquin Valley and other parts of California in vernal pools within valley grassland, wetland, and riparian communities at elevations below 3,500 feet. Blooms May – September.	**Absent.** The APE does not provide suitable vernal pool habitat to support this species and CNDDB lists this species as "extirpated" from the region. The consistent lawn maintenance and landscaping would inhibit this species from establishing within the APE.
Hairy Orcutt grass (*Orcuttia pilosa*)	FE, CE, CNPS 1B	Found in vernal pools in valley grassland, wetland, and riparian communities at elevations below 650 feet. Blooms May – September.	**Absent.** The APE does not provide suitable vernal pool habitat to support this species. The consistent lawn maintenance and landscaping would inhibit this species from establishing within the APE.
Heartscale (*Atriplex cordulata* var. *cordulata*)	CNPS 1B	Found in the Central Valley in saline or alkaline soils within shadscale scrub, valley grassland, and wetland-riparian communities at elevations below 250 feet. Blooms June – July.	**Absent.** Suitable habitat for this species is absent from the APE. The consistent lawn maintenance and landscaping would inhibit this species from establishing within the APE.
Hoover's calycadenia (*Calycadenia hooveri*)	CNPS 1B	Found in valley and foothill grassland and cismontane woodland communities on exposed, rocky, barren soil at elevations between 300 and 1,300 feet. Blooms June – September.	**Absent.** The APE does not provide suitable habitat and is outside the current known elevational range of this species and CNDDB lists this species as "possibly extirpated" from the region. The consistent lawn maintenance and landscaping would inhibit this species from establishing within the APE.
Hoover's spurge (*Euphorbia hooveri*)	FT, CNPS 1B	Found in vernal pools within valley grassland, freshwater wetland, and riparian communities at elevations below 800 feet. Blooms July – September.	**Absent.** The APE does not provide suitable vernal pool habitat to support this species. The consistent lawn maintenance and landscaping would inhibit this species from establishing within the APE.
Merced monardella (*Monardella leucocephala*)	CNPS 1A	Found in the San Joaquin Valley, associated with valley and foothill grasslands. Grows along rivers in moist, sandy soils at elevations between 150 and 350 feet. Blooms May – July.	**Absent.** CNDDB lists this species as "extirpated" from the region. The consistent lawn maintenance and landscaping would inhibit this species from establishing within the APE.
San Joaquin Valley Orcutt grass (*Orcuttia inaequalis*)	FT, CE, CNPS 1B	Found in the eastern San Joaquin Valley and the Sierra Nevada foothills in vernal pools within valley grassland, freshwater wetland, and wetland-riparian communities at elevations below 2,600 feet. Blooms April – September.	**Absent.** The APE does not provide suitable vernal pool habitat to support this species and CNDDB lists this species as "extirpated" from the region. The consistent lawn maintenance and landscaping would inhibit this species from establishing within the APE.

Species	Status*	Habitat	Occurrence within the Site
Subtle orache (*Atriplex subtilis*)	CNPS 1B	Found in the San Joaquin Valley in saline depressions in alkaline soils within valley and foothill grassland communities at elevations below 300 feet. Blooms June – October.	**Absent.** Suitable habitat for this species is absent from the APE. The consistent lawn maintenance and landscaping would inhibit this species from establishing within the APE.
Succulent owl's-clover (*Castilleja campestris* var. *succulenta*)	FT, CE, CNPS 1B	Occurs usually in wetlands and vernal pools but occasionally in non-wetlands. Often found in acidic soils at elevations below 2,500 feet. Blooms April – July.	**Absent.** The APE does not provide suitable vernal pool habitat to support this species. The consistent lawn maintenance and landscaping would inhibit this species from establishing within the APE.

Table 3: List of Special Status Animals with Potential to Occur on the APE and/or in the Vicinity

Species	Status*	Habitat	Occurrence within the Site
Burrowing owl (*Athene cunicularia*)	CCE, CSSC	Resides in open, dry grasslands, deserts, scrublands, and other areas with low growing vegetation. Nests and roosts underground in existing burrows created by mammals, most often by ground squirrels, and human-made structures.	**Unlikely.** No small mammal burrows were observed within the APE. The consistent lawn maintenance and landscaping as well as the adjacent traffic would inhibit this species from establishing within the APE. The nearest recorded observation of this species within the vicinity was approximately 15 miles north/ northwest of the APE in 1994 at an irrigated pasture.
California tiger salamander – central California DPS (*Ambystoma californiense*)	FT, CT	Requires vernal pools or seasonal ponds for breeding and small mammal burrows for aestivation. Generally found in grassland and oak savannah plant communities in central California from sea level to 1,500 feet in elevation. Can migrate up to 1.3 miles to breed.	**Absent.** The APE does not provide suitable upland or aquatic habitat to support this species as vernal pools and small mammal burrows were absent from the APE. The consistent lawn maintenance and landscaping would inhibit this species from establishing within the APE.
Crotch's bumble bee (*Bombus crotchii*)	CCE	Occurs throughout coastal California, as well as east to the Sierra Nevada-Cascade crest, and south into Mexico. Food plant genera include snapdragons, scorpionweeds, primroses, poppies, and buckwheats. Nests are often located underground in abandoned rodent nests, or above ground in tufts of grass, old bird nests, rock piles, or cavities in dead trees. This species overwinters under leaf litter or soft soil.	**Unlikely.** While this species could travel through the site, nectar sources were scarce. The routine lawn maintenance and landscaping would inhibit this species from establishing within the APE. The nearest recorded observation of this species within the vicinity was on iNaturalist approximately 14.5 miles southeast of the APE in 2023 along active cropland.
Green sturgeon – southern DPS (Ac*ipenser medirostris*)	FT	Spawning occurs primarily in cool (51- 59 °F) sections of mainstem rivers in deep pools (26- 30 feet) with substrate	**Absent.** The APE does not provide suitable aquatic habitat to support this species.

Species	Status*	Habitat	Occurrence within the Site
		containing small to medium sized sand, gravel, cobble, or boulders, such as the Sacramento, Feather, and Yuba Rivers. Presence in upper Stanislaus and San Joaquin Rivers may indicate spawning. Non-spawning adults occupy marine/estuarine waters. The Delta Estuary is important for rearing juveniles.	
Hardhead (*Mylopharodon conocephalus*)	CSSC	Occurs in low- to mid-elevation streams in the Sacramento-San Joaquin drainage. Clear, deep pools with sand-gravel-boulder bottoms and slow-moving water are required. This species is often sympatric with Sacramento pikeminnow and Sacramento sucker. Hardhead are typically absent from streams occupied by sunfishes and from heavily altered habitats.	**Absent.** The APE does not provide suitable aquatic habitat to support this species.
Least Bell's vireo (*Vireo bellii pusillus*)	FE, CE	This migratory species breeds in southern California. Breeding habitat consists of dense, low, shrubby, riparian vegetation in the vicinity of water or dry river bottoms. By the early 1980s, this species was extirpated from most of its historic range in California, including the Central Valley.	**Absent.** The APE does not provide suitable riparian habitat to support this species and CNDDB lists this species as "possibly extirpated" from the region. The APE is located outside of the current known range of this species.
Monarch butterfly (*Danaus plexippus*)	FPT	Roosts in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby. Larval host plants consist of milkweeds. Winter roost sites extend along the Pacific Coast from northern Mendocino to Baja California, Mexico.	**Unlikely.** While this species could travel through the site, roosting habitat was absent and the site is outside the overwintering range for this species. The routine lawn maintenance and landscaping would inhibit the growth of milkweed and other nectar sources for this species. The nearest recorded observation of this species within the vicinity was on iNaturalist approximately 1.4 miles west/northwest of the APE in 2023 in a residential area.
Northern California legless lizard (*Anniella pulchra*)	CSSC	Found primarily underground, burrowing in loose, moist, and sandy soil. Forages in loose soil and leaf litter during the day. Occasionally observed on the surface at dusk and night.	**Absent.** The APE does not provide suitable soil or leaf litter for this species to burrow or forage. The consistent lawn maintenance and landscaping as well as the surrounding development would

Species	Status*	Habitat	Occurrence within the Site
			inhibit this species from establishing within the APE.
Northwestern pond turtle (*Actinemys marmorata*)	FPT, CSSC	An aquatic turtle of ponds, marshes, slow-moving rivers, streams, and irrigation ditches with riparian vegetation. Requires adequate basking sites and sandy banks or grassy open fields to deposit eggs.	**Absent.** The APE does not provide suitable aquatic habitat to support this species. The frequent mowing and landscaping within and adjacent to the APE as well as the surrounding development would deter this species from occupying the area.
Steelhead – Central Valley DPS (*Oncorhynchus mykiss irideus* pop.11)	FT	This winter-run fish begins migration to fresh water during peak flows during December through February. The spawning season is typically from February to April. After hatching, this species will move to deeper, mid-channel habitats in late summer and fall. In general, both juveniles and adults prefer complex habitat with boulders, submerged clay, undercut banks, and large woody debris.	**Absent.** The APE does not provide suitable aquatic habitat to support this species.
Swainson's hawk (*Buteo swainsoni*)	CT	Nests in large trees in open areas adjacent to grasslands, grain or alfalfa fields, or livestock pastures suitable for supporting rodent populations.	**Possible.** The ornamental redwoods within the southern portion of the APE can support a Swainson's hawk nest while Summerfaire Park and nearby fields can provide foraging habitat. The nearest recorded observation of this species within the vicinity was approximately 2 miles northwest of the APE in 2007 within cropland.
Townsend's big-eared bat (*Corynorhinus townsendii*)	CSSC	Occurs in a variety of habitats, but prefers cool, dark roost sites, and is often found in caves and mines. They roost in the open, hanging from walls and ceilings. Western populations typically forage on moths in areas of dense foliage.	**Unlikely.** While Summerfaire Park can provide foraging opportunity for this species, the disturbance from the frequent lawn maintenance, routine landscaping, and traffic would inhibit this sound-sensitive species from establishing within and adjacent to the APE. The nearest recorded observation of this species within the vicinity was approximately 8.5 miles north/northwest of the APE in 2012 at the Santa Fe Avenue bridge over Tuolumne River.
Tricolored blackbird (*Agelaius tricolor*)	CT, CSSC	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 foraging in dairy farm feed fields.	**Unlikely.** The lawn of the APE offers very minimal and disturbed foraging opportunity unlikely to sustain large colonies of this species. No riparian habitat was present within the APE for this species to use for nesting. The nearest recorded observation

Species	Status*	Habitat	Occurrence within the Site
			of this species within the vicinity was approximately 3.5 miles south/southeast of the APE in 1933 within marshland that has since been converted to cropland.
Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*)	FT	Lives in mature elderberry shrubs in the Central Valley and adjacent foothills from Tehama County south through Merced and Mariposa Counties with two scattered populations in Madera and Fresno Counties. Adults are active from March to June.	**Absent.** Elderberry shrubs required by this species were absent from the APE.
Vernal pool fairy shrimp (*Branchinecta lynchi*)	FT	Occupies vernal and seasonal pools, with clear to tea-colored water, in grass or mud-bottomed swales, and basalt depression pools.	**Absent.** The APE does not provide suitable vernal pool habitat to support this species.
Vernal pool tadpole shrimp (*Lepidurus packardi*)	FE	Occurs in vernal pools, clear to tea-colored water, in grass or mud-bottomed swales, and basalt depression pools.	**Absent.** The APE does not provide suitable vernal pool habitat to support this species.
Western spadefoot (*Spea hammondii*)	FPT, CSSC	The majority of the time this species is terrestrial and occurs in small mammal burrows and soil cracks, sometimes in the bottom of dried pools. Prefers open areas with sandy or gravelly soils, in a variety of habitats including mixed woodlands, grasslands, coastal sage scrub, chaparral, sandy washes, lowlands, river floodplains, alluvial fans, playas, alkali flats, foothills, and mountains. Vernal or seasonal pools, that hold water for a minimum of three weeks, are necessary for breeding.	**Absent.** The APE does not provide suitable upland or aquatic habitat to support this species. Small mammal burrows for this species to use as refuge were absent from the APE. The consistent lawn maintenance and landscaping as well as the adjacent traffic and development would inhibit this species from establishing within the APE.

***EXPLANATION OF OCCURRENCE DESIGNATIONS AND STATUS CODES**

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

STATUS CODES

FE	Federally Endangered	CE	California Endangered
FT	Federally Threatened	CCE	California Endangered (Candidate)
FPT	Federally Threatened (Proposed)	CT	California Threatened
FPT	Federally Threatened (Proposed)	CSSC	California Species of Special Concern

CNPS LISTING

1A	Plants presumed extinct in California.
1B	Plants rare, threatened, or endangered in California and elsewhere.

3 IMPACTS AND MITIGATION

3.1 SIGNIFICANCE CRITERIA

3.1.1 CEQA

General plans, area plans, and specific Projects are subject to the provisions of CEQA. The purpose of CEQA is to assess the impacts of proposed Projects on the environment prior to Project implementation. Impacts to biological resources are just one type of environmental impact assessed under CEQA and vary from Project to Project in terms of scope and magnitude. Projects that require 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 rare 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 2023), "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 (CWA) (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 (HCP), Natural Community Conservation Plan (NCCP), or other approved local, regional, or State HCP.

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."

3.1.2 NEPA

Federal Projects are subject to the provisions of NEPA. The purpose of NEPA is to assess the effects of a proposed action on the human environment, assess the significance of those effects, and recommend measures that if implemented would mitigate those effects. As used in NEPA, a determination that certain

effects on the human environment are "significant" requires considerations of both context and intensity (40 Code of Federal Regulations (CFR) 1508.27).

For the purposes of assessing effects of an action on biological resources, the relevant context is often local. The analysis may, however, require a comparison of the action area's biological resources with the biological resources of an entire region. Project activities must have a federal nexus and discuss federally listed species, and/or designated critical habitat that may be affected in the action area.

Federal agencies are required to determine whether their actions may affect listed or proposed species and designated critical habitat. The primary role of this document is to provide agencies conclusion and the rationale to support those conclusions regarding the effects of any proposed actions of the Project on protected resources. Document content and recommended elements are identified in 50 CFR 402.12(f).

Under section 7 of the Endangered Species Act, federal agencies must consult with NOAA Fisheries or the USFWS, depending on the species, through an informal or formal consultation when any action the agency carries out, funds, or authorizes may affect either a species listed as threatened or endangered under the Act, or any critical habitat designated for it.

Once resources are assessed an Endangered Species Act Section 7 finding needs to be made regarding proposed or listed species and/or designated critical habitat that may be present in the Project area. This report will provide the necessary information for the lead federal agency to make a determination on affects. This finding may result in one of the following determinations:

- *"*No effect*"* - means there will be no impacts, positive or negative, to listed or proposed resources. Generally, this means no listed resources will be exposed to action and its environmental consequences. Concurrence from the Service is not required.

- *"*May affect, but not likely to adversely affect" means that all effects are beneficial, insignificant, or discountable. Beneficial effects have contemporaneous positive effects without any adverse effects to the species or habitat. Insignificant effects relate to the size of the impact and include those effects that are undetectable, not measurable, or cannot be evaluated. Discountable effects are those extremely unlikely to occur. These determinations require written concurrence from the Service.

- *"*May affect, likely to adversely affect" means that listed resources are likely to be exposed to the action or its environmental consequences and will respond in a negative manner to the exposure.

3.2 RELEVANT GOALS, POLICIES, AND LAWS

3.2.1 STANISLAUS COUNTY ORDINANCE

The Stanislaus County General Plan contains the following goals and policies related to the Project:

3.2.1.1.1 CONSERVATION/ OPEN SPACE ELEMENT

Policy 3: The County shall assure areas of sensitive wildlife habitat and plant life (e.g., vernal pools, riparian habitats, flyways and other waterfowl habitats, etc.) including those habitats and plant species listed by State or federal agencies shall be protected from development and/or disturbance by reviewing all development requests to ensure that sensitive areas (e.g., riparian habitats, vernal pools, rare plants, flyways, etc.) are left undisturbed or that mitigation measures acceptable to appropriate State and federal agencies are included in the Project, notify the State Department of Fish and Wildlife and the U.S. Fish and Wildlife Service as required by the California Native Plant Protection Act, and any ground disturbing

activities on lands previously undisturbed that will potentially impact riparian habitat and/or vernal pools or other sensitive areas shall include mitigation measures for protecting that habitat, as required by the State Department of Fish and Wildlife.

Policy 6: The County shall protect and enhance oak woodlands and other native hardwood habitat by requiring all discretionary Projects that will potentially impact oak woodlands and other native hardwood habitat, including but not limited to hardwood rangelands identified by the California Department of Forestry and Fire Protection, to include a management plan for the protection and enhancement of oak woodlands and other native hardwood habitat.

Policy 29: The County shall assure habitats of rare and endangered fish and wildlife species, including special status wildlife and plants, are protected by utilizing the CEQA process to ensure that development does not occur that would be detrimental to fish, plant life, or wildlife species, utilizing the California State Department of Fish and Wildlife's California Natural Diversity Data Base and the California's Native Plant Society plant lists as the primary sources of information on special status wildlife and plants, and protecting sensitive wildlife habitat and plant life through the strategies identified under Policy Three of this element.

3.2.2 THREATENED AND ENDANGERED SPECIES

Permits may be required from CDFW and/or USFWS if activities associated with a Project have the potential to result in the "take" of a species listed as threatened or endangered under the California Endangered Species Act (CESA) and/or Endangered Species Act (ESA), respectively. Take is defined by CESA 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 ESA to include "harm" (16 USC, Section 1532(19), 50 CFR, Section 17.3). CDFW and USFWS are responsible agencies under CEQA and NEPA. Both agencies review CEQA and NEPA documents in order to determine the adequacy of the treatment of endangered species issues and to make Project-specific recommendations for their conservation.

3.2.3 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 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.

3.2.4 MIGRATORY BIRDS

The 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 birds covered by the MBTA (Section 3513), as well as any other native non-game birds (Section 3800).

3.2.5 BIRDS OF PREY

Birds of prey are protected in California under provisions of California 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 Bald and Golden Eagle Protection Act (16 USC 668), which makes it unlawful

to kill birds or their eggs, or take feathers or nests, without a permit issued by the U.S. Secretary of the Interior.

3.2.6 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.

3.2.7 WETLANDS AND OTHER "JURISDICTIONAL WATERS"

Aquatic resources, including wetlands, streams, rivers, and lakes, are among the important biological resources that are protected by local, State, and federal laws and regulations. Activities that impact these "jurisdictional waters" may be regulated and require permits which aim to avoid or minimize adverse impacts to "jurisdictional waters" to the greatest extent possible. The definition of a jurisdictional water may vary depending on the regulatory agency, and the limits of jurisdiction for each agency are described below.

The USACE, pursuant to Section 404 of the Clean Water Act (CWA), upholds a set of guidelines to regulate activities that could result in the discharge of pollutants into "waters of the United States" ("WOTUS"). The legal definition of WOTUS has significantly evolved since the passage of the CWA in 1972 as a result of administrative rulings and litigation involving federal jurisdiction over water resources. Thus, the reach and extent of USACE and United States Environmental Protection Agency (USEPA) jurisdiction over aquatic features has continually been subject to revision.

The current administrative definition of WOTUS is described in the Biden Administration's 2023 "Conforming Rule." The extent of jurisdiction has been defined in the Code of Federal Regulations (CFR) but is also subject to interpretation by the federal courts. Jurisdictional waters generally include the following categories defined by section 328.3, subdivision (a) of title 33 of the CFR:

1) *Traditional Navigable Waters, the territorial seas, or interState waters (not including interState wetlands);*
2) *Impoundments of waters of the United States;*
3) *Tributaries of:*
    a. *Traditional Navigable Waters, territorial seas, or interState waters (not including interState wetlands); or*
    b. *Impoundments of water of the United States when the tributaries meet the relatively permanent standard.*
4) *Wetlands:*
    a. *Adjacent to Traditional Navigable Waters, the territorial seas, or interState waters;*
    b. *Adjacent to and with a continuous surface connection to relatively permanent impoundments of waters of the United States*
    c. *Adjacent to and with a continuous surface connection to relatively permanent jurisdictional tributaries.*
5) *IntraState lakes and ponds not identified in items 1 through 4 of this section that are relatively permanent, standing or continuously flowing bodies of water with a continuous surface connection to the waters identified in items 1 or 3 above.*

Exclusions under the new definition include the following:

1) *Waste treatment systems, including treatment ponds or lagoons, designed to meet the requirements of the CWA;*
2) *Prior converted cropland designated by the Secretary of Agriculture. The exclusion would cease upon a change of use, which means that the area is no longer available for the production of agricultural commodities. Notwithstanding the determination of an area's status as prior converted cropland by any other Federal agency, for the purposes of the CWA, the final authority regarding CWA jurisdiction remains with USEPA;*
3) *Ditches (including roadside ditches) excavated wholly in and draining only dry land and that do not carry a relatively permanent flow of water;*
4) *Artificially irrigated areas that would revert to dry land if the irrigation ceased;*
5) *Artificial lakes or ponds created by excavating or diking dry land to collect and retain water and which are used exclusively for such purposes as stock watering, irrigation, settling basins, or rice growing;*
6) *Artificial reflecting or swimming pools or other small ornamental bodies of water created by excavating or diking dry land to retain water for primarily aesthetic reasons;*
7) *Waterfilled depressions created in dry land incidental to construction activity and pits excavated in dry land for the purpose of obtaining fill, sand, or gravel unless and until the construction or excavation operation is abandoned and the resulting body of water meets the definition of waters of the United States; and*
8) *Swales and erosional features (e.g., gullies, small washes) characterized by low volume, infrequent, or short duration flow.*

The Department of the Army, acting through the USACE, regulates the filling or excavation of jurisdictional waters and is authorized to issue permits for activities within WOTUS under the authority of Section 404 of the CWA. The extent of jurisdiction is defined by an "ordinary high-water mark" (OHWM) on opposing channel banks.

The State of California also asserts jurisdiction over drainages, wetlands, and other aquatic features. The limits of State jurisdiction differ from those of the USEPA and USACE, often being more inclusive of water resources. The California Department of Fish and Wildlife has jurisdiction over the bed and bank of rivers, natural drainages, streams, and lakes and regulates alteration to these features pursuant to the provisions of Section 1601 and 1602 of the California Fish and Game Code. Activities to alter these features would require a Lake or Streambed Alteration Agreement from CDFW, which could include mitigation measures for aquatic and biological resources that could be affected by Project activities.

The State Water Resources Control Board, under the Porter-Cologne Water Quality Control Act of 1969, holds regulatory authority over activities affecting water quality of all surface water and groundwater in California, collectively known as "waters of the State." Discharges into waters of the State that are also WOTUS require a CWA Section 401 Water Quality Certification from the appropriate regional office as a prerequisite to obtaining certain federal permits, such as a CWA Section 404 permit. Discharges into all Waters of the State, even those that are not also WOTUS, require waste discharge requirements (WDRs), or waivers of WDRs, from the RWQCB. The RWQCB also administers the Construction Storm Water Program and the federal National Pollution Discharge Elimination System (NPDES) program. Projects that disturb one acre or more of soil must obtain a Construction General Permit under the Construction Storm Water Program. A prerequisite for this permit is the development of a Storm Water Pollution Prevention Plan (SWPPP) by a certified Qualified SWPPP Developer. Projects that discharge wastewater, storm water, or other pollutants into a WOTUS may require an NPDES permit.

3.3 POTENTIALLY SIGNIFICANT PROJECT-RELATED IMPACTS AND MITIGATION

Species protected by California Fish and Game Code, CDFW, USFWS, CEQA, or NEPA that have the potential to be impacted by Project activities include Swainson's hawk and nesting migratory birds. Corresponding mitigation measures can be found below.

3.3.1 GENERAL PROJECT-RELATED IMPACTS

The Project has the potential to impact a number of sensitive resources, as described in more detail in the following sections. Impacts to these resources would be a violation of State and federal laws or considered a potentially significant impact under CEQA and NEPA. Implementation of the following measures will help reduce potential impacts to these resources to a less than significant level under CEQA and NEPA and will help with complying with State and federal laws protecting these resources:

> Mitigation Measure BIO-1a (*BMPs*): The Project proponent will require that all workers employ the following best management practices (BMPs) to avoid and minimize potential impacts to special status species:
>
> - Vehicles will observe a 15-mph speed limit while on unpaved access routes.
> - All open trenches, holes, sumps, and other excavations greater than 6-inches with sidewalls steeper than a 1:1 (45 degree) slope will have an escape ramp of earth or a non-slip material with a less than 1:1 slope or these will be covered with barrier material such that animals are unable to dig or squeeze under the barrier and become entrapped.
> - Workers will inspect areas beneath parked vehicles, equipment, and materials prior to mobilization. If special status species are detected, the individual will either be allowed to leave of its own volition. "Take" of a State or federal special status (rare, California Species of Special Concern, threatened, or endangered) species is prohibited without the necessary federal or State take permit(s).

3.3.2 PROJECT-RELATED MORTALITY AND/OR NEST ABANDONMENT OF MIGRATORY BIRDS, RAPTORS, AND SPECIAL STATUS BIRDS

The site and adjacent areas contain suitable nesting and foraging habitat for a variety of protected bird species, such as migratory birds, raptors, and special status birds including Swainson's hawk. It is anticipated that during the nesting bird season, protected birds could nest on the ground or in shrubs and trees within, and adjacent to, the site and forage within the site. Protected birds located within or adjacent to the site during construction have the potential to be injured or killed by Project-related activities. In addition to the direct "take" of protected birds within the site and adjacent areas, these birds nesting in these areas could be disturbed by Project-related activities resulting in nest abandonment. Projects that adversely affect the nesting success of protected birds or result in the mortality of these birds would be a violation of State and federal laws and considered a potentially significant impact under CEQA and NEPA.

While foraging habitat for protected birds, such as Swainson's hawk, is marginally present on the site, suitable foraging habitat is located adjacent to the site and within the vicinity of the site. Loss of the foraging habitat from implementation of the Project is not considered a significant impact.

Implementation of the following measures will reduce potential impacts to protected nesting birds to a less than significant level under CEQA and NEPA and will help the Project comply with State and federal laws protecting these bird species.

Mitigation Measure BIO-2a (*Avoidance*): The Project's construction activities will occur, if feasible, between September 16 and January 31 (outside of the nesting bird season) to avoid impacts to nesting birds.

Mitigation Measure BIO-2b (*Pre-construction Surveys*): If activities must occur within nesting bird season (February 1 to September 15), a qualified biologist will conduct a pre-construction survey for Swainson's hawk nests onsite and within a 0.5-mile radius within ten calendar days prior to the start of construction. This 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. The survey would also include inspecting nesting migratory birds within up to 100 feet outside of the APE and for other nesting raptors up to 500 feet outside of the APE. All raptor nests would be considered "active" upon the nest-building stage. If no active nests are observed, no further mitigation is required. If construction is delayed or halted for more than ten (10) days, another pre-construction survey for nesting birds will be conducted.

Mitigation Measure BIO-2c (*Avoidance Buffers*): On discovery of any active nests or breeding colonies near work areas, a qualified biologist will determine appropriate avoidance buffer distances based on applicable CDFW and/or USFWS guidelines, the biology of the species, conditions of the nest(s), and the level of Project disturbance.

3.4 SECTION 7 DETERMINATIONS

In addition to the occurrence analysis performed in Table 2 and Table 3 of this document, Table 4 summarizes Project effect determinations for federally-listed species found on the CNDDB list generated on August 15, 2025, and the USFWS IPaC list generated on August 18, 2025 (see Appendix B and Appendix C, respectively), in accordance with Section 7 of the Endangered Species Act.

Table 4: Section 7 Determinations

Species	Determination	Rationale for Determination
California tiger salamander *(Ambystoma californiense)*	No effect	**Habitat absent.** Both aquatic and upland habitat was absent within the APE, and the area was highly disturbed.
Colusa grass (*Neostapfia colusana*)	No effect	**Habitat absent**. Vernal pool habitat was absent within the APE, and the area was highly disturbed.
Green sturgeon (*Acipenser medirostris*)	No effect	**Habitat absent**. Aquatic habitat was absent within the APE, and the area was highly disturbed.
Greene's tuctoria *(Tuctoria greenei)*	No effect	**Habitat absent**. Vernal pool habitat was absent within the APE, and the area was highly disturbed.
Hairy Orcutt grass (*Orcuttia pilosa*)	No effect	**Habitat absent.** Vernal pool habitat was absent within the APE, and the area was highly disturbed.
Hoover's spurge (*Euphorbia hooveri*)	No effect	**Habitat absent.** Vernal pool habitat was absent within the APE, and the area was highly disturbed.
Least Bell's vireo (*Vireo bellii pusillus*)	No effect	**Habitat absent.** APE is outside of the known distribution range of this species.

Species	Determination	Rationale for Determination
Monarch butterfly (*Danaus plexippus*)	No effect	**Habitat present.** The APE does not provide suitable roosting habitat or milkweed plants to sustain this species and the area was highly disturbed.
Northwestern pond turtle (*Actinemys marmorata*)	No effect	**Habitat absent**. Aquatic habitat was absent within the APE and the area was highly disturbed.
San Joaquin Valley Orcutt grass *(Orcuttia inaequalis)*	No effect	**Habitat absent.** Vernal pool habitat was absent within the APE and the area was highly disturbed.
Steelhead – Central Valley DPS (*Oncorhynchus mykiss irideus* pop.11)	No effect	**Habitat absent**. Aquatic habitat was absent within the APE.
Succulent owl's-clover (*Castilleja campestris* var. *succulenta*)	No effect	**Habitat absent**. Vernal pool habitat was absent within the APE, and the area was highly disturbed.
Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*)	No effect	**Habitat absent.** Elderberry shrubs required by this species were absent from the APE.
Vernal pool fairy shrimp (*Branchinecta lynchi*)	No effect	**Habitat absent**. Vernal pool habitat was absent within the APE, and the area was highly disturbed.
Vernal pool tadpole shrimp (*Lepidurus packardi*)	No effect	**Habitat absent**. Vernal pool habitat was absent within the APE, and the area was highly disturbed.
Western spadefoot (*Spea hammondii*)	No effect	**Habitat absent.** Aquatic and upland habitat was absent within the APE.

3.5 LESS THAN SIGNIFICANT PROJECT-RELATED IMPACTS

3.5.1 PROJECT-RELATED IMPACTS TO SPECIAL STATUS PLANT SPECIES ABSENT FROM, OR UNLIKELY TO OCCUR ON, THE APE

Of the 12 regionally occurring special status plant species, all are considered absent from or unlikely to occur within the APE due to past or ongoing disturbance and/or the absence of suitable habitat.

Since it is unlikely that these species would occur onsite, implementation of the Project should have no impact on these 12 special status species through construction mortality, disturbance, or loss of habitat. Mitigation measures are not warranted.

3.5.2 PROJECT-RELATED IMPACTS TO SPECIAL STATUS ANIMAL SPECIES ABSENT FROM, OR UNLIKELY TO OCCUR ON, THE APE

Of the 16 regionally occurring special status animal species, 15 are considered absent from or unlikely to occur within the APE due to past or ongoing disturbance and/or the absence of suitable habitat. These species include: burrowing owl, California tiger salamander, green sturgeon, hardhead, least Bell's vireo, monarch butterfly, northern California legless lizard, northwestern pond turtle, steelhead, Townsend's big-eared bat, tricolored blackbird, valley elderberry longhorn beetle, vernal pool fairy shrimp, vernal pool tadpole shrimp, and western spadefoot

Since it is unlikely that these species would occur onsite, implementation of the Project should have no impact on these 15 special status species through construction mortality, disturbance, or loss of habitat. Mitigation measures are not warranted.

3.5.3 PROJECT-RELATED IMPACTS TO RIPARIAN HABITAT AND NATURAL COMMUNITIES OF SPECIAL CONCERN

Riparian habitat is absent from the APE. There are no CNDDB-designated "natural communities of special concern" recorded within the APE. Mitigation is not warranted.

3.5.4 PROJECT-RELATED IMPACTS TO REGULATED WATERS, WETLANDS, AND WATER QUALITY

Typical wetlands, vernal pools, and other waters were absent from the APE. There are no designated wild and scenic rivers within the APE; therefore, the Project would not result in direct impacts to wild and scenic rivers. Mitigation measures are not warranted.

3.5.5 PROJECT-RELATED IMPACTS TO CRITICAL HABITAT

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

3.5.6 LOCAL POLICIES OR HABITAT CONSERVATION PLANS

The Project appears to be consistent with the goals and policies of the Stanislaus County General Plan. There are no known HCPs or NCCPs in the Project vicinity. Mitigation measures are not warranted.

3.5.7 COASTAL ZONE AND COASTAL BARRIERS RESOURCES ACT

The Project would not be located within the coastal zone. The Project would not impact or be located within or near the Coastal Barrier Resources System or its adjacent wetlands, marshes, estuaries, inlets, and near-shore waters. Mitigation measures are not warranted.

3.5.8 PROJECT-RELATED IMPACT TO ESSENTIAL FISH HABITAT

Essential Fish Habitat (EFH) and Habitat Areas of Particular Concern are absent from the APE and surrounding lands, and consultation with the National Marine Fisheries Service (NMFS) would not be required. Query results of the NMFS EHF Mapper can be found in Appendix E at the end of this document. Mitigation measures are not warranted.

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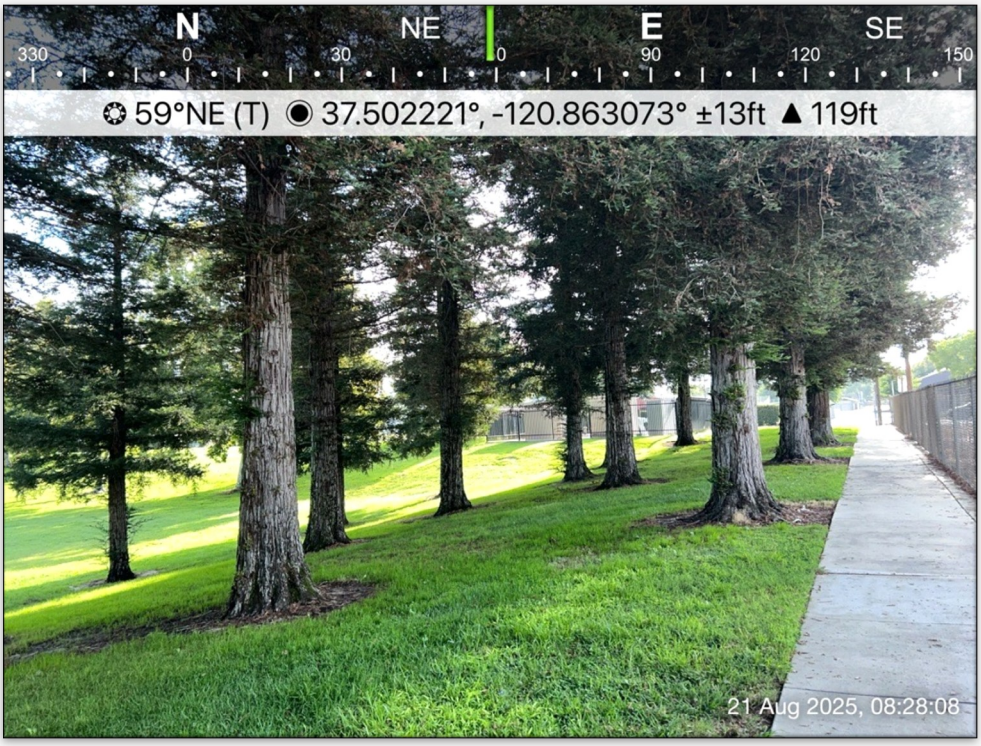
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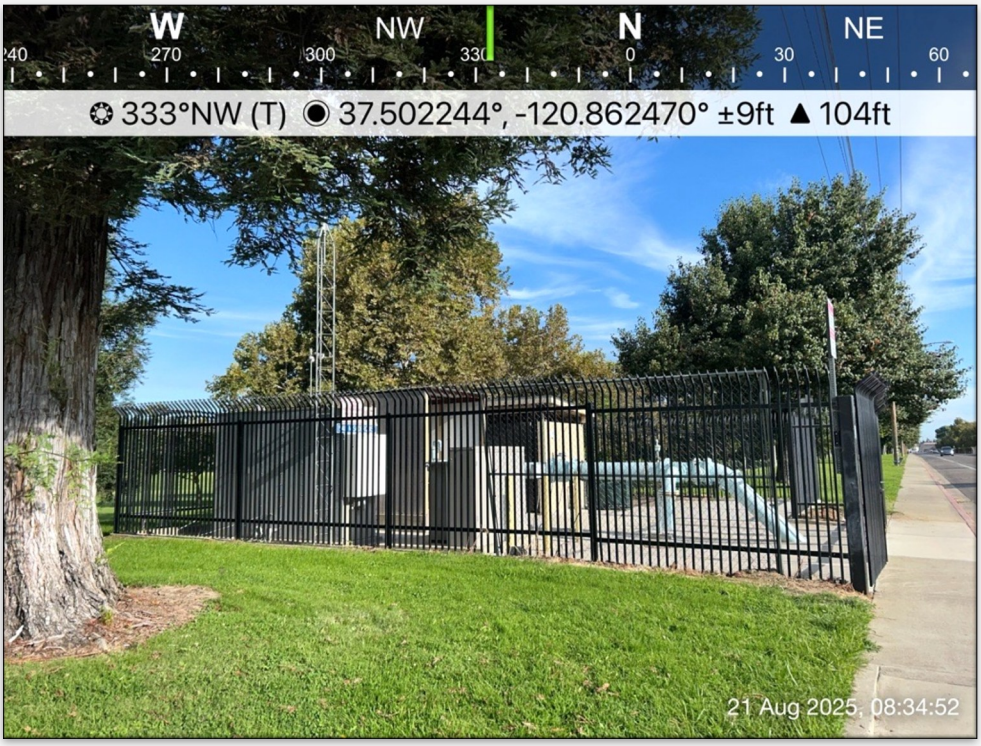
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APPENDIX A: REPRESENTATIVE PHOTOS OF THE APE



Photograph 1

Overview of the APE from the southwest corner. Redwoods and concrete walking paths lined the southern edge of the site. The site is located within Summerfaire Park.



Photograph 2

Overview of the western side of the gated well structure in the southeastern corner of the APE and Summerfaire Park.



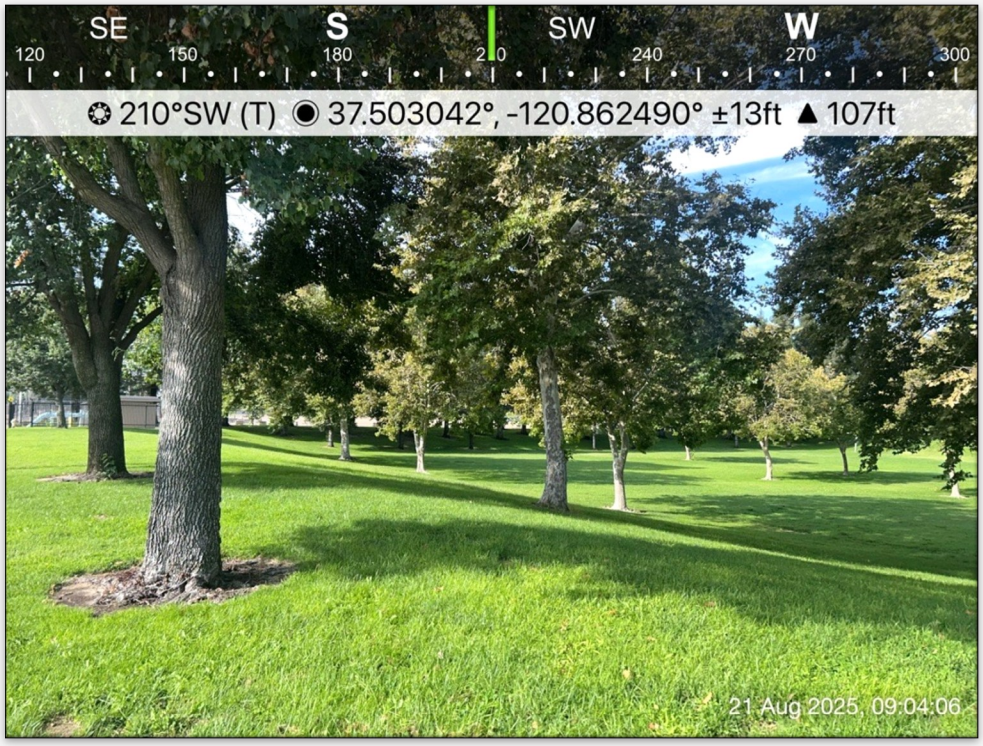
Photograph 3

Overview of the gated well structure southeastern corner of the APE. No nests were observed within the structure.



Photograph 4

Overview of the adjacent Stanislaus County Fairgrounds from North Soderquist Road.



Photograph 5

Overview of the APE from the northeast corner. Western sycamore and Callery pear trees were planted in lines across Summerfaire Park.



Photograph 6

The northern half of the APE from the center. The site was dominated by frequently mowed ad maintained lawn with planted ornamental trees.

APPENDIX B: CNDDB 9-QUAD SPECIES LIST

Selected Elements by Common Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Denair (3712057) OR Ceres (3712058) OR Cressey (3712046) OR Hatch (3712048) OR Montpelier (3712056) OR Paulsell (3712066) OR Riverbank (3712068) OR Turlock (3712047) OR Waterford (3712067))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
American bumble bee *Bombus pensylvanicus*	IIHYM24260	None	None	G3G4	S2	
Antioch multilid wasp *Myrmosula pacifica*	IIHYM15010	None	None	GH	SH	
beaked clarkia *Clarkia rostrata*	PDONA050Y0	None	None	G2G3	S2S3	1B.3
burrowing owl *Athene cunicularia*	ABNSB10010	None	Candidate Endangered	G4	S2	SSC
cackling (=Aleutian Canada) goose *Branta hutchinsii leucopareia*	ABNJB05035	Delisted	None	G5T3	S3	WL
California alkali grass *Puccinellia simplex*	PMPOA53110	None	None	G2	S2	1B.2
California linderiella *Linderiella occidentalis*	ICBRA06010	None	None	G2G3	S2S3	
California tiger salamander - central California DPS *Ambystoma californiense pop. 1*	AAAAA01181	Threatened	Threatened	G2G3T3	S3	WL
Colusa grass *Neostapfia colusana*	PMPOA4C010	Threatened	Endangered	G1	S1	1B.1
Crotch's bumble bee *Bombus crotchii*	IIHYM24480	None	Candidate Endangered	G2	S2	
green sturgeon - southern DPS *Acipenser medirostris pop. 1*	AFCAA01031	Threatened	None	G2T1	S1	SSC
Greene's tuctoria *Tuctoria greenei*	PMPOA6N010	Endangered	Rare	G1	S1	1B.1
hairy Orcutt grass *Orcuttia pilosa*	PMPOA4G040	Endangered	Endangered	G1	S1	1B.1
hardhead *Mylopharodon conocephalus*	AFCJB25010	None	None	G3	S3	SSC
heartscale *Atriplex cordulata var. cordulata*	PDCHE040B0	None	None	G3T2	S2	1B.2
hoary bat *Lasiurus cinereus*	AMACC05032	None	None	G3G4	S4	
Hoover's calycadenia *Calycadenia hooveri*	PDAST1P040	None	None	G2	S2	1B.3
Hoover's spurge *Euphorbia hooveri*	PDEUP0D150	Threatened	None	G1	S1	1B.2
least Bell's vireo *Vireo bellii pusillus*	ABPBW01114	Endangered	Endangered	G5T2	S3	

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Merced kangaroo rat *Dipodomys heermanni dixoni*	AMAFD03062	None	None	G4T2	S2	
Merced monardella *Monardella leucocephala*	PDLAM180C0	None	None	GX	SX	1A
moestan blister beetle *Lytta moesta*	IICOL4C020	None	None	G2	S2	
Northern California legless lizard *Anniella pulchra*	ARACC01020	None	None	G3	S2S3	SSC
Northern Hardpan Vernal Pool *Northern Hardpan Vernal Pool*	CTT44110CA	None	None	G3	S3.1	
northwestern pond turtle *Actinemys marmorata*	ARAAD02031	Proposed Threatened	None	G2	SNR	SSC
obscure bumble bee *Bombus caliginosus*	IIHYM24380	None	None	G2G3	S1S2	
San Joaquin Valley Orcutt grass *Orcuttia inaequalis*	PMPOA4G060	Threatened	Endangered	G1	S1	1B.1
steelhead - Central Valley DPS *Oncorhynchus mykiss irideus pop. 11*	AFCHA0209K	Threatened	None	G5T2Q	S2	SSC
subtle orache *Atriplex subtilis*	PDCHE042T0	None	None	G1	S1	1B.2
succulent owl's-clover *Castilleja campestris var. succulenta*	PDSCR0D3Z1	Threatened	Endangered	G4?T2T3	S2S3	1B.2
Swainson's hawk *Buteo swainsoni*	ABNKC19070	None	Threatened	G5	S4	
Townsend's big-eared bat *Corynorhinus townsendii*	AMACC08010	None	None	G4	S2	SSC
tricolored blackbird *Agelaius tricolor*	ABPBXB0020	None	Threatened	G1G2	S2	SSC
valley elderberry longhorn beetle *Desmocerus californicus dimorphus*	IICOL48011	Threatened	None	G3T3	S3	
vernal pool fairy shrimp *Branchinecta lynchi*	ICBRA03030	Threatened	None	G3	S3	
vernal pool tadpole shrimp *Lepidurus packardi*	ICBRA10010	Endangered	None	G3	S3	
western ridged mussel *Gonidea angulata*	IMBIV19010	None	None	G3	S2	
western spadefoot *Spea hammondii*	AAABF02020	Proposed Threatened	None	G2G3	S3S4	SSC

Record Count: 38

APPENDIX C: IPAC SPECIES LIST

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: 08/20/2025 20:37:30 UTC
Project Code: 2025-0138825
Project Name: Well 36 GAC Treatment 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, 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 U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

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 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 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:

https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts, see https://www.fws.gov/program/migratory-bird-permit/what-we-do.

It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see https://www.fws.gov/library/collections/threats-birds.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/partner/council-conservation-migratory-birds.

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 Code 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

Project Code: 2025-0138825

Project Name: Well 36 GAC Treatment Project

Project Type: Water Supply Facility - Maintenance / Modification

Project Description: The project site (or “site”) is located in the San Joaquin Valley, 11 miles southeast of the City of Modesto and within the northwest section of the City of Turlock in the southeastern edge of Stanislaus County, California. The Project site includes an active well that produces approximately 2,000 gallons per minute, Chlorination facilities, Summerfaire park, pump discharge header equipped with two blind flanged tees separated by an isolation gate valve, and paved walkways. Surrounding lands are residential neighborhoods with paved roads to the west, recreational fields for sports to the south, and businesses to the north and east. The project involves the removal of 15 trees and landscaping on all four sides of the site including security landscaping involving ornamental plants with thorns, approximately 6000 cubic yards of fill in the existing detention basin. The construction of 2 commercial drive approaches and an access road, ag surfacing, six 12’ diameter GAC Treatment Vessels, and ductile iron process piping is also included.

Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@37.50263685,-120.8627310275805,14z



Counties: Stanislaus 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 Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

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

---

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.

REPTILES

NAME	STATUS
Northwestern Pond Turtle *Actinemys marmorata* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1111	Proposed Threatened

AMPHIBIANS

NAME	STATUS
California Tiger Salamander *Ambystoma californiense* Population: U.S.A. (Central CA DPS) There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2076	Threatened
Western Spadefoot *Spea hammondii* Population: Northern DPS No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5425	Proposed Threatened

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus* There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/9743	Proposed Threatened
Valley Elderberry Longhorn Beetle *Desmocerus californicus dimorphus* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/7850	Threatened

CRUSTACEANS

NAME	STATUS
Vernal Pool Fairy Shrimp *Branchinecta lynchi* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/498	Threatened
Vernal Pool Tadpole Shrimp *Lepidurus packardi* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2246	Endangered

FLOWERING PLANTS

NAME	STATUS
San Joaquin Valley Orcutt Grass *Orcuttia inaequalis* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5506	Threatened

CRITICAL HABITATS

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

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

IPAC USER CONTACT INFORMATION

Agency: Private Entity
Name: Olivia Arredondo
Address: 455 W. Fir Ave.
City: Clovis
State: CA
Zip: 93611
Email oarredondo@ppeng.com
Phone: 8312970074

APPENDIX D: NRCS WEB SOIL SURVEY REPORT

Soil Map—Eastern Stanislaus Area, California
(Well 36 GAC Treatment Project Site)



Map Scale: 1:460 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 5 10 20 30

Feet
0 20 40 80 120

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

MAP LEGEND

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

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

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

Water Features
- Streams and Canals

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

Background
- Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: Eastern Stanislaus Area, California
Survey Area Data: Version 18, Sep 8, 2024

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

Date(s) aerial images were photographed: Mar 11, 2022—May 30, 2022

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
HfA	Hilmar loamy sand, 0 to 1 percent	0.9	100.0%
Totals for Area of Interest		**0.9**	**100.0%**

APPENDIX E: NMFS EFH MAPPER

EFH Mapper Report

EFH Data Notice

Essential Fish Habitat (EFH) is defined by textual descriptions contained in the fishery management plans developed by the regional fishery management councils. In most cases mapping data can not fully represent the complexity of the habitats that make up EFH. This report should be used for general interest queries only and should not be interpreted as a definitive evaluation of EFH at this location. A location-specific evaluation of EFH for any official purposes must be performed by a regional expert. Please refer to the following links for the appropriate regional resources.

West Coast Regional Office

Query Results

Degrees, Minutes, Seconds: Latitude = 37º 30' 24" N, Longitude = 121º 8' 17" W
Decimal Degrees: Latitude = 37.507, Longitude = -120.862

The query location intersects with spatial data representing EFH and/or HAPCs for the following species/management units.

EFH

No additional Essential Fish Habitats (EFH) were identified at the report location.

Pacific Salmon EFH

Link	HUC Name	Species/Management Unit	Lifestage(s) Found at Location	Management Council	FMP
	Lower San Joaquin River	Chinook Salmon	All	Pacific	Pacific Coast Salmon Plan

Atlantic Salmon

No Atlantic Salmon were identified at the report location.

HAPCs

No Habitat Areas of Particular Concern (HAPC) were identified at the report location.

EFH Areas Protected from Fishing

No EFH Areas Protected from Fishing (EFHA) were identified at the report location.

Spatial data does not currently exist for all the managed species in this area. The following is a list of species or management units for which there is no spatial data. ****For links to all EFH text descriptions see the complete data inventory: open data inventory -->**
Pacific Coastal Pelagic Species, Jack Mackerel, Pacific (Chub) Mackerel, Pacific Sardine, Northern Anchovy - Central Subpopulation, Northern Anchovy - Northern Subpopulation, **Pacific Highly Migratory Species**, Bigeye Thresher Shark - North Pacific,

Spatial data does not currently exist for all the managed species in this area. The following is a list of species or management units for which there is no spatial data. ****For links to all EFH text descriptions see the complete data inventory: open data inventory -->**
Bluefin Tuna - Pacific, Dolphinfish (Dorado or Mahimahi) - Pacific, Pelagic Thresher Shark - North Pacific, Swordfish - North Pacific

Appendix C: Cultural Resources Report

Cultural Resources Identification Report for the City of Turlock Well 36 Water Treatment Project
Stanislaus County, California

October 29, 2025

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ONLY THE CLIENT OR ITS DESIGNATED REPRESENTATIVES MAY USE THIS DOCUMENT AND ONLY FOR THE SPECIFIC PROJECT FOR WHICH THIS REPORT WAS PREPARED.

A Report Prepared for:

Provost & Pritchard Consulting Group.
455 W. Fir Avenue
Clovis, CA 93611

CULTURAL RESOURCES IDENTIFICATION REPORT FOR THE CITY OF TURLOCK WELL 36 WATER TREATMENT PROJECT
STANISLAUS COUNTY, CALIFORNIA

Prepared by:

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Senior Archaeologist, M.A., RPA

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Senior Archaeologist, M.A., RPA

KLEINFELDER
3130 Kilgore Road, Suite 200
Rancho Cordova, CA 95670

October 2025
Kleinfelder Project No: 26002192.001A

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MANAGEMENT SUMMARY

The City of Turlock proposes implementing a granular activated carbon (GAC) filtration system to remove 1,2,3-trichloropropane (TCP) from Municipal Water Well 36 and adding an arsenic treatment plant needed in the future (Project). Well 36 is in the southeast corner of Summerfaire Park, adjacent to Soderquist Road in Stanislaus County, California. The Water Treatment Project facilities will be adjacent to the City's Well 36 site and partially extend into the existing detention basin to accommodate future arsenic treatment infrastructure. The Project may utilize Drinking Water State Revolving Fund (DWSRF) grant funding. This study meets the requirements of Section 106 of the National Historic Preservation Act. In addition to meeting federal requirements, this report also meets regulatory requirements regarding cultural resources of the California Environmental Quality Act.

This report provides a summary of the efforts and results of the California Historical Resources Information System records search with the Central California Information Center at California State University, Stanislaus; a historical map review; archival research; a Native American Heritage Commission (NAHC) Sacred Lands File consultation; the methods and results of a pedestrian survey; resource evaluations; and standard late-discovery mitigation measures.

The records search included the area of potential effect (APE) and a 0.5-mile radius surrounding the APE. The records search results identified no previously recorded cultural resources and zero cultural resource studies intersecting the APE. Two cultural resources and 11 cultural resources studies were identified within the 0.5-mile radius of the APE. The NAHC Sacred Lands File records search had negative results for Sacred Lands within the vicinity of the APE, and the NAHC provided a list of Native American contacts for more information regarding cultural resources within the APE and the 0.5-mile record search area.

An intensive pedestrian survey was conducted on September 25, 2025, by Kleinfelder Senior Archaeologist Kruger Frank. The survey was completed using 10-meter transects, covering 100 percent of the 1-acre APE. No new or previously recorded cultural resources were identified during the survey of the Project's APE. Based on the results of this study, Kleinfelder recommends a finding of no historic properties affected by this undertaking and a finding of no significant impact to historical resources for the purposes of CEQA.

The following measures are recommended:

- In the event archaeological resources are encountered during any ground-disturbing activities associated with the Project, then all ground-disturbing work at the location, plus within a reasonable buffer zone, must be immediately suspended. The approving County department shall be contacted, and a qualified professional archaeologist retained to analyze the significance of the find and formulate further mitigation (e.g., Project relocation, excavation plan, and protective cover) in consultation with culturally affiliated tribes or other descendant groups, where applicable.
- Pursuant to California Health and Safety Code §7050.5, if known or suspected Native American or other human remains are encountered, all ground-disturbing work must cease in the vicinity of the discovery, and the County Coroner contacted. The respectful treatment and disposition of remains and associated grave offerings shall be in accordance with Public Resource Code §5097.98. The applicant and successors in interest are ultimately responsible for ensuring compliance with this condition.

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- In the event the Project design changes and ground disturbance is anticipated beyond the APE as it is currently defined, further surveys shall be conducted in those new areas to assess the presence of cultural resources. Any newly discovered or previously recorded cultural resources within the additional survey areas shall be recorded (or updated) on appropriate Department of Parks and Recreation 523-series forms. If eligible historic properties/historical resources are identified and avoidance of these resources is not feasible, then an evaluation and/or data recovery program shall be drafted and implemented.

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ACRONYMS AND ABBREVIATIONS

AB	Assembly Bill
ACHP	Advisory Council on Historic Preservation
AD	anno Domini
amsl	above mean sea level
APE	area of potential effect(s)
BP	before present
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CGS	California Geological Survey
CHRIS	California Historical Resources Information System
County	Stanislaus County
CRHR	California Register of Historical Resources
CY	cubic yard
DPR	Department of Parks and Recreation
DWSRF	Drinking Water State Revolving Fund
EIR	Environmental Impact Report
GAC	granular activated carbon
GLO	Department of the Interior Bureau of Land Management General Land Office
gpm	gallon(s) per minute
MND	Mitigated Negative Declaration
NAHC	Native American Heritage Commission
ND	Negative Declaration
NEPA	National Environmental Policy Act
NETR	Nationwide Environmental Title Research
NHPA	National Historic Preservation Act
No.	number
NOP	Notification of Preparation
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
CCIC	Central California Information Center
OHP	Office of Historic Preservation
PRC	Public Resources Code
Project	City of Turlock Well 36 Water Treatment Project
RPA	Register of Professional Archaeologists
SBBM	San Bernardino Base Meridian
SHPO	California State Historic Preservation Officer
SLF	Sacred Lands File
State	State of California
TCP	trichloropropane
TCR	Tribal Cultural Resource(s)
USDA	United States Department of Agriculture
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
WST	Western Stemmed Tradition

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1 INTRODUCTION

The City of Turlock Well 36 is part of the City's water supply system, which relies on groundwater for municipal water. Recent challenges with elevated arsenic and trichloropropane levels have prompted the City to propose the Well 36 Water Treatment Project (City Project No. 24-045). The Project is located within Summerfaire Park located at 1317 N. Soderquist Road and will include the application of an organic filtration media, in addition to an arsenic treatment plant needed in the future. The Water Treatment Project facilities will be adjacent to the City's Well 36 site partially extending into the existing detention basin to accommodate future arsenic treatment infrastructure.

Well 36 was constructed in the year 2000. The existing well is currently offline, with plans in place to replace the pump and motor before the proposed Granular Activated Carbon (GAC) treatment comes online. In the past,the well produces approximately 2,000 gallons per minute (gpm) of groundwater, which is used as potable water. Chlorination facilities were added to Well 36 in 2022. ,2,3-Trichloropropane (TCP) has been consistently detected at levels that exceed the maximum contaminant level (MCL) of 5 parts per trillion and the City received a compliance order from the Division of Drinking Water in 2023. Arsenic concentrations have been trending upward and are approaching the MCL of 10 parts per billion (ppb). The well includes a pump discharge header equipped with two (2) blind flanged tees separated by an isolated gate valve.

The Project may utilize Drinking Water State Revolving Fund (DWSRF) grant funding. This study meets the requirements of Section 106 of the National Historic Preservation Act (NHPA). In addition to meeting federal requirements, this report also meets regulatory requirements regarding cultural resources of the California Environmental Quality Act (CEQA).

1.1 PROJECT DESCRIPTION

The City of Turlock proposes implementing a granular activated carbon (GAC) filtration system to remove 1,2,3-trichloropropane (TCP) from Water Well 36 and adding an arsenic treatment plant needed in the future.

The major components of the Project include:

- Removal of 15 trees
- Placement of approximately 6,000 cubic yards (CY) of fill within the existing detention basin
- Installation of new security fencing and perimeter security landscaping utilizing thorned plant species (e.g., rose bushes, Pyracantha)
- Perimeter landscaping on all four sides of the facility
- Construction of two commercial-grade drive approaches and a 40-foot-wide half-circle access road
- Ag surfacing
- Installation of six (6) 12-foot diameter GAC treatment vessels
- Ductile iron process piping, primarily 12-inch and 16-inch diameters

The major components for future arsenic treatment include:

- Installation of three (3) 12-foot diameter filter vessels

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- Construction of an approximately 20-foot diameter washwater equalization basin
- Installation of a 35-foot by 60-foot chemical storage enclosure
- Installation of ductile iron (DI) and high-density polyethylene (HDPE)

Site runoff and backwash water will discharge to the basin drop inlet. The existing storm drain (SD) pipeline located in the south part of the APE will be intercepted and rerouted to avoid future conflicts with the future arsenic treatment plant on-site.

1.2 BACKGROUND AND OBJECTIVES

The purpose of this assessment is to inventory the Area of Potential Effect (APE) for potential cultural resources that may be present, assess if any such resources are eligible for listing on the National Register of Historic Places (NRHP) and/or California Register of Historical Resources (CRHR), and identify measures to avoid or mitigate potential impacts to such resources.

For this analysis, Kleinfelder conducted an archaeological and historical records review and literature search through the Central California Information Center of the California Historical Resources Information System (CHRIS) to assess the potential presence of cultural resources within the APE and a 0.5-mile radius around the APE. The records review and literature search included reviews of historical maps, previous survey reports, and registers of historical resources. This was followed by a Sacred Lands File (SLF) search with the Native American Heritage Commission (NAHC). Once background research had been completed, Kleinfelder completed an intensive pedestrian survey of the APE to record or update potential cultural resources. The scope of work has been completed in accordance with Section 106 of the NHPA.

1.3 PROJECT LOCATION

The APE is located within the City of Turlock, Stanislaus County, California, approximately 13 miles southeast of Modesto and 28 miles northwest of Merced. The APE encompasses the Municipal Water Well 36 within Summerfaire Park, located at 1317 N. Soderquist Road. The boundary of the APE and 0.5-mile record search area are found on the Denair, California 7.5-minute United States Geological Survey (USGS) quadrangle in Township 5 South, Range 10 East, Section 15, San Bernardino Base Meridian (SBBM). The Water Treatment Project facilities will be adjacent to the City's existing Well 36 site.

1.4 AREA OF POTENTIAL EFFECTS

The APE is a thick grassy area within the southeast corner of Summerfaire Park, along the west side of West Soderquist Road. It measures approximately 1 acre and encompasses the site of Well 36, the existing detention basin, and the surrounding vicinity. The APE boundary is intended to include all Project-related ground-disturbing activities (Appendix A).

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2 REGULATORY CONTEXT

The following section provides the federal, State of California (State), and local laws, regulations, and ordinances that are applicable to cultural resources compliance on the Project.

2.1 SECTION 106 OF THE NATIONAL HISTORIC PRESERVATION ACT

Section 106 of the NHPA (36 Code of Federal Regulations [CFR] §800) requires that projects undertaken by federal agencies (and/or federally funded projects or projects requiring federal approval) consider the effects of their actions on properties that may be eligible for listing or are listed in the NRHP. To determine whether an undertaking could affect NRHP-eligible properties, cultural resources (including archaeological and architectural properties) must be inventoried and evaluated for listing in the NRHP. Although compliance with Section 106 is the responsibility of the lead federal agency, consultants in support of the agency or project proponent may be delegated portions of the Section 106 process. The Section 106 process includes four primary steps, listed below.

1. Initiate the Process
    - Determining if a project is considered an undertaking per 36 CFR 800.16(y)
    - Coordination of the Section 106 Process with other reviews
    - Initiation of consultation with consulting parties (36 CFR § 800.3)
    - Planning for public involvement
2. Identification and evaluation of historic properties within the APE (36 CFR § 800.4). If there are no historic properties within the APE or historic properties are within the APE but the undertaking will have no effect on them as defined in § 800.16(i), a finding of no historic properties affected (36 CFR § 800.4[d][1]) is appropriate and the agency official shall provide documentation of this finding to consulting parties and the public.
    - Define the Area of Potential Effects
    - Identify properties
    - Evaluate properties for the NRHP
    - Determine effects on historic properties
3. Assessment of effects on historic properties within the APE (36 CFR § 800.4 & 800.5)
    - Results of identification and evaluation
        - If it is determined that there are either no historic properties present, or there are historic properties present but the undertaking will have no effect upon them, a finding of no historic properties affected may be proposed (36 CFR § 800.4[d]).
        - A finding of historic properties affected may be proposed when there are historic properties present that may be affected by the undertaking (36 CFR § 800.4[d][iv][D][2]).
            - If there are historic properties that will be affected, consultation is required with the California State Historic Preservation Officer (SHPO)

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and consulting tribes regarding effects, both direct and indirect, on historic properties.

- Apply criteria of adverse effects
  - A finding of no adverse effect may be proposed, through consultation, if the undertaking does not meet the criteria of adverse effect, the undertaking is modified, and/or conditions are imposed (36 CFR § 800.5[b]).
  - When an undertaking may alter, directly, or indirectly any of the characteristics that qualify the property for inclusion in the National Register, the criteria of adverse effect may be proposed (36 CFR § 800.5[a][1]).

4. Resolve adverse effects on historic properties within the APE (36 CFR § 800.6).
   - Compile documentation for consultation
   - Invite the Advisory Council on Historic Preservation [ACHP] to participate
   - Consult on resolving adverse effects
   - If adverse effects cannot be avoided, a finding of adverse effects to historic properties (§ 800.6(d)(2)) is appropriate, and an agreement document among the consulting parties shall be prepared to mitigate adverse effects.
     - This is achieved through consultation among the federal agency, consulting parties, and the ACHP, if they choose to participate. If the ACHP provides comments to the head of the lead federal agency, the ACHP comments must be considered when the final agency decision on the undertaking is made.

National Register of Historic Places Four Criteria for Evaluation

The significance of cultural resources is determined using the NRHP's four Criteria for Evaluation (Criteria A–D) at 36 CFR §60.4, which state that a historic property is any site, building, structure, or object that:

A. Is associated with events that made a significant contribution to the broad patterns of our history (Criterion A);

B. Is associated with the lives of persons significant to our past (Criterion B);

C. Embodies the distinctive characteristics of a type, period, or method of construction, or that represents the work of a master, or that possesses high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction (Criterion C); and/or

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

If the SHPO concurs with the determination that a cultural resource is eligible for inclusion in the NRHP, then it is automatically eligible for the CRHR. If a resource does not have the level of integrity necessitated by the NRHP, it may still be eligible for the CRHR, which allows for a lower level of integrity.

National Register of Historic Places Seven Aspects of Integrity

Cultural resources integrity is determined using the NRHP's seven aspects of integrity at 36 CFR §60.4, which state that a historic property must not only be shown to be significant under the NRHP criteria, but it also must retain historic integrity. The seven aspects of integrity include location, design, setting, materials, workmanship, feeling, and association. A property must meet one or more of the Criteria for Evaluation for significance before a determination can be made about its integrity.

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2.2 CALIFORNIA ENVIRONMENTAL QUALITY ACT OF 1970, AS AMENDED

The CEQA requires State and local agencies to identify and reduce, if feasible, the significant, negative environmental impacts of land use decisions.

CEQA Guidelines: Title 14 California Code of Regulations (CCR) Section 1427
This section of CEQA recognizes that California's archaeological resources are endangered by urban development; the legislature finds that these resources need preserving; it is a misdemeanor to alter any archaeological evidence found in any cave, or to remove any such materials from a cave.

CEQA Guidelines: Title 14 CCR Section 15064.4 subsection (b)
This section of CEQA defines "historical resource," addresses reburial options for Native American remains, and presents the preferred mitigation of historical resources.

CEQA Guidelines: Title 14 CCR Section 15064.5
This section of CEQA identifies which resources are considered cultural resources, as stated below.

- Resource(s) listed or eligible for listing on the CRHR (Title 14 CCR Section 15064.5(a)(1));
- Resource(s) either listed in the NRHP or in a "local register of historical resources" unless "the preponderance of evidence demonstrates that it is not historically or culturally significant," (Title 14 CCR Section 15064.5(a)(2)); and
- Resources identified as significant in a historical resource survey meeting the requirements Section 5024.1(g) of the Public Resources Code (PRC) [Title 14 CCR Section 15065.5(a)(2)].

In addition, Subdivision (g) provides the guidelines referenced below regarding historical surveys.

A resource identified as significant in a historical survey may be listed in the CRHR if the survey meets all the following criteria:

- The survey has been or will be included in the State Historic Resources Inventory.
- The survey and the survey documents were prepared in accordance with procedures and requirements of the California Office of Historic Preservation (OHP).
- The resource is evaluated and determined by OHP to have a significance rating of Category 1 to 5 on the Department of Parks and Recreation (DPR) Historic Resources Inventory Form.
- If the survey is 5 years or older at the time of its nomination for inclusion in the CRHR, the survey is updated to identify historic resources that have become eligible or ineligible due to changed circumstances or further documentation and those which have been demolished or altered in a manner that substantially diminished the significance of the resource.
- Resources identified during such surveys are presumed to be historically or culturally significant unless the preponderance of evidence demonstrates otherwise.
- A final category of "historical resources" may be determined at the discretion of the lead agency when: any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may

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be considered to be a historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record [Title 14 CCR Section 15064.5(a)(3)].

When an Initial Study identifies the existence of, or the probable likelihood of, Native American human remains within a project, the lead agency shall work with the appropriate Native Americans as identified by NAHC. An applicant may develop an agreement for treating or disposing of, with appropriate dignity, the human remains, and any items associated with Native American burials with the appropriate Native Americans as identified by NAHC (Title 14 CCR Section 15064.5(d)).

CEQA Guidelines: Title 14 CCR Section 15064.5(b3)
This section addresses mitigation, and states that the preferred mitigation for historical resources is treatment in a manner consistent with the Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings. The preferred mitigation for archaeological sites is preservation in place.

CEQA Guidelines: Title 14 CCR Section 15064.7 "Thresholds of Significance"
This section encourages agencies to develop thresholds of significance to be used in determining potential impacts and defines the term "cumulatively significant."

CEQA Guidelines: Title 14 CCR Section 15126.4 "Consideration and Discussion of Mitigation Measures Proposed to Minimize Significant Effects", Sub-section (b) "Mitigation Measures Related to Impacts on Historical Resources"
Subsection (b) discusses:

- Impacts of maintenance, repair, stabilization, restoration, conservation, or reconstruction of a historical resource;
- Documentation as a mitigation measure; and
- Mitigation through avoidance of damaging effects on any historical resource of an archaeological nature, preferably by preservation in place, or by data recovery through excavation if avoidance or preservation in place is not feasible; data recovery must be conducted in accordance with an adopted data recovery plan.

CEQA Appendix G Section V
This appendix is a checklist that identifies potential impacts to historical and archaeological resources, and/or human remains. The checklist includes the following questions, which are used to determine if a potential project would:

- Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5;
- Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5; and
- Disturb any human remains, including those interred outside formal cemeteries.

Questions on the checklist are answered to assess whether impacts associated with a project would be potentially significant, less than significant with mitigation, less than significant, or have no impact. The final determination of project-related impacts is made by the lead agency on a project.

CEQA Assembly Bill 52 –Tribal Consultation and Tribal Cultural Resources

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Assembly Bill (AB) 52 amended CEQA to address California Native American tribal concerns regarding how cultural resources of importance to tribes are treated under CEQA. CEQA now specifies that a project that may cause a substantial adverse change in the significance of a "tribal cultural resource" [as defined in PRC 21074(a)] is a project that may have a significant effect on the environment. According to AB 52, tribes may have expertise in tribal history and "tribal knowledge about land and tribal cultural resources (TCR) at issue should be included in environmental assessments for projects that may have a significant impact on those resources."

The AB 52 process entails the following:

- The CEQA lead agency must begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project if the tribe has requested such notification to the lead agency, in writing. The notification request requires that the lead agency inform these tribes of proposed projects in the geographic area provided by the representative tribe, and within set timeframes. Specifically, the lead state agency is required to notify tribe(s) that have requested project notification under AB 52 within 15 days of determining there is a project; the tribe(s) then have 30 days to respond to this notification and request consultation: upon receipt of a request for consultation the lead agency must then initiate consultation with the tribe(s) within 30 days.
- AB 52 applies to the following CEQA documents: Negative Declaration (ND), Mitigated Negative Declaration (MND), or Notification of Preparation (NOP) of an Environmental Impact Report (EIR). Such documents cannot be released for public review before tribal consultation has concluded and shall not contain any confidential information that the Tribe has requested to be omitted from public review.

AB 52 further defines the following legislative terms:

PRC 21074 (TCR): The statute identifies TCR as a separate and distinct category of resource, separate from a historical resource. New PRC Section 21074 further defines a TCR as any of the following under its Subsections (a) through (c):

a) Sites, features, places, and objects with cultural value to descendant communities or cultural landscapes that are any of the following:
    - Listed on the CRHR;
    - Included in a local register of historical resources as defined in subdivision (k) of Section 5020.1; and
    - Deemed to be significant pursuant to criteria set forth in subdivision (c) of Section 5024.1.

b) Sacred places, including, but not limited to, Native American sanctified cemeteries, places of worship, religious or ceremonial sites, or sacred shrines that meet either of the following criteria:
    - Listed on the California NAHC's Sacred Lands File (SLF) pursuant to Section 5097.94 or 5097.96 and a California Native American tribe has submitted sufficient evidence to the lead agency demonstrating that significance to the California Native American tribe or contain known graves and cemeteries of California Native Americans.
    - Listed or determined pursuant to criteria set forth in subdivision (g) of Section 5024.1 to be eligible for listing in the CRHR.

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c) A cultural landscape is a TCR to the extent that the landscape is geographically defined in terms of the size and scope of the landscape.

d) A historical resource described in Section 21084.1, a unique archaeological resource as defined in subdivision (g) of Section 21083.2, or a "non-unique archaeological resource" as defined in subdivision (h) of Section 21083.2 also may be a TCR if it conforms with the criteria of subdivision (a).

2.3 PUBLIC RESOURCES CODES

PRC Section 5020.1
This section defines several terms, including those provided below.

> "Historical resource" includes, but is not limited to, any object, building, structure, site, area, place, record, or manuscript that is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California.
>
> "Substantial adverse change" means demolition, destruction, relocation, or alteration such that the significance of a historical resource would be impaired.

PRC Section 5024.1
This section establishes the CRHR. A resource may be listed as a historical resource in the CRHR if it meets the NRHP criteria or the following state criteria:

- Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
- Is associated with the lives of persons important in our past;
- Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
- Has yielded, or may be likely to yield, information important in prehistory or history.

PRC Section 5097.5
This section states that any unauthorized removal or destruction of archaeological or paleontological resources on sites located on public land is a misdemeanor. As used in this section, "public lands" means lands owned by, or under the jurisdiction of, the State or any city, county, district, authority or public corporation, or any agency thereof.

PRC Section 5097.98
This section discusses the procedures that need to be followed upon the discovery of Native American human remains. NAHC, upon notification of the discovery of human remains by the County Coroner, is required to notify those persons it believes to be most likely descended from the deceased Native American. It enables the descendant to inspect the site of the discovery of the Native American human remains and to recommend to the landowner (or person responsible for the excavation) means of treating, with dignity, the human remains and any associated grave goods.

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PRC Sections 5097.99, 5097.991
These sections establish that it is a felony to obtain or possess Native American artifacts or human remains taken from a grave or cairn and sets penalties for these actions. The sections also mandate that it is the policy of the State to repatriate Native American remains and associated grave goods.

PRC Section 21083.2
This section states that under CEQA, the lead agency is responsible for determining whether a project may have a significant effect on historical and archaeological resources. Section 21083.2 states that if the lead agency determines that the project may have a significant effect on "unique" archaeological resources, an EIR shall be prepared to address these resources. A unique archaeological resource is an artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that the resource meets one of the following criteria:

- Contains information needed to answer important research questions and that a demonstrable public interest exists in that information;
- Has a special and particular quality, such as being the oldest or best example of its type; and/or
- Is directly associated with a scientifically recognized important prehistoric or historic event or person.

If it can be demonstrated that a project will cause damage to a unique archaeological resource, the lead agency may require that reasonable efforts be taken to preserve these resources in place or provide conditions or mitigation measures.

PRC Section 21084.1
This section sets forth that a project that may cause a significant adverse change in a significant historical resource is a project that may be considered to have adverse effects on the environment. Historical resources not listed on the CRHR or other local lists may still be considered historical resources at the discretion of the lead agency on the project.

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3 NATURAL AND CULTURAL CONTEXT

This section presents the natural, prehistoric, ethnographic, and historic context of the Project vicinity.

3.1 NATURAL CONTEXT

The Project is in Stanislaus County, in the San Joaquin Basin of the Central Valley of California. Stanislaus County is approximately 1,515 square miles in area and comprises primarily agricultural lands and small- to medium-sized communities. The San Joaquin Basin, a portion of the greater Central Valley of California, stretches north to south from the Sacramento–San Joaquin River Delta to the Tehachapi Mountains and west to east from the California Coast Ranges to the Sierra Nevada foothills. The San Joaquin Basin is known as one of the most notable structural depressions in the world (USGS 2022). The Project is located east of the Diablo Range. The Diablo Formation is composed primarily of sandstone and shale with surrounding valley soils of clay and clay loam. The soils within the APE are primarily Hilmar loamy sand, a somewhat excessively drained alluvium derived largely from granitic rock sources found on 0 to 1 percent slopes (USDA 2025).

The local climate, classified as semi-arid, is characterized by hot, dry summers and cool, mild winters. The majority of rainfall occurs between November and March, although average monthly precipitation during these months rarely breaks 3 inches.

3.2 PREHISTORIC CONTEXT

The prehistory of the Central Valley has been divided into five periods based on stylistically distinct artifact types and other cultural patterns combined with radiocarbon dates. The periods are Paleo-Indian (11,550 to 8,550 cal B.C.), Lower Archaic (8,550 to 5,550 cal B.C.), Middle Archaic (5,550 to 550 cal B.C.), Upper Archaic (550 cal B.C. to cal A.D. 1100), and Emergent Occupation (cal A.D. 1000 to Historic) (Rosenthal et al. 2007).

3.2.1 Paleo-Indian Period (11,550 to 8,550 cal B.C.)

The Paleo-Indian period spans the terminal Pleistocene and early Holocene. During the terminal Pleistocene, much of the northern hemisphere was covered by large ice sheets, and there were at least 42 glaciated mountain ranges in western North America (Grayson 2011:121). At the end of the Pleistocene, temperatures warmed, glaciers melted, and ice sheets retreated (Meltzer 2009). The end of the Pleistocene also coincides with the extinction of 35 genera of mammals and 20 genera of birds in North America alone (Meltzer 2009:44). The earliest securely dated and widely accepted sites that provide evidence for human occupation in the Americas are Monte Verde, Chile, and the Paisley Caves, Oregon (Grayson 2011). Monte Verde is a habitation site dated to approximately 12,500 cal B.C., and the Paisley Caves are a series of rock shelters that contained stone tools, Pleistocene megafauna, and coprolites containing human DNA that have been dated to approximately 12,200 cal B.C. (Jenkins et al. 2012). Both these sites suggest that people were in the Americas before the emergence of Clovis technology (Grayson 2011:63).

Clovis points date from approximately 11,550 to 10,800 cal B.C. (Beck and Jones 2010; Haynes 2002; Waters and Stafford 2007), and basally thinned and fluted variants persist until approximately 9,550 cal

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B.C. (Fiedel 1999). They are lanceolate bifaces approximately 7 to 10 centimeters long that tend to be thinned by overshot flaking and exhibit basal thinning flutes on each face that extend one-third to two-thirds the lengths of the points (Haynes 2002:82). Clovis assemblages are most often associated with hunting large mammals such as mammoth and bison, with plants and small mammals making up minor portions of the subsistence remains at archaeological sites associated with the Clovis period (Haynes and Hutson 2013). Although peoples utilizing Clovis points were the first to colonize some areas, they may not have been first in the western United States (Beck and Jones 2010; Fiedel and Morrow 2012). Western Stemmed Tradition (WST) points date from approximately 11,240 to 7,000 cal B.C. (Beck and Jones 2010, 2012). They are lanceolate, sometimes shouldered bifaces measuring approximately 4 to 8 centimeters long that tend to exhibit broad collateral flaking terminating at the midline. WST assemblages are most often associated with hunting small-to-medium mammals such as deer, pronghorn, jackrabbits, and aquatic resources such as fish and mollusks (Grayson 2011; Hockett 2007; Pinson 2007). WST points, crescents, and some fluted projectile points all occur in relatively high density at Tulare Lake in Kings County, located approximately 40 miles southeast of the APE.

3.2.2 Lower Archaic Period (8,550 to 5,550 cal B.C)

Climate change at the end of the Pleistocene and during the Middle Holocene caused a significant amount of sediment deposition in the Central Valley and buried many of the earliest sites. As a result, archaeological deposits from this period are rare and usually restricted to isolated finds (Rosenthal et al. 2007). Temporally diagnostic Lower Archaic artifacts are stemmed and concave base projectile points and crescents. Subsistence remains recovered from CA-KER-113 near Buena Vista Lake in Kern County indicate freshwater fish and mussels, waterfowl, and large-mammals contributed to the diet of Lower Archaic foragers. Large projectile points also suggest large-mammal hunting was an important economic pursuit, while an abundance of milling equipment found in the Coast Range foothills and Sierra Nevada suggests acorn and pine nuts were important seasonal resources (Rosenthal et al. 2007).

3.2.3 Middle Archaic Period 5,550 to 550 B.C)

Climate continued to change during the Middle Archaic period and became warmer and drier. The Valley traditions are characterized by a variety of pounding, scraping, chopping, and milling tools, and archaeobotanical assemblages from foothill sites such as CA-CAL-789 and CA-FRE-61 indicate that these tools were used to process acorn and pine nuts (Rosenthal et al. 2007). A variety of notched, stemmed, leaf, and concave base projectile points are associated with Middle Archaic foothill traditions and exhibit a high degree of regional morphological variability (Rosenthal et al. 2007). Assemblages associated with foothill traditions tend to be entirely composed of utilitarian flaked and groundstone items manufactured from local materials, whereas valley traditions contain an abundant amount of nonutilitarian artifacts and traded materials from distant sources (Rosenthal et al. 2007). Increased residential stability is evident in assemblages associated with valley traditions such as those at sites CA-SJO-112 and CA-SAC-107 that reflect year-round occupations along rivers and other waterways. Artifacts include contracting-stemmed and leaf-shaped projectile points, mortars and pestles, twisted cordage, twined basketry, simple pottery, stone plummets, and shell beads (Rosenthal et al. 2007). The presence of bone gorges, composite bone hooks, barbed spears, and large quantities of fish remains in archaeological sites suggest fishing was also becoming an increasingly important economic strategy (Rosenthal et al. 2007). Faunal assemblages indicate a continued reliance on elk, mule deer, pronghorn, rabbits, waterfowl and other birds, and rodents (Rosenthal et al. 2007).

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3.2.4 Upper Archaic Period (550 cal B.C to cal A.D. 1100)

The climate during the Upper Archaic period became cooler and wetter. Archaeological assemblages from this time period are more visible than the preceding periods and reflect a blossoming of cultural diversity and complexity. Emerging specialists manufactured a variety of goods such as Olivella beads, Haliotis ornaments, obsidian trade bifaces, and stone plummets (Rosenthal et al. 2007). Subsistence remains from sites such as CA-KER-39 and CA-KER-116 reflect the exploitation of both aquatic and terrestrial resources and the occupation of year-round villages with a variety of residential features (Rosenthal et al. 2007). Villages increased in number and size, and large mounded villages begin to develop (Rosenthal et al. 2007).

3.2.5 Emergent Occupation (cal A.D. 1000 to Historical)

The climate during the Emergent period was relatively stable with occasional drought and flood events. Cultural diversity and complexity continued to intensify, and two broad phases are recognized: the Upper and Lower (Rosenthal et al. 2007). The Lower Emergent is characterized by a variety of unique nonutilitarian items, including banjo-type Haliotis ornaments, bird bone whistles, soapstone pipes, and Olivella sequin beads (Rosenthal et al. 2007:158). The Upper Emergent is characterized by small corner- and side-notched arrow points, Olivella lipped and clam disk beads, and hopper mortars (Rosenthal et al. 2007). Villages from the Upper Emergent phase can often be associated with known ethnographic settlements (Rosenthal et al. 2007). Desert Side-notched and Cottonwood points become relatively widespread throughout California during the Upper Emergent phase. In the western San Joaquin Valley, the Panoche Side-notched arrow point is a regional variant of the Desert Side-notched that was in use approximately 500 years ago (Rosenthal et al. 2007).

The introduction of the bow and arrow approximately cal A.D. 1000 to 1300 (Bennyhoff 1994) caused several significant changes to technological organization, hunting strategies, and social structure. As the bow and arrow replaced the atlatl and dart, projectile points became lighter and smaller to adapt to the new technology. Hunters could produce more arrowheads with less material than dart points, hunt individually instead of in groups, and fire at a faster rate of speed with less chance of spooking game.

3.3 ETHNOGRAPHIC CONTEXT

The APE falls within a territory ethnographically attributed to the Northern Valley Yokuts, who comprised approximately 60 tribelets, each with a few hundred to several thousand members, living throughout the San Joaquin Valley. The Northern Valley Yokuts occupied an area straddling the San Joaquin River, south of the Mokelumne River, east of the Diablo Range, and north of the sharp bend that the San Joaquin River takes to the northeast (Wallace 1978).

The tribelets established permanent villages near perennial waterways and subsisted on the rich and diverse flora and fauna found in the environment through fishing, hunting, fowling, and intensive plant collecting (Moratto 1984). The San Joaquin River, and the myriad sloughs and channels that branch from it, was the center of the Northern Valley Yokuts territory, representing the northern portion of the greater Yokuts territory that encompassed an estimated population of 31,400 at the time of European contact (Wallace 1978:462). When the Spaniards first arrived in the valley, they found a population that had flourished, many Northern Valley Yokuts villages having been described as well stocked with both food

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and people. The population, however, was not evenly distributed across the valley but instead clustered along the San Joaquin River and its many tributaries (Wallace 1978).

The APE is within the ethnographic territory of the Nopchinchi tribelet of the Northern Valley Yokuts (Wallace 1978:462–470). The Nopchinchi triblet lived in the foothills of the western San Joaquin Valley with an estimated population of 250 (Kroeber 1925:485, 491).

Linguistically, Yokuts is a single Penutian language with many local dialects (Golla 2011). Northern Valley dialects were spoken along the San Joaquin River and in the vicinity of Merced; three Northern Valley dialects are known including Chawcilla, Ta-kin, and Nopthrinthre (ibid).

As a result of exploration and Spanish colonial expansion into the San Joaquin River Delta and lower San Joaquin Valley in the 1770s, Yokuts populations were reduced, and their settlement patterns were disrupted (Moratto 1984; Wallace 1978). At first, the Yokuts reportedly greeted Spanish soldiers or Franciscan padres warmly but, beginning around 1805, as more people were drawn into the mission system and local populations began to diminish, the Franciscan padres began to forcefully proselytize among the tribes located farther inland, and tensions grew. Spanish soldiers began to pursue runaway neophytes, many of whom were likely forced against their will into the missions, and the Yokuts began to launch raiding parties on Franciscan cattle herds and horses. Several exploration expeditions were launched by the Franciscans to attempt to identify a location for a new inland mission to help quell hostilities in the region, but they were never able to establish a new mission in the Central Valley (Wallace 1978).

An epidemic disease, likely malaria, began to spread in 1833 and had an even more devastating impact on the Yokuts people, reducing the population in some places by as much as 75 percent by 1846 and destroying entire communities. The traditional lifeways of the Yokuts people were destroyed by the influx of Americans in 1848. While there was no gold to be had in the San Joaquin Valley, thousands of prospectors passed through it, and the rich soil soon attracted farmers who forced off or killed many indigenous peoples who remained on the land (Moratto 1984; Wallace 1978). All these factors contributed to a distinct lack of ethnographic information regarding the Northern Valley Yokuts. By the time that intensive academic study of indigenous populations began in California, few of the native groups that made up the Northern Valley Yokuts remained, and those who survived had scant information to share regarding their traditional lifeways (Wallace 1978). Today, descendants of the Northern Valley Yokuts continue to live in and around the San Joaquin Valley and despite more than a century of adversity, they continue to engage in traditional cultural practices and advocate for the preservation of their heritage.

3.4 HISTORICAL CONTEXT

The following historical context presents an overview of the regional history of the APE and identifies historical themes by which historical resources within the APE can be evaluated.

3.4.1 European and American Exploration

European and American colonizers first began visiting the area that became Stanislaus County in the nineteenth century. Jedediah Smith led a small trapping expedition from Salt Lake City to the San Joaquin

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Valley in 1827 and 1828, and John Frémont crossed Madera County and Merced County in 1844 (Mintier Harnish et al. 2013).

After Mexico achieved independence from Spain in 1821, the Mexican government seized ownership of church properties through the Secularization Act of 1833, and lands were redistributed to soldiers and influential Mexican citizens as ranchos through a tribute system. California became a territory of the United States with the end of the Mexican–American War and signing of the Treaty of Guadalupe Hidalgo in 1848. Terms of the treaty brought about the creation of the Lands Commission in response to the Homestead Act of 1851, which was adopted as a means of validating and settling land ownership claims throughout the state. Few Mexican ranchos remained intact because of legal costs and the difficulty of producing sufficient evidence to prove title claims. Much of the land that once constituted rancho holdings became available for settlement by immigrants to California. With the discovery of gold at Sutter's Mill in 1848, the California Gold Rush era resulted in an influx of fortune seekers to California. In 1850, California became a state. The State of California was initially divided into 27 counties, some of which were later subdivided into other counties including Stanislaus.

3.4.2 Stanislaus County

Wheat was initially the main agricultural crop in Stanislaus County as it provided farmers with a quick source of income. The early inhabitants of Stanislaus County settled primarily on the foothills of the Sierra Nevada and on the three rivers in the area. Foothill communities, such as La Grange and Knight's Ferry, began as mining camps along the Tuolumne and Stanislaus rivers. Larger and more permanent settlements such as Oakdale, New Hope, Adamsville, and Paradise began to emerge along the Stanislaus River in the 1860s (IFC 2016). Early transportation for freight and passengers was provided by steamboats and small barges along the San Joaquin River. During the 1860s, Hill's Ferry and Grayson became important shipping points for wheat (Hoover and Kyle 2002:517). Numerous settlements were established on the San Joaquin, Stanislaus, and Tuolumne rivers, particularly at ferry crossing points. In the 1870s, the river towns were abandoned as the railroad became an increasing popular mode of shipping and transportation (Santos 2002).

The introduction of the Central Pacific Railroad (later Southern Pacific Railroad) led to the development in support of the agricultural industry in Stanislaus County. Railroads played a key role in the formation of Stanislaus County's two largest cities, Modesto and Turlock, as well as the smaller towns. Southern Pacific Railroad branch lines constructed through the county in the 1880s stimulated the development of small commercial centers such as Oakdale, Waterford, and Newman (IFC 2016).

Implementation of new irrigation systems expanded opportunities for agricultural diversification in Stanislaus County. For example, although wheat was very important, alfalfa quickly became a leading crop that provided feed for growing herds of dairy cattle. The cultivation of orchard crops such as peaches, apricots, almonds, and oranges also became more prevalent. Although the agricultural economy fluctuated during the twentieth century, it remains a key element of the county's economy today.

3.4.3 Irrigation Systems in the San Joaquin Valley

Unless otherwise noted, the following history of irrigation systems in the San Joaquin Valley is excerpted from "Water Conveyance Systems in California, Historic Context Development and Evaluation Procedures" (Caltrans and JRP 2000) and "Historical Resources Inventory and Evaluation Report, Atwater-Merced Expressway Project, Merced County, California" (JRP 2007).

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Stimulated largely by the relatively arid conditions of the region, settlers in the San Joaquin Valley were among the first American-era farmers in California to put in works specifically for irrigation. During the late 1850s and 1860s, their ditches were typically earthen, short, and roughly made, diverting water by means of temporary brush dams constructed across the lower courses of the streams running west out of the Sierra Nevada mountains. The earliest of these ditches were built in the vicinity of Visalia in 1852–1853. The great floods of 1862 and 1868 destroyed most early ditch systems, but San Joaquin Valley farmers continued to experiment with irrigation. Like other Californians, most early San Joaquin settlers in the period from 1850 through the 1860s were not particularly interested in investing time and money in irrigation, focusing instead on cattle raising and dry-farm cultivation of small grains to meet the economic opportunities created by the Gold Rush. By 1870 there were only about 60,000 irrigated acres in California (JRP 2007).

Nevertheless, cycles of drought and flooding, an unstable wheat market, soil exhaustion, developing markets for irrigated crops, advancements in irrigation technology, and unreliable precipitation during the 1860s and 1870s led to a growing interest in irrigation. During this period, both private companies and groups of individual farmers attempted to expand and diversify irrigated agriculture. One of the first irrigation companies organized in the San Joaquin Valley was the Fresno Canal and Irrigation Company, which incorporated in 1870 and was providing water by 1872. Many other such companies formed in the 1870s and 1880s (JRP 2007).

As a result of conflicts over water and a desire to expand and diversify irrigation in California, by the 1880s many farmers and landowners became interested in forming irrigation districts. This groundswell culminated in the passage of the landmark Wright Act of 1887, which allowed for the formation of such districts. The Wright Act is significant because it provided the means for local democratic control over water and promoted irrigation as a means for community and regional development. The first irrigation district organized under the Wright Act was the Turlock Irrigation District (JRP 2007).

Forty-nine irrigation districts, mostly in the San Joaquin Valley, were organized under the Wright Act between 1887 and 1897, when the law was repealed in favor of revised irrigation district legislation. By the turn of twentieth century, there were over 2.6 million irrigated acres in California. Despite this apparent success, a combination of unsympathetic large landowners, owners of riparian water rights, inadequate planning, inexperienced directors, and opportunists within districts contributed to the failure of most Wright Act districts. Progressive legislation passed in 1911–1913 increased state supervision over district organization and financing, making investment in irrigation district bonds more attractive. Demand for agriculture products grew around this time and remained high throughout World War I, resulting in a marked increase in district formation beginning in 1915. Because of this resurgence, 94 irrigation districts were active in California by 1930 (JRP 2007). The Merced Irrigation District formed in 1919 through the purchase and consolidation of several previously established privately developed irrigation canals. With the purchase of the Crocker-Huffman Land and Water Company, the Merced Irrigation District became the largest irrigation district in the region (Dice 2010).

Techniques used to construct irrigation canals have varied widely during the various periods of California's history, from the relatively short, hand-dug early masonry and tile ditches to horse-scraped and hand-dug earthen irrigation ditches and concrete-lined irrigation canals that developed in the mid-twentieth century. Perhaps the most common canal type in California is the irrigation canal. These conduits carry water for pastures, row crops, orchards, and vineyards, varying widely in size, shape, and construction materials. As with other canals, they are typically part of a larger system. Beginning from a storage dam

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or diversion weir, water is diverted through a main canal into laterals and then through outlet gates or other control structures into individual farm distribution ditches (Caltrans and JRP 2000).

The cross section or profile of open canals varied with the material through which the conduit was constructed and with the method of construction employed. If constructed in rock, the canal tended to be more rectangular with side slopes as steep as 1:0.5; if constructed in earth, the canal shape became more trapezoidal, with side slopes varying from 1:1 to 1:5, depending on material. Early canals that were built with scrapers in the alluvial soils of the Central Valley had rounded bottoms and long side slopes, with rounded berms mounded up on each side of the cut. In similar locations, irrigation channels cut with modern machinery and blades have a V-shape, with steep side slopes and flat broad berms (Caltrans and JRP 2000).

Concrete linings were first used in canals in southern California in the 1880s when increasing value of water made it necessary to prevent conveyance losses in earth canals. The practice was largely confined to southern California until the early twentieth century. As water became more valuable in the Central Valley, seepage losses became an increasing concern for water companies and irrigation districts, and in the first two decades of the twentieth century the practice rapidly spread throughout California. Frequently, old canals were improved by changes in alignment to correct hydraulic gradients before lining. Irrigation districts and private water companies in the Central Valley frequently opted for lining canal segments where conveyance losses by seepage were excessive because conversion of a canal system from an earthen ditch to a concrete canal was expensive (JRP 2007).

Most water delivery systems included water control and cleansing devices. A variety of structures were developed to measure and regulate flow rates, dispose of excess water, and trap sediment and debris. Gates, valves, checks, and gauges could adjust the volume of water passing a particular point in the system and drops and chutes reduced the velocity of the water at abrupt changes in gradient. Gates could be as simple as sliding wood slats, while drop gates of wood, metal, and even concrete were also common. Smaller gates were typically adjusted by hand; large gates were either counterweighted or mechanically assisted. A variety of valves, air vents, and other specialized equipment were also employed on penstocks and other pipelines subject to high pressure (JRP 2007).

In most systems, provision had to be made for disposal of excess water to prevent erosion. Spillways, wasteways, and other overflow devices were important at transition points—from diversion structures to conduits, from one type of conduit to another, and particularly at the terminus of the system. The most effective and lasting wasteways were made of durable materials, such as bedrock, masonry, metal, or wood (JRP 2007).

3.4.4 Agriculture in the San Joaquin Valley

The San Joaquin Valley forms the southernmost part of the California's Central Valley and includes the counties of San Joaquin, Stanislaus, Merced, Madera, Fresno, Kings, Tulare, and Kern. Approximately one-third of the state's farmland lies in the San Joaquin Valley covering approximately 5 million acres of land (Hanak et al. 2019).

The San Joaquin Valley is home to a wide variety of farming enterprises, ranging from smaller, intensively cultivated farms to large, extensive industrial enterprises. Fruit and nuts are important crops, as are many other field crops (e.g., barley, beans, corn, hay, potatoes, sugar beets, and wheat). Cotton has been among the most important field crops in the valley since its introduction in 1871. Livestock is widely distributed

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throughout the valley. Other products include milk, chickens, turkeys, eggs, and apiary products. Grain sorghum became important in the area after 1870 as a summer grain crop (Caltrans 2007).

Property types associated with agriculture in the San Joaquin Valley include ranches and farms. Agricultural irrigation and water conveyance systems are also associated with agricultural properties but have been addressed as their own category. Ranches comprise buildings and structures for the raising of livestock for domestic and commercial uses. Farm properties comprise buildings and structures associated with the cultivation of food (Caltrans 2007). Certain characteristics and use overlap between the two property types and, in some cases, they are not mutually exclusive. These property types can also include residential buildings such as single-family residences and bunkhouses.

3.4.5 Historical Period Roads

With the development of the first affordable, mass-produced automobile by the Ford Motor Company in 1908, the U.S. quickly entered the era of the automobile. As the popularity of automobiles grew, so did the demand for traversable roads. Existing unpaved farm roads, historically developed for horses and carts, were improved to accommodate automobiles. These developments began in urban areas, but the poor condition of rural roads and the demands that increasing industrial farming had on the roadways led to improvements in rural roads including grading, widening, and paving of existing roads as well as the development of new roads and highways (Caltrans 2016). Despite advancements in materials such as concrete and asphalt, many rural roads remained unpaved into the present due to the cost of construction and maintenance.

A framework for the historical evaluation of roads in California was established by the California Department of Transportation (Caltrans 2016). They suggested three primary themes by which roads and highways in California can be evaluated: roads and highways as reflections of culture, roads and highways as symbols of commerce and trade, and roads and highways as symbols of engineering achievement. Roads and highways as reflections of culture are associated with events of significance that changed the cultural history of a community, the State, or nation. The theme of commerce and trade are typified by roads and highways that expanded commerce and trade by opening new markets. The theme of engineering achievement associated with roads and highways is represented by new advancements in road construction and design (Caltrans 2016).

3.4.6 City of Turlock

In 1868, prominent grain farmer John William Mitchell established a claim of 160 acres within Stanislaus County (BLM GLO 2025a). Mitchell founded Turlock on December 22, 1871, and it was later incorporated in 1908. The settlement comprised a post office, a depot, a grain warehouse, and a few other buildings. Mitchell and his brother were successful businessmen, buying land and developing large herds of cattle and sheep that were sold to gold miners and others as they arrived. They were also leaders in wheat farming and cultivated tracts of land under the tenant system. Eventually, the Mitchells owned most of the area, over 100,000 acres, from Keyes to Atwater. In the early twentieth century, 20-acre lots from the Mitchell estate were sold for $20 an acre (TSP 2025).

Turlock thrived and became the center of activity throughout the end of the nineteenth century. During the late nineteenth and early twentieth centuries, Turlock developed as a shipping point and retail center for surrounding farms (IFC 2016). In the early 1900s the community of Turlock experienced economic and agricultural growth and development. A Board of Trade (known today as the Turlock Chamber of

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Commerce) was formed along with a school district, a newspaper, and numerous religious and civic organizations. By 1960 businesses had grown, and Turlock became home to California State University, Stanislaus (TSP 2025).

Turlock's current population is over 70,000 and the city has achieved its early city planning goals of creating a safe environment, a strong school system and maintaining a hometown atmosphere. The city continues to promote growth and development that complements both the city's business and industry, as well as the needs of its residents (TSP 2025).

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4 BACKGROUND RESEARCH

The methods and results of the records search and historical map review are described in detail below.

4.1 RECORDS SEARCH

On September 10, 2025, a records search of the APE and a 0.5-mile buffer around the APE was conducted at the Central California Information Center (CCIC) at California State University, Stanislaus (Records Search File No.: 13481N). The purpose of the record search is to identify if any prehistoric and/or historical period cultural resources and studies had been previously documented in the APE to better understand the archaeological sensitivity of the area.

The CCIC records search results identified zero previous cultural resource studies intersecting the APE and 11 previous cultural resource studies within the 0.5-mile radius (Table 1; Appendix B). Zero cultural resources were found to have been previously documented within the APE, and two previously recorded cultural resources were found to have been identified within the 0.5-mile radius of the APE (Table 2; Appendix B).

TABLE 1: Previous Cultural Resources Studies within 0.5 Mile of the APE

Report No.	Date	Author	Title
ST-01835	1992	Crull, Scott	Historic Reminisces of Turlock, California. Publisher: Ghost Rider Limited, ISBN: 0-5247748-0
ST-02759	1995	Hatoff, B., B. Voss, S. Waechter, S. Wee, and V. Bente	Cultural Resources Inventory Report for the Proposed Mojave Northward Expansion Project
ST-03845	1999	Burton, J. F., M.M. Farrell, F.B. Lord, and R.W. Lord	Confinement and Ethnicity: An Overview of World War II Japanese American Relocation Sites
ST-03995	2000	Nelson, W. J.	Cultural Resources Survey for the Level (3) Communications Long Haul Fiber Optics Project; Segment WS04: Sacramento to Bakersfield
ST-04929	1997	Santos, R. L.	Inside World War II Army Prison in Turlock. Stanislaus Stepping Stones, Quarterly Journal of the McHenry Museum and Historical Society, Vol. 21, No. 3., Fall 1997, pages 1047–1057; see also: The Army Needs Men: An Account of the U.S. Army Rehabilitation Center at Turlock, California; 1942–1945
ST-06345	2006	Not Indicated	Cultural Resources Final Report of Monitoring and Findings for the QWest Network Construction Project, State of California. SWCA Project No. 10715-180
ST-06752	2008	Hooks, C. and M. Larocque	Collocation ("CO") Submission Packet, Crown Castle-Turlock #839516, FCC Form 621, 1000 N. Front Street, Turlock, Stanislaus County, California

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Report No.	Date	Author	Title
ST-6755	2006	Whitmore, D.	Letter to OHP Re: Request for Concurrence/Determination of No Impact, Project Name: Minor Rehabilitation of Single Family Residence, Project Location: of 928 Chestnut Street, Turlock (Stanislaus County Assessor's Parcel Number 061-005-020)
ST-08284	2011	Not Indicated	Cultural Resources Inventory Report for the Central Valley Independent Network Fiber Optic Communications Network Project, California (Calaveras, Merced, San Joaquin, Stanislaus and Tuolumne Counties in the CCaIC Area of Responsibility)
ST-08638	2015	Jordan, N.	Letter Report: South County Corridor Feasibility Study – Cultural Resources Constraints Analysis
ST-08814	2016	Blazenko, S. and Morehouse, J.	Section 106 FCC Submission: Archaeological & Historic Architecture Records Review for the Union Pacific Fresno Subdivision, Mile Post 124.89, Stanislaus Co. – PTC Pole Excluded from Section 106 Review

TABLE 2: Previously Recorded Cultural Resources within 0.5 Mile of the APE

Primary No.	Age	Description
P-50-000527	Historical	Temporary detention camps for Japanese Americans
P-50-001998	Historical	Single-Family Property

4.2 HISTORICAL MAP REVIEW

Kleinfelder reviewed historical maps depicting features such as towns, roads, buildings, and creeks to provide additional information regarding the potential for the presence of historical-era cultural resources within the APE. Historical maps are available at several online repositories, in particular the USGS repository and the U.S. Department of the Interior Bureau of Land Management General Land Office (GLO) Records. In addition, historical aerial imagery from 1946 and 1967 were reviewed online at the Nationwide Environmental Title Research (NETR) website. The following sources were consulted during the historical map review:

- 1855 GLO for Township 05 South, Range 10 East, Sectionn15, Mount Diablo Meridian (BLM GLO 1855)
- Denair California. 1:31,680 scale topographic quadrangle (USGS 1916 [edited 1916])
- Modesto East, California. 1:62,500 scale topographic quadrangle (USGS 1939 [edited 1965])
- Denair California. 1:250,000 scale topographic quadrangle (USGS 1953 [edited 1955])
- Denair California. 1:45,000 scale topographic quadrangle (USGS 1969 [edited 1971])
- 1946 and 1967 (NETR) Historical Aerials

4.2.1 Historical Map Review Results

The following summarizes the results of the historical map review of the APE:

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- The 1855 GLO Plat depicts the APE near an unnamed road that traverses northeast to southwest. No buildings, structures, or other locations of previous historical activities were noted (BLM GLO 2025b).
- The 1916 quadrangle depicts a structure within the APE, an unimproved road parallel to the east boundary of the APE, and another structure approximately 160 feet south of the APE (USGS 1916).
- The 1939 quadrangle depicts a structure within the APE, a light-duty road parallel to the east boundary of the APE, and several structures along the light-duty road within 200 feet of the APE (USGS 1939).
- The 1953 quadrangle depicts a structure within the APE and another structure adjacent to the northeast corner of the APE. There is a light-duty road parallel to the east boundary of the APE and a large structure opposite the road within 200 feet of the APE (USGS 1953).
- The 1969 quadrangle depicts a structure within the northeast corner of the APE and another approximately 30 feet north of that. There is a light-duty road parallel to the east boundary of the APE and fairground-related structures and landscape modifications opposite the road within 200 feet of the APE. The fairgrounds substation is located just south of the APE (USGS 1969).
- A 1946 aerial photograph shows the area within and surrounding the APE as developed. There are multiple structures within the APE that appear to be related one to another and enclosed by landscape modifications, a road parallel to the east boundary and two rows of linear buildings opposite the road. To the north, south, and west of the APE appears to be agricultural land (NETR 1946).
- A 1967 aerial photograph shows the APE as being developed with the same or similar structures; however, the area appears to have been graded and the area surrounding the structures is flat and clear of vegetation (NETR 1967).

4.3 NATIVE AMERICAN HERITAGE COMMISSION CONSULTATION

Kleinfelder contacted the NAHC and made a SLF search request to identify whether sacred lands or tribal cultural resources are located within the study area and to obtain a list of tribes affiliated with the region who may be able to provide additional information regarding any areas of tribal concern.

On September 11, 2025, the NAHC cultural resources analyst contacted Kleinfelder and indicated that the results of the SLF search negative for the Site (Attachment C). The NAHC response also included a list of Native American tribes who may have knowledge of cultural resources in the Project area. Kleinfelder completed no further Native American outreach, as it is the responsibility of the lead federal agency to conduct Section 106 Native American consultation and of the lead state agency to complete CEQA AB 52 tribal consultation. The NAHC Native American contacts list is provided in Appendix C.

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5 FIELD METHODS AND RESULTS

On September 25, 2025, Kleinfelder Senior Archaeologist Kruger Frank completed a pedestrian survey of the APE, located in the southeast corner of Summerfaire Park along the west side of West Soderquist Road. There was 100 percent survey coverage of the APE using 10 meter transects, oriented north to south.

The entire survey area was covered with thick grassy lawn with rows of various landscaped trees comprising redwoods, sycamores, and Bradford pears. The overall visibility was poor ranging from 0 to 3 percent due to thick grass cover. The only visibility was provided by exposed root areas at the base of trees, gopher back dirt piles, and exposed underground utilities. The existing modern Well 36 is in a fenced area in the southeast corner of the APE. The entire area appears to have been graded for the initial creation and design of the Summerfaire Park and underground utilities. The soil observed within exposed areas around exposed tree roots, gopher holes, and existing utilities consisted of a brown (10YR 4/3) sandy silt with very few waterworn pebbles. Locational data were collected with the Environmental Systems Research Institute Arc Collector application on Android.

No previously recorded cultural resources were identified within or surrounding the APE, and no new cultural resources were encountered during this survey.

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6 SENSITIVITY FOR BURIED RESOURCES

A desktop analysis of the APE was conducted to assess the potential for buried archaeological deposits. Kleinfelder has reviewed the APE for cultural resource sensitivity levels of low, moderate, or high based on the results of the archival research, records search results, regional environmental factors, and historical and modern development.

6.1 SENSITIVITY FOR BURIED PREHISTORIC RESOURCES

The soil within the APE consists primarily of Hilmar loamy sand, a somewhat excessively drained alluvium derived largely from granitic rock sources found on 0 to 1 percent slopes (CGS 2025; USDA 2025). The landform is Pleistocene–Holocene and consists of fan skirts/toeslope. The soil deposition is alluvial, and the landform age is Holocene to Historical (between 11,800 and 150 years before present). Heavy past ground disturbances likely occurred in the area during the initial creation and design of the Summerfaire Park and underground utilities. There are no natural sources of water within or near the APE, and it does not fall within an ethnographic settlement area. No previously recorded prehistoric or tribal resources were identified within the APE and the 0.5-mile record search area during background research, and no prehistoric or tribal resources were found within the APE during the pedestrian survey. However, no subsurface testing has occurred within the APE. Based on the results of this study, Kleinfelder considers the APE to have a low to moderate sensitivity for buried prehistoric resources.

6.2 SENSITIVITY FOR BURIED HISTORICAL PERIOD RESOURCES

Background research did not identify any existing historical era resources within the APE; however, a historical era single-family property and temporary detention camps for Japanese Americans were identified within the 0.5-mile record search area. Reviewed historical maps from 1916 depict a building or structure within the APE and an unimproved road and another structure just outside the APE (USGS 1916). Both the 1939 and 1953 maps show a building or structure still within the APE, a light-duty road parallel to the east boundary of the APE, and several structures along the light-duty road within the vicinity of the APE (USGS 1939; USGS 1953). Aerial imagery from 1946 shows the area within and surrounding the APE as developed. There are multiple buildings or structures within the APE enclosed by landscape modifications, a road parallel to the east boundary, and two rows of linear buildings opposite the road (NETR 1946). By 1969, there is a structure within the northeast corner of the APE and another approximately 30 north of that. The light-duty road is still parallel to the east boundary of the APE and fairground-related structures, and landscape modifications are opposite the road of the APE. The fairgrounds substation is located just south of the APE (USGS 1969).

Background research also indicates that there was no mining activity in the area, one land patient (i.e., John William Mitchell) in the section, and previous disturbance in the APE occurred during the creation of the Summerfaire Park. While historical era resources, such as roads and structures, were present within and near the vicinity of the APE, Kleinfelder considers the APE to have a low sensitivity for buried historical era resources.

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7 CONCLUSION

This report presents the results of cultural resources identification efforts within the APE. As a result, no resources were identified within the APE. As such, Kleinfelder recommends a finding of no historic properties affected for this undertaking pursuant to Section 106 of the NHPA and a finding of no significant impact to historical resources for the purposes of CEQA.

7.1 RECOMMENDATIONS

The following measures are recommended:

- In the event archaeological resources are encountered during any ground-disturbing activities associated with the Project, then all ground-disturbing work at the location, plus within a reasonable buffer zone, must be immediately suspended. The approving County department shall be contacted and a qualified professional archaeologist retained to analyze the significance of the find and formulate further mitigation (e.g., Project relocation, excavation plan, and protective cover) in consultation with culturally affiliated tribes or other descendant groups, where applicable.
- Pursuant to California Health and Safety Code §7050.5, if known or suspected Native American or other human remains are encountered, all ground-disturbing work must cease in the vicinity of the discovery, and the County Coroner contacted. The respectful treatment and disposition of remains and associated grave offerings shall be in accordance with PRC §5097.98. The applicant and successors in interest are ultimately responsible for ensuring compliance with this condition.
- In the event the Project design changes and ground disturbance is anticipated beyond the APE as it is currently defined, further surveys shall be conducted in those new areas to assess the presence of cultural resources. Any newly discovered or previously recorded cultural resources within the additional survey areas shall be recorded (or updated) on appropriate DPR 523-series forms. If eligible historic properties/historical resources are identified and avoidance of these resources is not feasible, then an evaluation and/or data recovery program shall be drafted and implemented.

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8 PREPARERS' QUALIFICATIONS

Kleinfelder Senior Archaeologists Megan Hawkins and Jessica Neal contributed to this report.

Senior Archaeologist, Mrs. Hawkins, has a Bachelor of Arts degree in Anthropology – Archaeology from the University of Massachusetts, Amherst, and a Master of Arts degree in Anthropology–Archaeology from Texas A&M University, College Station. Her area of focus is lithic analysis and geoarchaeology, as well as Federal Cultural Resource Management. She is a registered professional archaeologist (RPA #989413) and a member of the Society of American Archaeology. Ms. Hawkins meets the Secretary of the Interior's Standards for prehistoric and historical archaeology. She has over 20 years of professional archaeological experience in California, New England, Texas, American Samoa, Hawaii, the Marshall Islands, the Territory of Guam, the Commonwealth of the Northern Marians, the Peoples Republic of Palau, and Japan. Of those 20 years, Ms. Hawkins has 9 years of cultural resources management experience with the Department of Defense. Ms. Hawkins is proficient at conducting of archaeological research, and archaeological evaluations for inclusion in the NRHP and CRHR; and survey, testing, excavation, and monitoring reports pursuant to the requirements of CEQA, Section 106 of the NHPA, and the National Environmental Policy Act (NEPA).

Ms. Neal has a Bachelor of Science degree in Anthropology from Loyola University Chicago and a Master of Arts degree in Maritime Archaeology from the University of Southern Denmark. She is a registered professional archaeologist (RPA) (#17230) and a member of the Society for California Archaeology. She meets the Secretary of the Interior's Standards for prehistoric and historical archaeology. Ms. Neal has 15 years of experience in cultural resources management, including project management, personnel management, field survey, excavation and data recovery, laboratory analysis, collections management, and geographic information system applications in environmental planning. She has experience in preparation of archaeological research, built environment, and archaeological evaluations for inclusion in the NRHP and CRHR, and survey, testing, excavation, and monitoring reports pursuant to the requirements of CEQA, Section 106 of the NHPA, and the NEPA.

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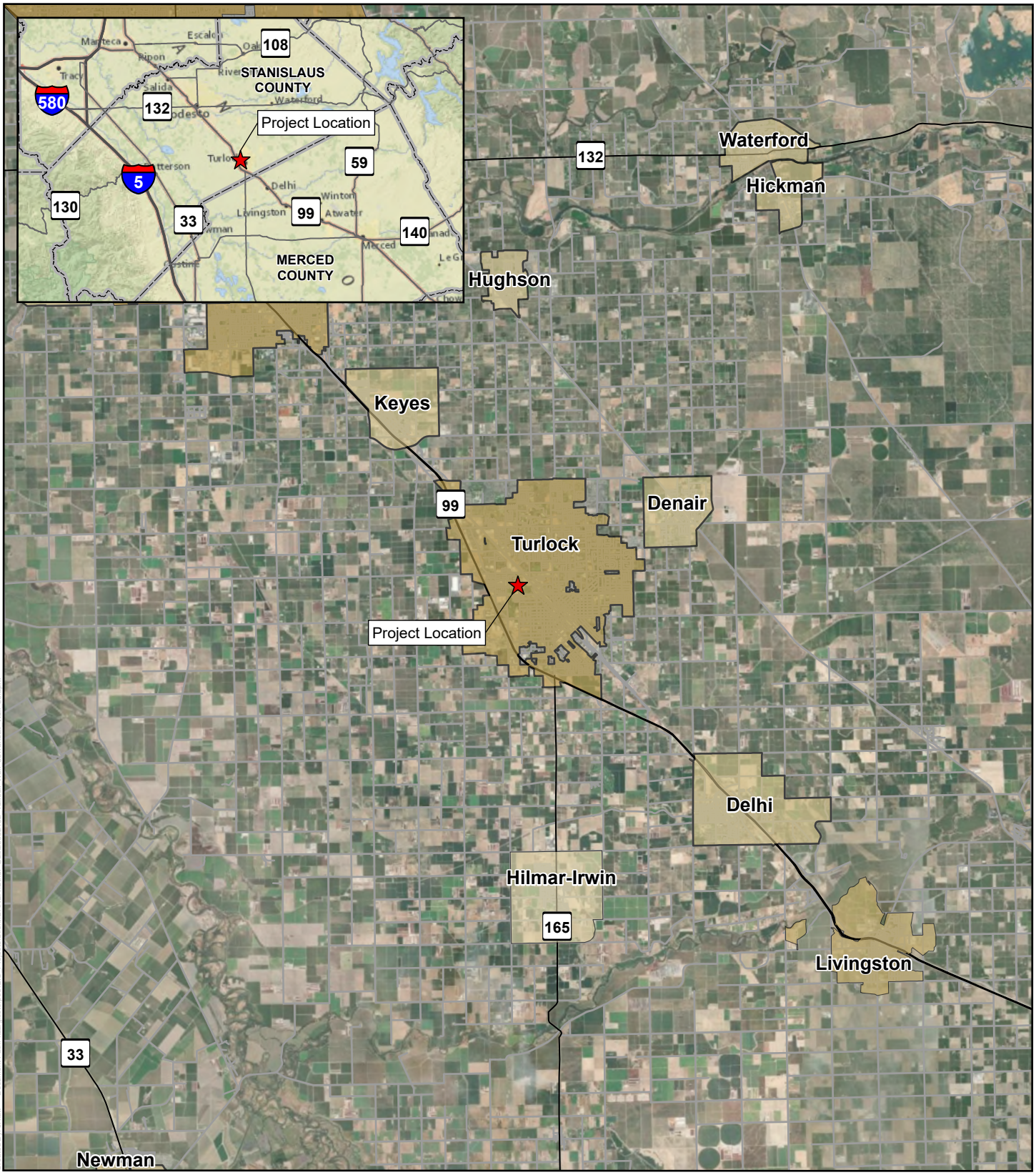
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Appendix A

FIGURES

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Source: ESRI Imagery

0 1.5 3 Miles

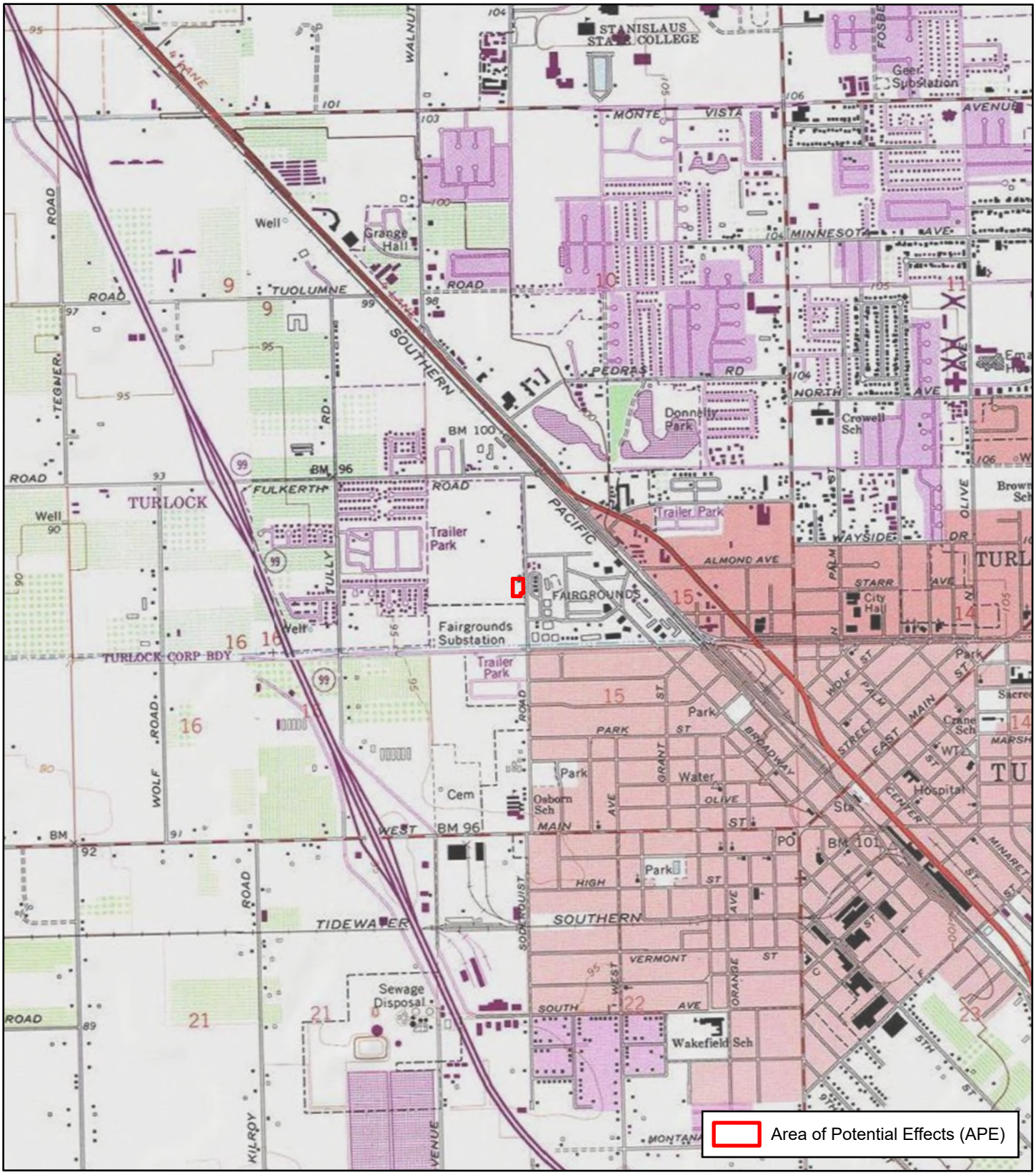
0 2.5 5 Kilometers

N

Scale 1:190,080
1 in = 3 miles

Regional Vicinity
City of Turlock Well 36
Stanislaus County, California

KLEINFELDER
Bright People. Right Solutions.





USGS 7.5' Quad: DENAIR (1987)
Legal Description: T05S, R10E, SEC 15

0 1,000 2,000 Feet
0 300 600 Meters

N

Scale 1:24,000
1 inch = 2,000 feet

Project Location
City of Turlock Well 36
Stanislaus County, California

KLEINFELDER
Bright People. Right Solutions.

Created By: JHiatt Document Path: \\azrgisstorp03\GIS_Projects\Client\GANDA\Other_Cult\26002192_Turlock_Well_36\Turlock_Well_36.aprx



Created By: JHiatt Document Path: \\azrgisstorp03\GIS_Projects\Client\GANDA\Other_Civil\26002192_Turlock_Well_36\Turlock_Well_36.aprx



Source: ESRI Imagery

0 100 200 Feet

0 30 60 Meters

N

Scale 1:2,400
1 inch = 200 feet

Area of Potential Effects (APE)
City of Turlock Well 36
Stanislaus County, California

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Appendix B

RECORDS SEARCH RESULTS

CENTRAL CALIFORNIA INFORMATION CENTER
California Historical Resources Information System
Department of Anthropology – California State University, Stanislaus
One University Circle, Turlock, California 95382
(209) 667-3307

Alpine, Calaveras, Mariposa, Merced, Mono, San Joaquin, Stanislaus & Tuolumne Counties

Date: 9/10/2025

Records Search File No.: 13481N
Project: City of Turlock, Well 36
Desktop Review

Megan T. Hawkins
Kleinfelder
770 First Street, Suite 400
San Diego, CA 92101
979-204-4350 mhawkins@kleinfelder.com

The Central California Information Center received your record search request for the project area referenced above, located on the Denair 7.5' quadrangle in Stanislaus County. The following reflects the results of the records search for the project study area and radius:

As per data currently available at the CCaIC, the locations of resources/reports are provided in the following format: ☐ custom GIS maps ☒ GIS Data/shape files

Summary Data:

Resources within the project area:	None formally reported to the Information Center.
Resources within the 1/2-mile radius:	2: P-50-000527, 1998
Reports within the project area:	None formally reported to the Information Center.
Reports within the 1/2-mile radius:	11: ST-01835, 2759, 3845, 3995, 4929, 6345, 6752, 6755, 8284, 8638, 8814

Resource Database Printout (list):	☒ enclosed	☐ not requested	☐ nothing listed
Resource Database Printout (details):	☒ enclosed	☐ not requested	☐ nothing listed
Resource Digital Database Records:	☐ enclosed	☒ not requested	☐ nothing listed
Report Database Printout (list):	☒ enclosed	☐ not requested	☐ nothing listed
Report Database Printout (details):	☒ enclosed	☐ not requested	☐ nothing listed
Report Digital Database Records:	☒ enclosed	☐ not requested	☐ nothing listed
Resource Record Copies:	☐ enclosed	☒ not requested	☐ nothing listed

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Report Copies: ☐ enclosed ☒ not requested ☐ nothing listed

OHP Historic Properties Directory: New Excel File: Built Environment Resource Directory (BERD) Dated 09/23/2022
Not all resources listed in the BERD are mapped in GIS, nor do we have records on file for; if you identify additional resources in the BERD that you need copies of, contact the IC.
P-50-002998 ☒ enclosed ☐ not requested ☐ nothing listed
Archaeological Determinations of Eligibility: (ARD Excerpt):
P-50-000527 ☒ enclosed ☐ not requested ☐ nothing listed
CA Inventory of Historic Resources (1976): ☐ enclosed ☐ not requested ☒ nothing listed

Caltrans Bridge Survey: ☐ enclosed ☐ not requested ☒ nothing listed

Ethnographic Information: ☐ enclosed ☒ not requested ☐ nothing listed

Historical Literature: ☐ enclosed ☒ not requested ☐ nothing listed

Historical Maps: ☐ enclosed ☒ not requested ☐ nothing listed
See also: http://ngmdb.usgs.gov>topoview

Local Inventories: ☐ enclosed ☒ not requested ☐ nothing listed

GLO and/or Rancho Plat Maps: ☐ enclosed ☒ not requested ☐ nothing listed
See also: https://glorecords.blm.gov

Shipwreck Inventory: ☒ not available at CCaIC; please go to http://shipwrecks.slc.ca.gov/ShipwrecksDatabase/Shipwrecks_Database.asp

Soil Survey Maps: ☒ not available at CCaIC; please go to

http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx

Please forward a copy of any resulting reports from this project to the office as soon as possible. Due to the sensitive nature of archaeological site location data, we ask that you do not include resource location maps and resource location descriptions in your report if the report is for public distribution. If you have any questions regarding the results presented herein, please contact the office at the phone number listed above.

The provision of CHRIS Data via this records search response does not in any way constitute public disclosure of records otherwise exempt from disclosure under the California Public Records Act or any other law, including, but not limited to, records related to archeological site information maintained by or on behalf of, or in the possession of, the State of California, Department of Parks and Recreation, State Historic Preservation Officer, Office of Historic Preservation, or the State Historical Resources Commission.

Due to processing delays and other factors, not all of the historical resource reports and resource records that have been submitted to the Office of Historic Preservation are available via this records search. Additional information may be available through the federal, state, and local agencies that produced or paid for historical resource management work in the search

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area. Additionally, Native American tribes have historical resource information not in the CHRIS Inventory, and you should contact the California Native American Heritage Commission for information on local/regional tribal contacts.

Should you require any additional information for the above referenced project, reference the record search number listed above when making inquiries. Requests made after initial invoicing will result in the preparation of a separate invoice.

Thank you for using the California Historical Resources Information System (CHRIS).

Note: Billing will be transmitted separately via email by our Financial Services office* ($311.45), payable within 60 days of receipt of the invoice.

If you wish to include payment by Credit Card, you must wait to receive the official invoice from Financial Services so that you can reference the CMP # (Invoice Number), and then contact the link below:

https://commerce.cashnet.com/ANTHROPOLOGY

Sincerely,

E. A. Greathouse

E. A. Greathouse, Coordinator
Central California Information Center
California Historical Resources Information System

* Invoice Request sent to: ARBilling@csustan.edu, CSU Stanislaus Financial Services

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Appendix C

NATIVE AMERICAN HERITAGE COMMISSION CONSULTATION

STATE OF CALIFORNIA — Gavin Newsom, Governor

NATIVE AMERICAN HERITAGE COMMISSION

September 11, 2025

Megan Hawkins
Kleinfelder

Submitted via Electronic
Via Email to: mhawkins@kleinfelder.com

Re: City of Turlock Well 36 Desktop Review Project, Stanislaus County

To Whom It May Concern:

As requested, a search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed based on information submitted for the above referenced project. The results were negative. Be aware that tribes do not always record their sacred sites in the SLF, nor are they required to do so. As such, an SLF search is not a substitute for consultation with all tribes that are traditionally and culturally affiliated with a project's geographic area.

Attached is a list of Native American tribes that are traditionally and culturally affiliated with the project's geographic area. Please contact all of the listed tribes as they may have information about sacred sites within the project area that is not listed with the NAHC.

If within two weeks of notification, a response has not been received, the Commission requests that you follow up with a telephone call or email to ensure that the project information was received.

If you receive notification of a change of address or phone number from a tribe, please inform the NAHC so that we can assure that our lists contain current information.

In addition to engaging in tribal consultation, you should consult the appropriate regional California Historical Research Information System (CHRIS) information center to determine whether it has information regarding the presence of recorded archaeological sites within the project area.

If you have any questions or need additional information, please contact me at: Pricilla.Torres-Fuentes@nahc.ca.gov.

Sincerely,

Pricilla Torres-Fuentes

Pricilla Torres-Fuentes
Cultural Resources Analyst

Attachment

Page 1 of 1

CHAIRPERSON
REGINALD PAGALING
CHUMASH

VICE-CHAIRPERSON
BUFFY MCQUILLEN
YOKAYO POMO, YUKI, NOMLAKI

SECRETARY
ISAAC BOJORQUEZ
OHLONE-COSTANOAN

PARLIAMENTARIAN
WAYNE NELSON
LUISEÑO

COMMISSIONER
SARA DUTSCHKE
MIWOK

COMMISSIONER
STANLEY RODRIGUEZ
KUMEYAAY

COMMISSIONER
BENNAE CALAC
PAUMA-YUIMA BAND OF LUISEÑO INDIANS

COMMISSIONER
VACANT

COMMISSIONER
VACANT

ACTING EXECUTIVE SECRETARY
MICHELLE CARR

NAHC HEADQUARTERS
1550 HARBOR BOULEVARD
SUITE 100
WEST SACRAMENTO,
CALIFORNIA 95691
(916) 373-3710
NAHC@NAHC.CA.GOV

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Native American Heritage Commission
Native American Contact List
Stanislaus County
9/11/2025

County	Tribe Name	Fed (F) Non-Fed (N)	Contact Person	Contact Address	Phone #	Fax #	Email Address	Cultural Affiliation	Counties	Last Updated
Stanislaus	Amah Mutsun Tribal Band	N	Valentin Lopez, Chairperson	P.O. Box 5272 Galt, CA, 95632	(916) 743-5833		vjltestingcenter@aol.com	Costanoan Northern Valley Yokut	Alameda,Calaveras,Contra Costa,Fresno,Madera,Mariposa,Merced,Monterey,San Benito,San Francisco,San	7/20/2023
	Amah Mutsun Tribal Band	N	Ed Ketchum, Vice-Chairperson		(530) 578-3864		aerieways@aol.com	Costanoan Northern Valley Yokut	Alameda,Calaveras,Contra Costa,Fresno,Madera,Mariposa,Merced,Mont	7/20/2023
	Northern Valley Yokut / Ohlone Tribe	N	Timothy Perez, Tribal Compliance Officer	P.O. Box 717 Linden, CA, 95236	(209) 662-2788		huskanam@gmail.com	Costanoan Northern Valley Yokut	Alameda,Calaveras,Contra Costa,Fresno,Madera,Mariposa,Merced,Sacramento,San Benito,San Joaquin,Santa	11/21/2023
	Northern Valley Yokut / Ohlone Tribe	N	Katherine Perez, Chairperson	P.O. Box 717 Linden, CA, 95236	(209) 649-8972		canutes@verizon.net	Costanoan Northern Valley Yokut	Alameda,Calaveras,Contra Costa,Fresno,Madera,Mariposa,Merced,Sacramento,San Benito,San Joaquin,Santa	4/30/2024
	Southern Sierra Miwuk Nation	N	Jazzmyn Gegere, Director of Cultural Resource Preservation	P.O. Box 186 Mariposa, CA, 95338	(209) 742-3104		preservation@southernsierramiwuknation.org	Miwok Northern Valley Yokut Paiute	Calaveras,Fresno,Madera,Mariposa,Merced,Mono,San Joaquin,Stanislaus,Tuolumne	2/1/2024
	Southern Sierra Miwuk Nation	N	Sandra Chapman, Chairperson	P.O. Box 186 Mariposa, CA, 95338	(559) 580-7871		sandra47roy@gmail.com	Miwok Northern Valley Yokut Paiute	Calaveras,Fresno,Madera,Mariposa,Merced,Mono,San Joaquin,Stanislaus,Tuolumne	2/1/2024
	Tule River Indian Tribe	F	Felix Christman, THPO	340 North Reservation Road Porterville, CA, 93257	(559) 719-0420		felix.christman@tulerivertribe-nsn.gov	Yokut	Alameda,Amador,Calaveras,Contra Costa,Fresno,Inyo,Kern,Kings,Madera,Mariposa,Merced,Monterey,Sacramento,San	8/12/2025
	Tule River Indian Tribe	F	Kerri Vera, Environmental Department	340 North Reservation Road Porterville, CA, 93257	(559) 781-4271		kerri.vera@tulerivertribe-nsn.gov	Yokut	Alameda,Amador,Calaveras,Contra Costa,Fresno,Inyo,Kern,Kings,Madera,Mariposa,Merced,Monterey,Sacramento,San	8/12/2025
	Wuksachi Indian Tribe/Eshom Valley Band	N	Kenneth Woodrow, Chairperson	1179 Rock Haven Ct. Salinas, CA, 93906	(831) 443-9702		kwood8934@aol.com	Foothill Yokut Mono	Alameda,Calaveras,Contra Costa,Fresno,Inyo,Kings,Madera,Marin,Mariposa,Merced,Mono,Monterey,San Benito,San	6/19/2023

This list is current only as of the date of this document. 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 and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed City of Turlock Well 36 Desktop Review Project, Stanislaus County.

Record: PROJ-2025-005093
Report Type: List of Tribes
Counties: Stanislaus
NAHC Group: All

Appendix D

SURVEY PHOTOGRAPHS



Photo 1. Overview of from the northeast corner of the survey area with view of West Soderquist Road, facing south



Photo 2. Overview of from the northwest corner of the survey area with view of grassy lawn, trees and sewer grate, facing south.

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Photo 3. Overview of from the northwest corner of the survey area with view of redwood trees, facing east.



Photo 4. Overview of from the northeast corner of the survey area with view of redwood trees and well 36 fence line, facing west.

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Photo 5. Overview of fence well 36 area within the southeast corner of survey area, facing south.



Photo 6. Overview of the central portion of the survey area from south end of survey area, facing north.

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MEMORANDUM

TO: Briza Sholars, Principal Environmental Planner, Provost & Pritchard Consulting Group

FROM: Jessica Neal, M.A., RPA, Cultural Resources Group Manager, Kleinfelder Inc.

DATE: December 18, 2025

SUBJECT: Tribal Outreach Memorandum for the City of Turlock Well 36 Water Treatment Project

---

This memorandum (memo) summarizes the results of the tribal outreach effort requested by the City of Turlock for a water filtration system at Municipal Water Well 36 within the City of Turlock, California. The purpose of the Project is to implement a granular activated carbon (GAC) filtration system to remove 1,2,3-Trichloropropane (TCP) from Water Well 36 in addition to the Arsenic Treatment Plant needed in the future.

Native American Heritage Commission Consultation

Kleinfelder contacted the NAHC and made a SLF search request to identify whether sacred lands or tribal cultural resources are located within the APE and to obtain a list of Tribes affiliated with the region who may be able to provide additional information regarding any areas of tribal concern.

On September 11, 2025, the NAHC cultural resources analyst contacted Kleinfelder and indicated that the results of the SLF search negative for the Site (Attachment A). The NAHC response also included a list of Native American tribes who may have knowledge of cultural resources within and near the APE. The NAHC Native American contacts list is provided in Attachment A.

Native American Outreach

The Native American contact list was utilized to request additional information or sensitive areas within the project area. Information requests were sent electronically via letter on October 29, 2025. The Native American Letters are found in Appendix B, and a summary of information requests are found below (Table 1).

Table 1: Summary of Native American Outreach

Native American Tribe	Contact Person	Date Letter Sent	Date Follow-Up Call Made	Response/Comment
Amah Mutsun Tribal Band	Valentin Lopez, Chairperson	10/29/25	11/24/25	No response received.
	Ed Ketchum, Vice-Chairperson			

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Northern Valley Yokut/ Ohlone Tribe	Katherine Perez, Chairperson	10/29/25	11/24/25	No response received.
Southern Sierra Miwuk Nation	Jazzmyn Gegere, Director of Cultural Resource Preservation Sandra Chapman, Chairperson	10/29/25	11/24/25	No response received.
Tule River Indian Tribe	Felix Christman, THPO Kerri Vera, Environmental Department	10/29/25	11/24/25	No response received.
Wuksachi Indian Tribe/ Eshom Valley Band	Kenneth Woodrow, Chairperson	10/29/25	11/24/25	No response received.

If responses are received after the date of this memo, a supplemental memo will be drafted to encapsulate the information received.

Sincerely,

Jessica Neal

Jessica Neal, M.A. RPA
Senior Archaeologist

KLEINFELDER

Attachments
Attachment A: Native American Heritage Commission Results
Attachment B: Tribal Outreach Letters

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ATTACHMENT A

Native American Heritage Commission Results

NATIVE AMERICAN HERITAGE COMMISSION

CHAIRPERSON
REGINALD PAGALING
CHUMASH

VICE-CHAIRPERSON
BUFFY MCQUILLEN
YOKAYO POMO, YUKI, NOMLAKI

SECRETARY
ISAAC BOJORQUEZ
OHLONE-COSTANOAN

PARLIAMENTARIAN
WAYNE NELSON
LUISEÑO

COMMISSIONER
SARA DUTSCHKE
MIWOK

COMMISSIONER
STANLEY RODRIGUEZ
KUMEYAAY

COMMISSIONER
BENNAE CALAC
PAUMA-YUIMA BAND OF LUISEÑO INDIANS

COMMISSIONER
VACANT

COMMISSIONER
VACANT

ACTING EXECUTIVE SECRETARY
MICHELLE CARR

NAHC HEADQUARTERS
1550 HARBOR BOULEVARD
SUITE 100
WEST SACRAMENTO,
CALIFORNIA 95691
(916) 373-3710
NAHC@NAHC.CA.GOV

September 11, 2025

Megan Hawkins
Kleinfelder

Submitted via Electronic
***Via Email to*: mhawkins@kleinfelder.com**

Re: City of Turlock Well 36 Desktop Review Project, Stanislaus County

To Whom It May Concern:

As requested, a search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed based on information submitted for the above referenced project. The results were negative. Be aware that tribes do not always record their sacred sites in the SLF, nor are they required to do so. As such, an SLF search is not a substitute for consultation with all tribes that are traditionally and culturally affiliated with a project's geographic area.

Attached is a list of Native American tribes that are traditionally and culturally affiliated with the project's geographic area. Please contact all of the listed tribes as they may have information about sacred sites within the project area that is not listed with the NAHC.

If within two weeks of notification, a response has not been received, the Commission requests that you follow up with a telephone call or email to ensure that the project information was received.

If you receive notification of a change of address or phone number from a tribe, please inform the NAHC so that we can assure that our lists contain current information.

In addition to engaging in tribal consultation, you should consult the appropriate regional California Historical Research Information System (CHRIS) information center to determine whether it has information regarding the presence of recorded archaeological sites within the project area.

If you have any questions or need additional information, please contact me at: Pricilla.Torres-Fuentes@nahc.ca.gov.

Sincerely,

Pricilla Torres-Fuentes

Pricilla Torres-Fuentes
Cultural Resources Analyst

Attachment

Native American Heritage Commission
Native American Contact List
Stanislaus County
9/11/2025

County	Tribe Name	Fed (F) Non-Fed (N)	Contact Person	Contact Address	Phone #	Fax #	Email Address	Cultural Affiliation	Counties	Last Updated
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	Tule River Indian Tribe	F	Kerri Vera, Environmental Department	340 North Reservation Road Porterville, CA, 93257	(559) 781-4271		kerri.vera@tulerivertribe-nsn.gov	Yokut	Alameda,Amador,Calaveras,Contra Costa,Fresno,Inyo,Kern,Kings,Madera,Mariposa,Merced,Monterey,Sacramento,San	8/12/2025
	Wuksachi Indian Tribe/Eshom Valley Band	N	Kenneth Woodrow, Chairperson	1179 Rock Haven Ct. Salinas, CA, 93906	(831) 443-9702		kwood8934@aol.com	Foothill Yokut Mono	Alameda,Calaveras,Contra Costa,Fresno,Inyo,Kings,Madera,Marin,Mariposa,Merced,Mono,Monterey,San Benito,San	6/19/2023

This list is current only as of the date of this document. 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 and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed City of Turlock Well 36 Desktop Review Project, Stanislaus County.

Record: PROJ-2025-005093
Report Type: List of Tribes
Counties: Stanislaus
NAHC Group: All

October 29, 2025

P.O. Box 186
Mariposa, CA, 95338

Project: Cultural Resources Survey and Assessment for the City of Turlock Well 36 in Stanislaus County, California

---

Dear Ms. Chapman,

The City of Turlock proposes implementing a granular activated carbon (GAC) filtration system to remove 1,2,3-trichloropropane (TCP) from Municipal Water Well 36 and adding an arsenic treatment plant needed in the future. Well 36 is in the southeast corner of Summerfaire Park, adjacent to Soderquist Road in Stanislaus County, California. The Water Treatment Project facilities will be adjacent to the City's Well 36 site and partially extend into the existing detention basin to accommodate future arsenic treatment infrastructure (please see attached Project Location map).

The Project will include the removal of 15 trees, placement of approximately 6,000 cubic yards of fill within the existing detention basin, installation of new security fencing and landscaping, perimeter landscaping on all four sides of the facility, construction of two commercial-grade drive approaches and a 40-foot-wide half-circle access road, ag surfacing, installation of 6 12-foot diameter GAC treatment vessels, and ductile iron process piping, primarily 12-inch and 16-inch diameters.

A records search at the Central California Information Center identified zero previous cultural resource studies intersecting the APE. There were 11 previous cultural resource studies and 2 previously recorded historic cultural resources within the 0.5-mile radius. A search of the Sacred Lands file by the Native American Heritage Commission (NAHC) was conducted on September 11, 2025; the search results were negative. If there are sensitive cultural resources on or near the proposed project locations that could be impacted by construction activities, please advise us accordingly.

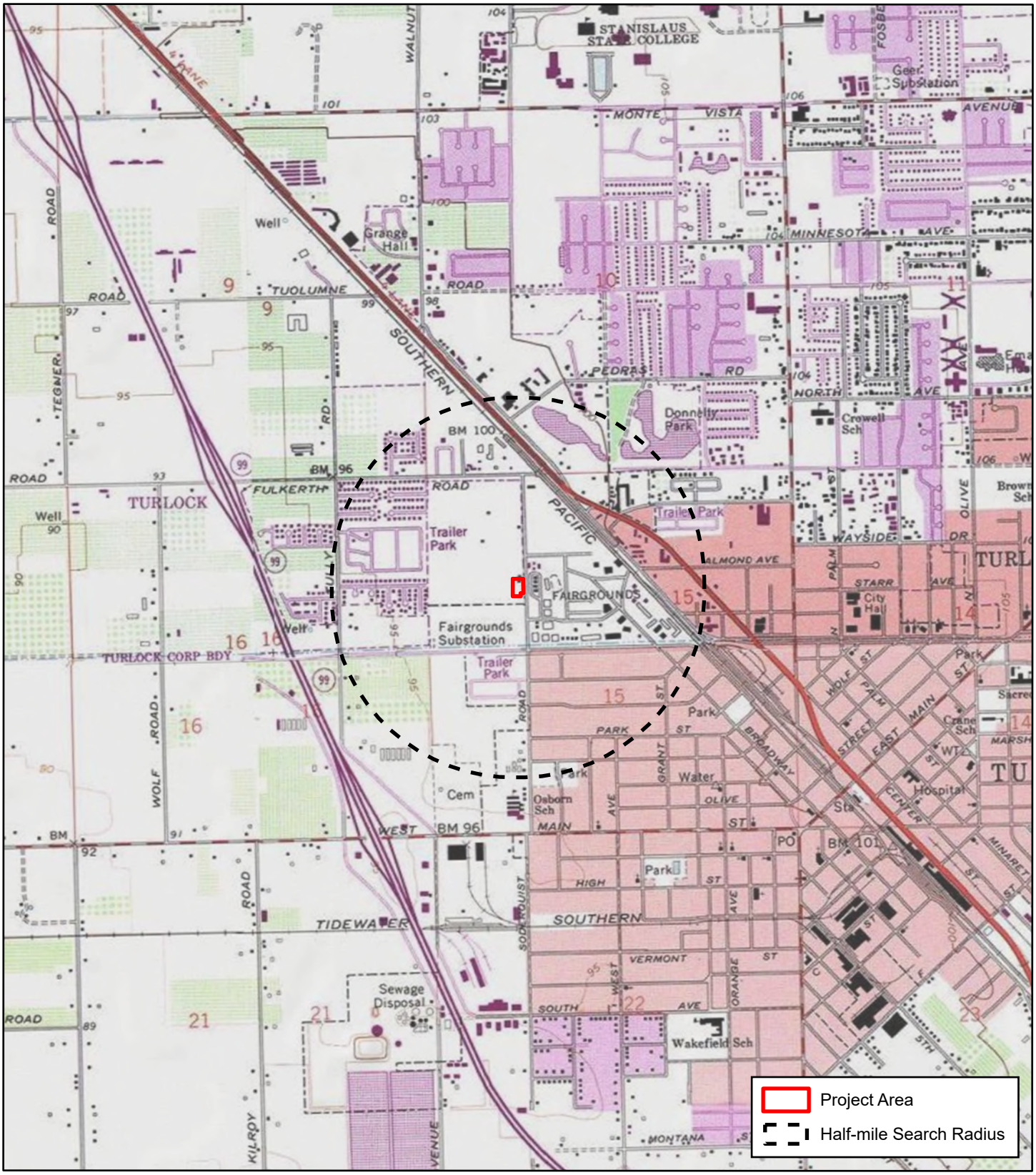
If you have information or specific concerns you would like considered during the City of Turlocks' planning, please contact me at 618-771-6093 or by email at jneal@kleinfelder.com.

Thank you very much for your time and effort.

Sincerely,

Jessica Neal

Jessica Neal, Senior Archaeologist
Kleinfelder
3130 Kilgore Road #200
Rancho Cordova, CA 95670





USGS 7.5' Quad: DENAIR (1987)
Legal Description: T05S, R10E, SEC 9, 10, 15, 16

0 1,000 2,000 Feet
0 300 600 Meters

N

Scale 1:24,000
1 inch = 2,000 feet

Record Search
City of Turlock Well 36
Stanislaus County, California

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Created By: JHiatt Document Path: \\arrgisstorp03\GIS_Projects\Client\GANDA\Other_Cult\SUSPENSE_Turlock_Well_36\Turlock_Well_36.aprx

October 29, 2025

340 North Reservation Road
Porterville, CA, 93257

Project: Cultural Resources Survey and Assessment for the City of Turlock Well 36 in Stanislaus County, California

---

Dear Mr. Christman,

The City of Turlock proposes implementing a granular activated carbon (GAC) filtration system to remove 1,2,3-trichloropropane (TCP) from Municipal Water Well 36 and adding an arsenic treatment plant needed in the future. Well 36 is in the southeast corner of Summerfaire Park, adjacent to Soderquist Road in Stanislaus County, California. The Water Treatment Project facilities will be adjacent to the City's Well 36 site and partially extend into the existing detention basin to accommodate future arsenic treatment infrastructure (please see attached Project Location map).

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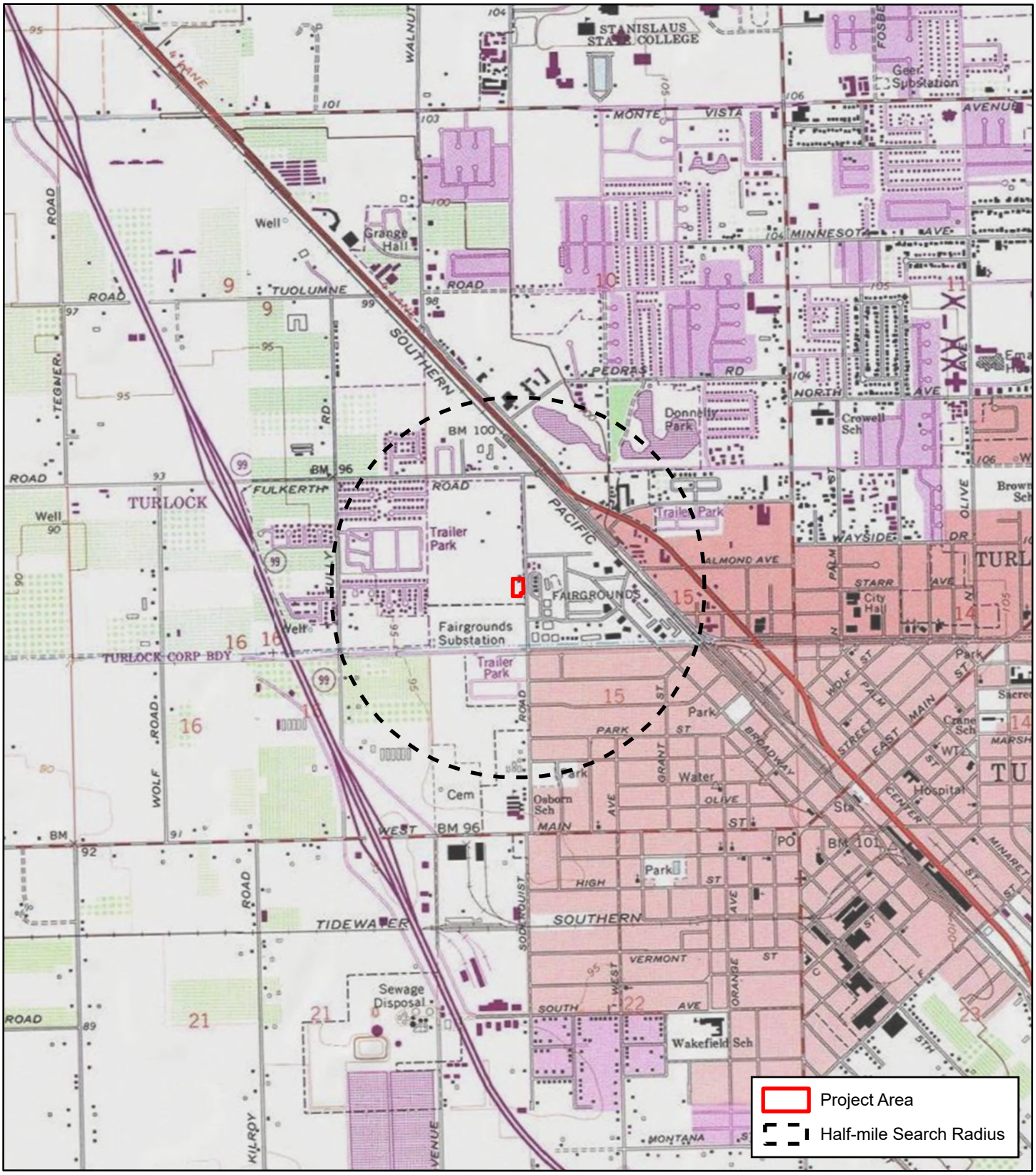
If you have information or specific concerns you would like considered during the City of Turlocks' planning, please contact me at 618-771-6093 or by email at jneal@kleinfelder.com.

Thank you very much for your time and effort.

Sincerely,

Jessica Neal

Jessica Neal, Senior Archaeologist
Kleinfelder
3130 Kilgore Road #200
Rancho Cordova, CA 95670





USGS 7.5' Quad: DENAIR (1987)
Legal Description: T05S, R10E, SEC 9, 10, 15, 16

0 1,000 2,000 Feet
0 300 600 Meters

N

Scale 1:24,000
1 inch = 2,000 feet

Record Search
City of Turlock Well 36
Stanislaus County, California

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Created By: JHiatt Document Path: \\arrgisstorp03\GIS_Projects\Client\GANDA\Other_Cult\SUSPENSE_Turlock_Well_36\Turlock_Well_36.aprx

October 29, 2025

P.O. Box 186
Mariposa, CA, 95338

Project: Cultural Resources Survey and Assessment for the City of Turlock Well 36 in Stanislaus County, California

---

Dear Ms. Gegere,

The City of Turlock proposes implementing a granular activated carbon (GAC) filtration system to remove 1,2,3-trichloropropane (TCP) from Municipal Water Well 36 and adding an arsenic treatment plant needed in the future. Well 36 is in the southeast corner of Summerfaire Park, adjacent to Soderquist Road in Stanislaus County, California. The Water Treatment Project facilities will be adjacent to the City's Well 36 site and partially extend into the existing detention basin to accommodate future arsenic treatment infrastructure (please see attached Project Location map).

The Project will include the removal of 15 trees, placement of approximately 6,000 cubic yards of fill within the existing detention basin, installation of new security fencing and landscaping, perimeter landscaping on all four sides of the facility, construction of two commercial-grade drive approaches and a 40-foot-wide half-circle access road, ag surfacing, installation of 6 12-foot diameter GAC treatment vessels, and ductile iron process piping, primarily 12-inch and 16-inch diameters.

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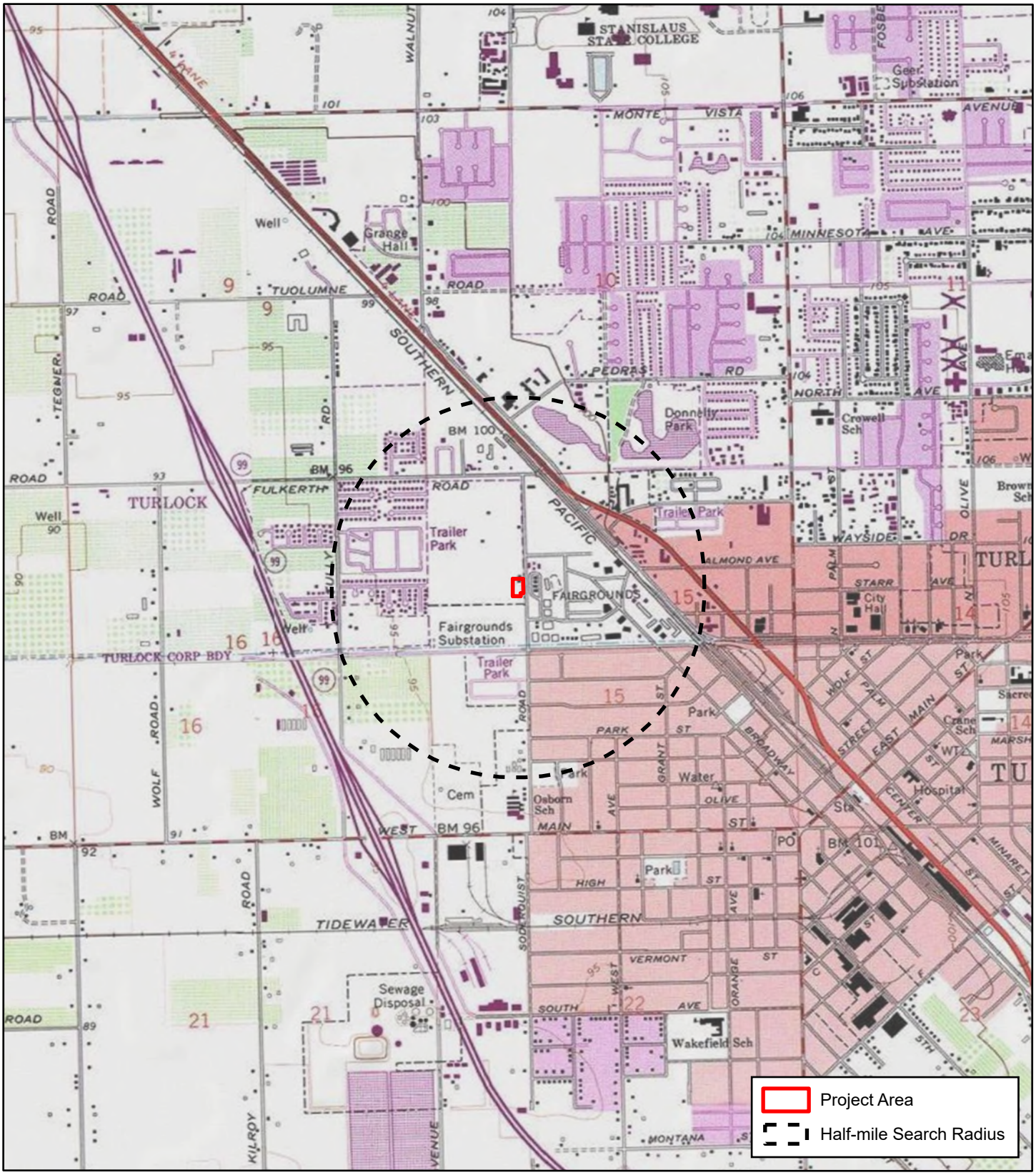
If you have information or specific concerns you would like considered during the City of Turlocks' planning, please contact me at 618-771-6093 or by email at jneal@kleinfelder.com.

Thank you very much for your time and effort.

Sincerely,

Jessica Neal

Jessica Neal, Senior Archaeologist
Kleinfelder
3130 Kilgore Road #200
Rancho Cordova, CA 95670





USGS 7.5' Quad: DENAIR (1987)
Legal Description: T05S, R10E, SEC 9, 10, 15, 16

0 1,000 2,000 Feet
0 300 600 Meters

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Scale 1:24,000
1 inch = 2,000 feet

Record Search
City of Turlock Well 36
Stanislaus County, California

KLEINFELDER
Bright People. Right Solutions.

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October 29, 2025

P.O. Box 5272
Galt, CA, 95632

Project: Cultural Resources Survey and Assessment for the City of Turlock Well 36 in Stanislaus County, California

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Dear Mr. Ketchum,

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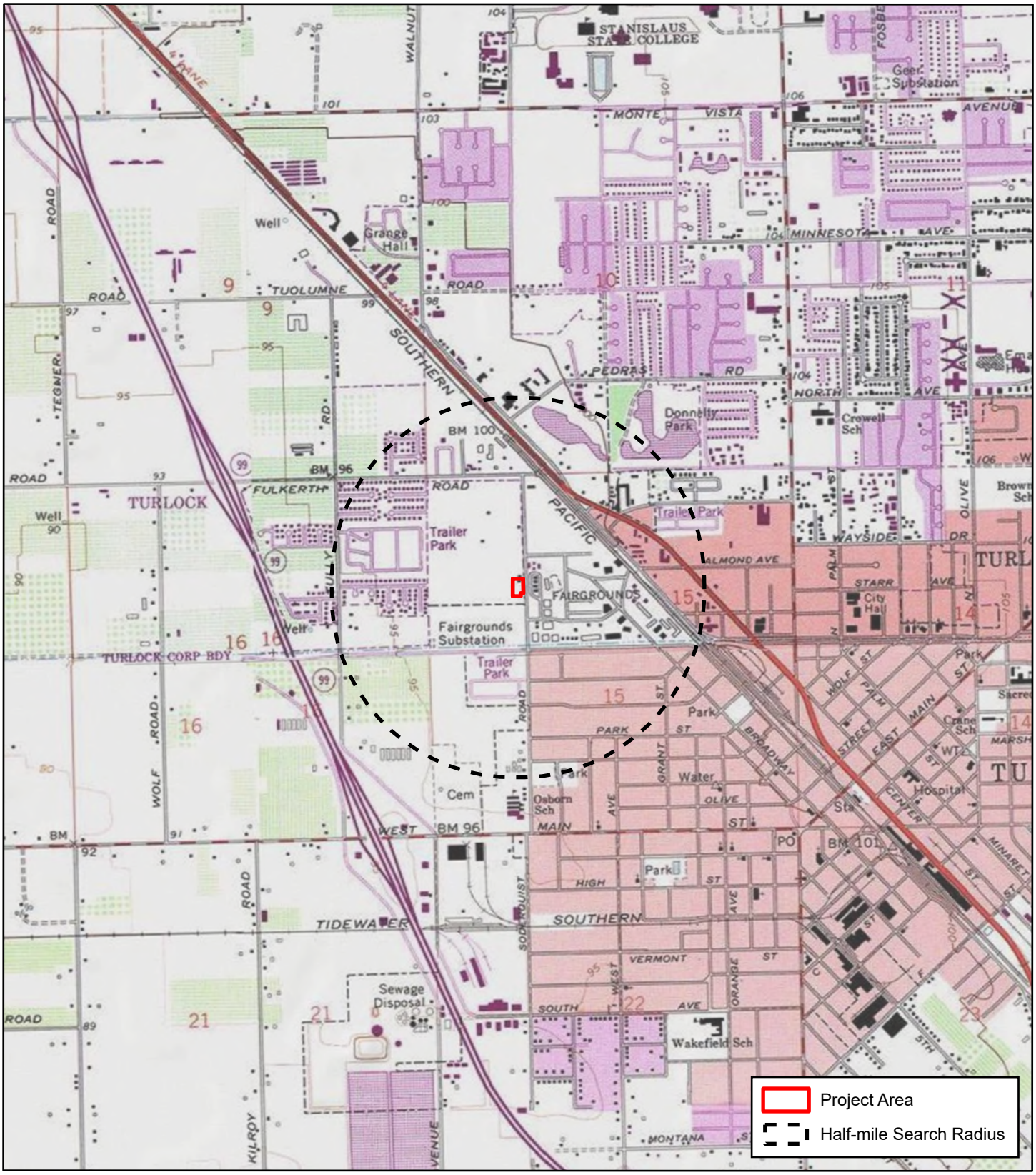
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Record Search
City of Turlock Well 36
Stanislaus County, California

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October 29, 2025

P.O. Box 717
Linden, CA, 95236

Project: Cultural Resources Survey and Assessment for the City of Turlock Well 36 in Stanislaus County, California

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Dear Ms. Perez,

The City of Turlock proposes implementing a granular activated carbon (GAC) filtration system to remove 1,2,3-trichloropropane (TCP) from Municipal Water Well 36 and adding an arsenic treatment plant needed in the future. Well 36 is in the southeast corner of Summerfaire Park, adjacent to Soderquist Road in Stanislaus County, California. The Water Treatment Project facilities will be adjacent to the City's Well 36 site and partially extend into the existing detention basin to accommodate future arsenic treatment infrastructure (please see attached Project Location map).

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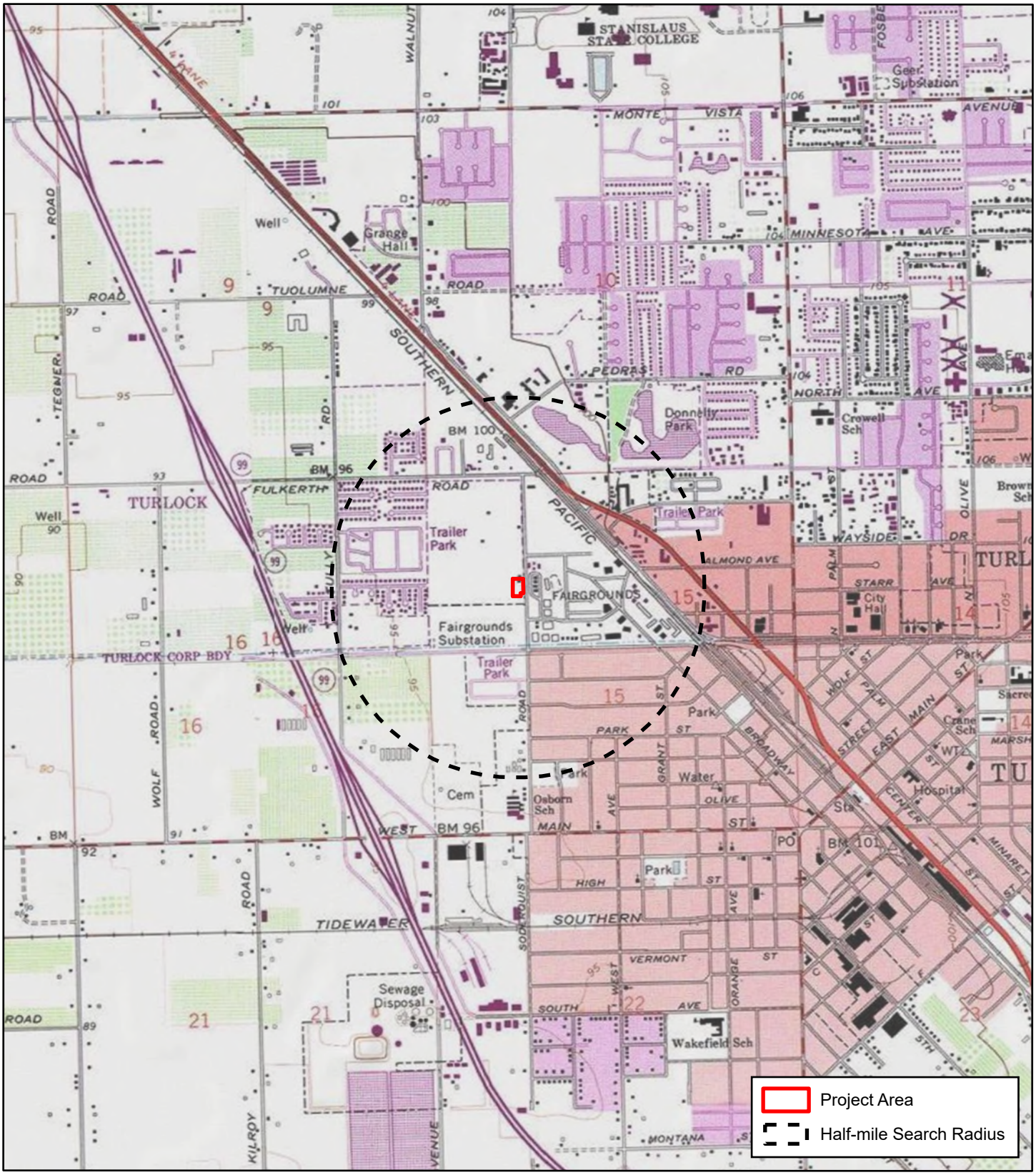
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Stanislaus County, California

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October 29, 2025

P.O. Box 5272
Galt, CA, 95632

Project: Cultural Resources Survey and Assessment for the City of Turlock Well 36 in Stanislaus County, California

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Dear Mr. Lopez,

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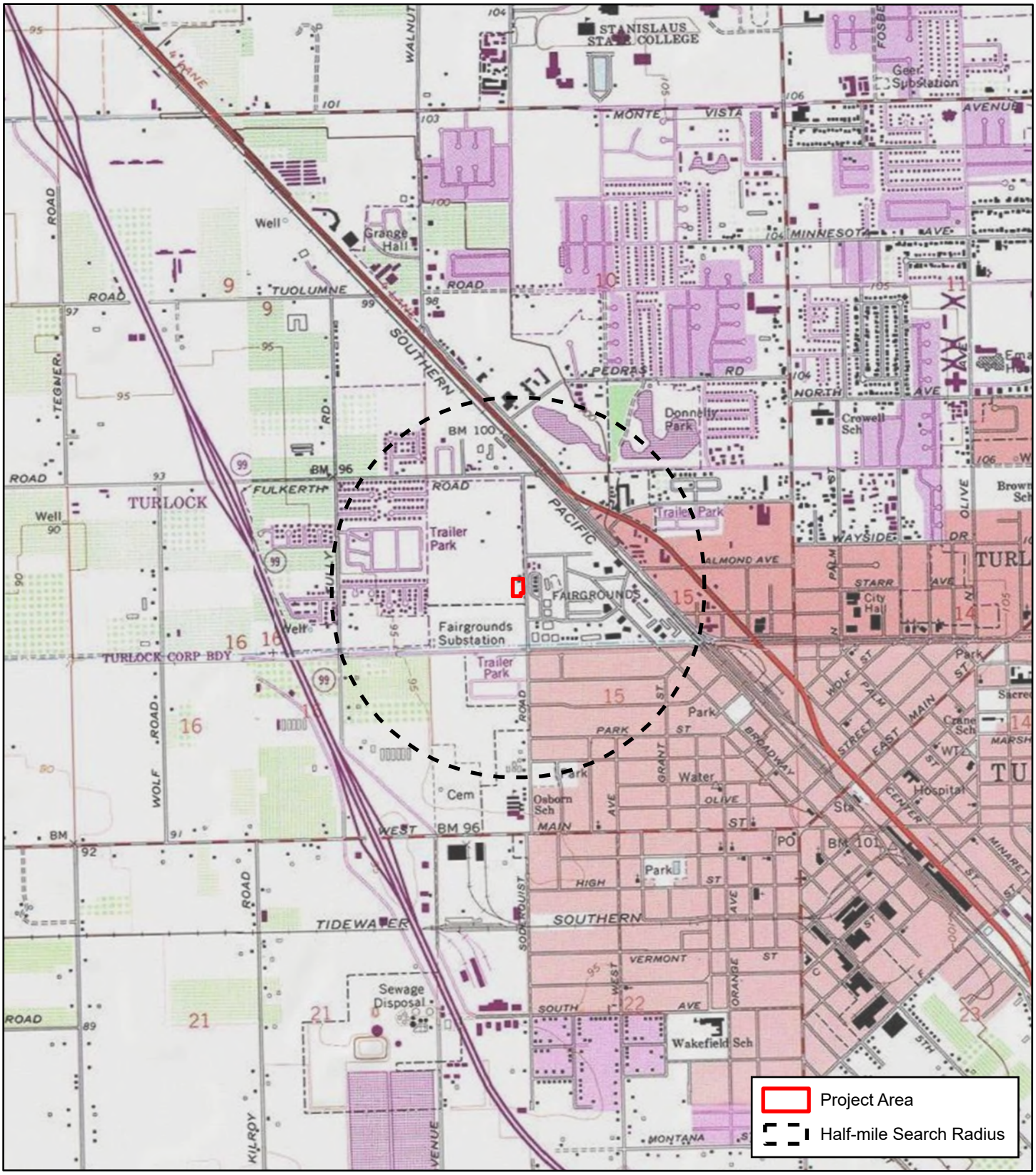
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October 29, 2025

P.O. Box 717
Linden, CA, 95236

Project: Cultural Resources Survey and Assessment for the City of Turlock Well 36 in Stanislaus County, California

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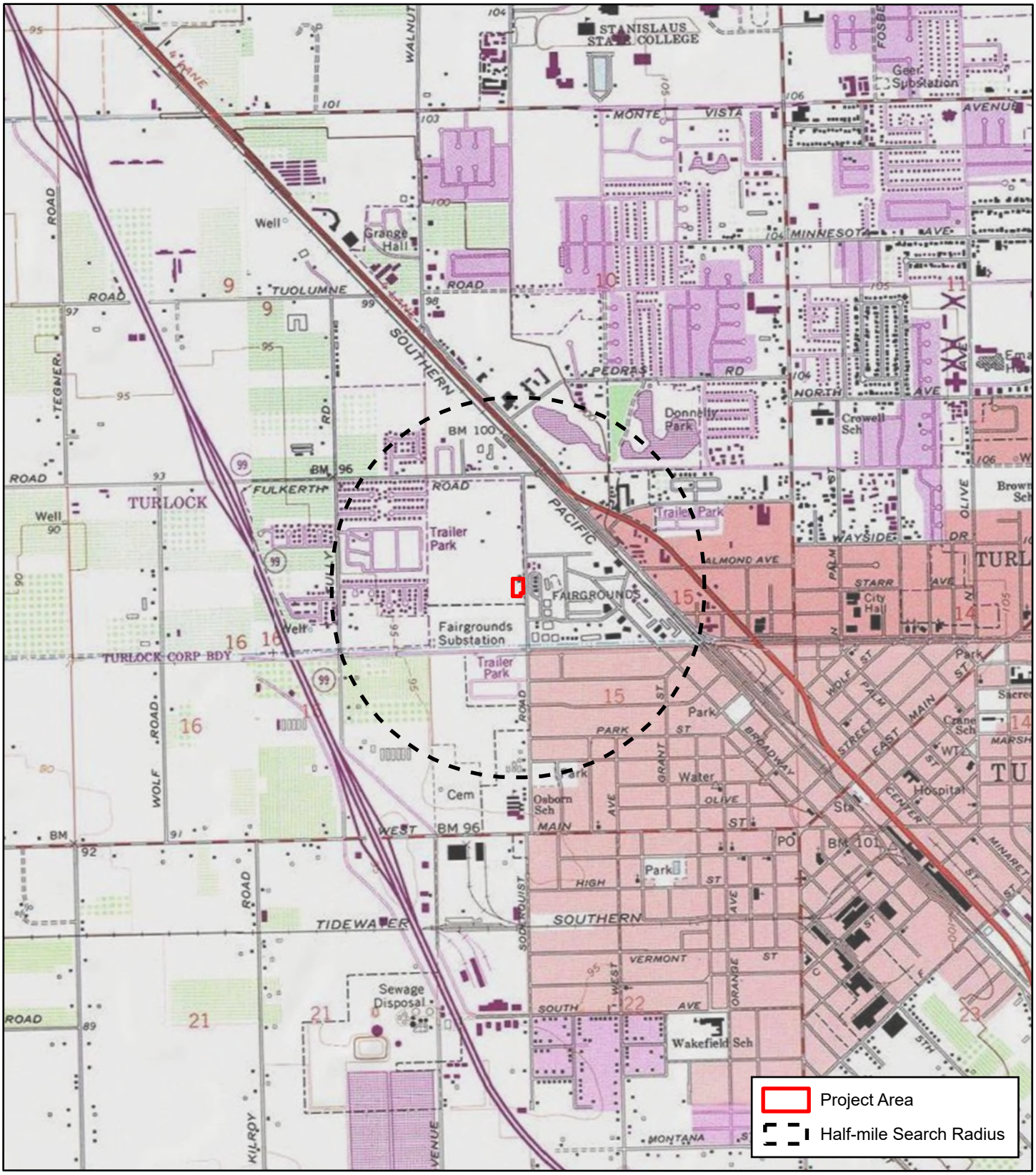
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Record Search
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Stanislaus County, California

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October 29, 2025

340 North Reservation Road
Porterville, CA, 93257

Project: Cultural Resources Survey and Assessment for the City of Turlock Well 36 in Stanislaus County, California

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Dear Ms. Vera,

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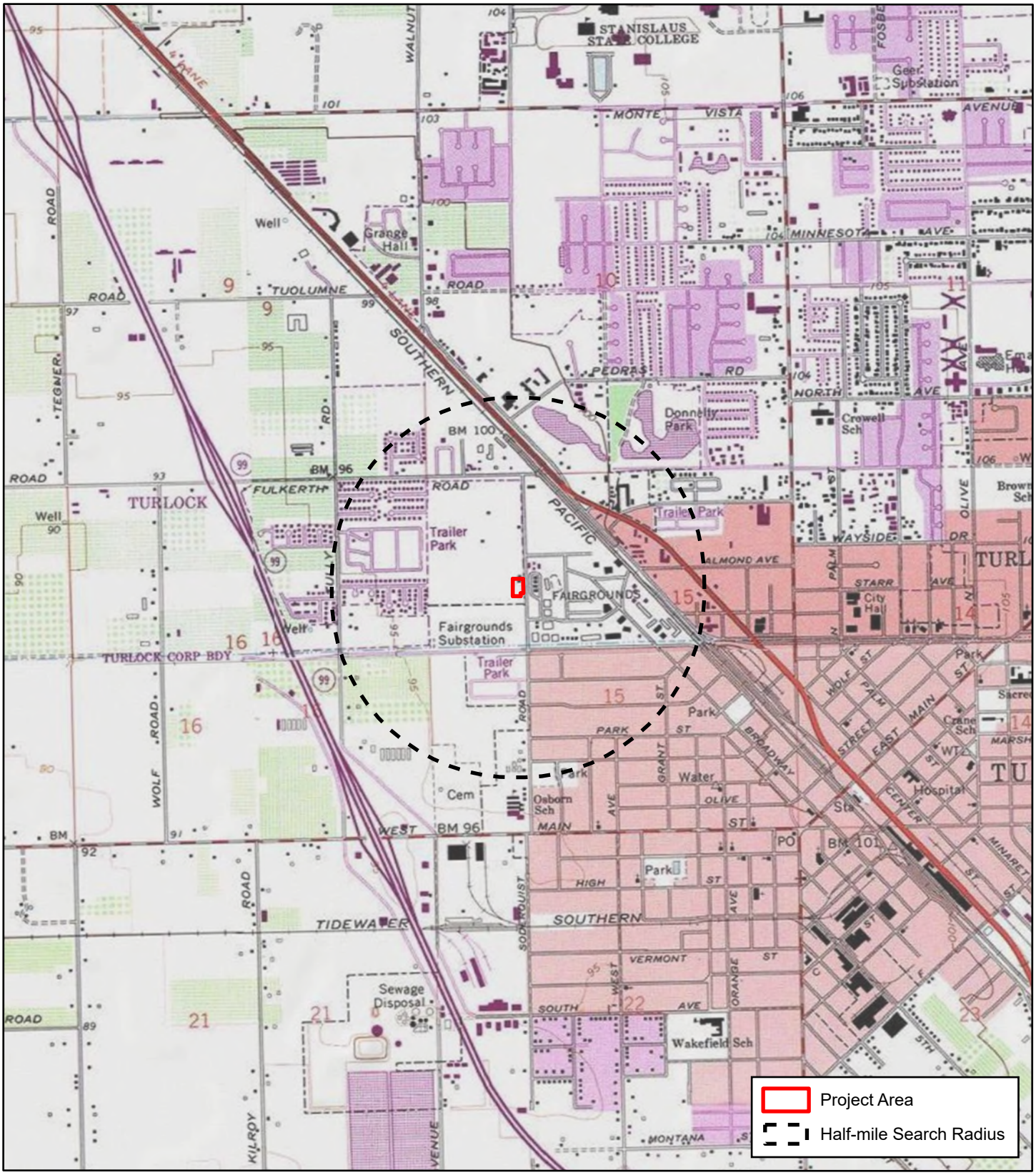
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October 29, 2025

1179 Rock Haven Ct.
Salinas, CA, 93906

Project: Cultural Resources Survey and Assessment for the City of Turlock Well 36 in Stanislaus County, California

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Dear Mr. Woodrow,

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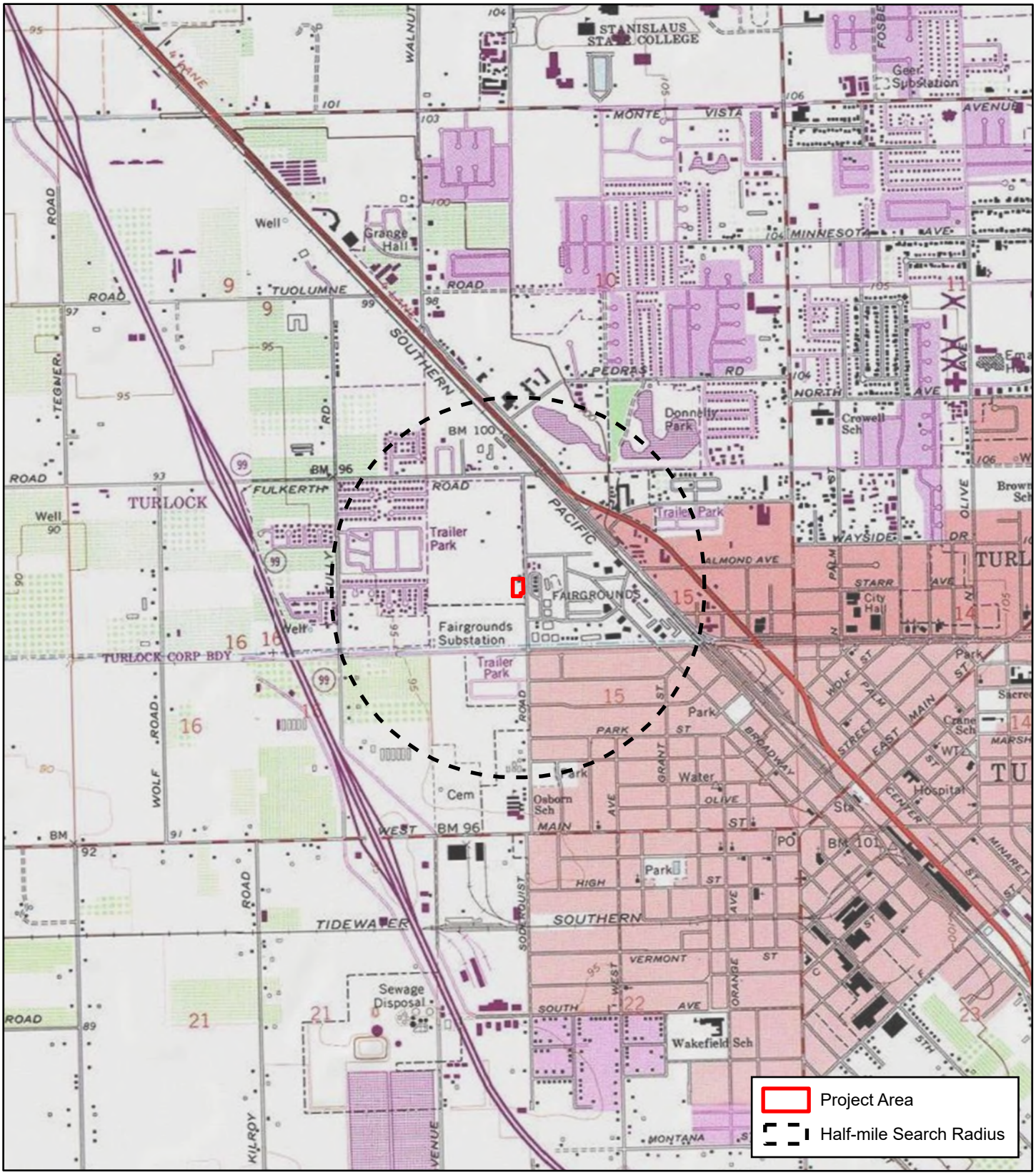
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