EAST KAWEAH
GROUNDWATER SUSTAINABILITY AGENCY

EAST KAWEAH GROUNDWATER SUSTAINABILITY AGENCY

MLRP BASIN

DRAFT INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

JANUARY 2025

PREPARED FOR
East Kaweah Groundwater Sustainability Agency
PO Box 908
Lindsay, CA 93247

PREPARED BY:

Provost & Pritchard Consulting Group

EST. 1968
PROVOST& PRITCHARD
CONSULTING GROUP

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ACRONYMS & ABBREVIATIONS

AB ---------- Assembly Bill
APE ---------- Area of Potential Effect
APN ---------- Assessor's Parcel Number
BMP ---------- Best Management Practices
CalEEMod ---------- California Emissions Estimator Modeling (software)
CARB ---------- California Air Resources Board
CCAA ---------- California Clean Air Act
CDFW ---------- California Fish and Wildlife
CEQA ---------- California Environmental Quality Act
CH_4 ---------- Methane
CHRIS ---------- California Historical Resources Information System
CNDDB ---------- California Natural Diversity Database
CNPS ---------- California Native Plant Society
CO ---------- Carbone Monoxide
CO_2 ---------- Carbon dioxide
County ---------- Tulare County
CRHR ---------- California Register of Historical Resources
DOC ---------- Department of Conservation
DPM ---------- Diesel Particulate Matter
DTSC ---------- Department of Toxic Substances Control
EIR ---------- Environmental Impact Report
FEMA ---------- Federal Emergency Management Agency
FMMP ---------- Farmland Mapping and Monitoring Program
GHG ---------- Greenhouse Gas
GIS ---------- Geographic Information System
GSA ---------- Groundwater Sustainability Agency
GSP ---------- Groundwater Sustainability Plan
GWP ---------- Global Warming Potential
IPaC ---------- U.S. Fish and Wildlife Service's Information for Planning and Consultation system
IS ---------- Initial Study
IS/MND ---------- Initial Study/Mitigated Negative Declaration
km ---------- kilometers
MBTA ---------- Migratory Bird Act
MMRP ---------- Mitigation Monitoring and Reporting Program
MND ---------- Mitigated Negative Declaration
NAAQS ---------- National Ambient Air Quality Standards
NAHC ---------- Native American Heritage Commission
ND ---------- Negative Declaration
NEPA ---------- National Environmental Policy Act
NO_2 ---------- Nitrogen dioxide
NO_X ---------- Oxides of nitrogen
NRCS ---------- Natural Resources Conservation Service
NRHP ---------- National Register of Historic Places
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 ---------- MLRP Basin Project
ROG ---------- Reactive Organic Gases
RWQCB ---------- Regional Water Quality Control Board
SB ---------- Senate Bill
SGMA ---------- Sustainable Groundwater Management Act
SJVAB ---------- San Joaquin Valley Air Basin
SJVAPCD ---------- San Joaquin Valley Air Pollution Control District
SLF ---------- Sacred Lands File
SO_2 ---------- Sulfur Dioxide
SSJVIC ---------- Southern San Joaquin Valley Information Center
SR ---------- State Route
SWPPP ---------- Storm Water Pollution Prevention Plan
SWRCB ---------- State Water Resources Control Board
TAC ---------- Toxic Air Contaminants
TPY ---------- tons per year
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
$\mu g/m^3$ ---------- micrograms per cubic meter
WDR ---------- Waste Discharge Requirements

CHAPTER! INTRODUCTION

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

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

1.1 REGULATORY INFORMATION

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

a. The IS shows there is no substantial evidence, in light of the whole record before the agency, that the Project may have a significant effect on the environment, or
b. The IS identified potentially significant effects, but:
    1. Revisions in the project plans or proposals made by or agreed to by the applicant before the proposed MND and IS is released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur is prepared, and
    2. There is no substantial evidence, in light of the whole record before the agency, that the 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 Project components and objectives. Chapter 3 Determination, the Lead Agency's determination based upon this initial evaluation. Chapter 4 Environmental Impact Analysis presents the CEQA checklist and environmental analysis for all impact areas, mandatory findings of significance, and feasible mitigation measures. If the Project does not have the potential to significantly impact a given issue area, the relevant section provides a brief discussion of the reasons why no impacts are expected. If the Project could have a potentially significant impact on a resource, the issue area discussion provides a description of potential impacts, and appropriate mitigation measures and/or permit requirements that would reduce those impacts to a less than significant level. Chapter 5 Mitigation, Monitoring, and Reporting Program (MMRP), provides the proposed mitigation measures, implementation timelines, and the entity/agency responsible for ensuring implementation. Chapter 6 References details the documents and reports this document relies upon to provide its analysis.

The CalEEMod Output Files, Biological Resources Evaluation, and Phase I Cultural Resources Assessment are provided as technical Appendix A, Appendix B, and Appendix C respectively, at the end of this document.

CHAPTER 2 PROJECT DESCRIPTION

2.1 PROJECT BACKGROUND

PROJECT TITLE

MLRP Basin Project

LEAD AGENCY NAME AND ADDRESS

East Kaweah Groundwater Sustainability Agency
PO Box 908
Lindsay, CA 93247

CONTACT PERSON AND PHONE NUMBER

Lead Agency Contact

Michael Hagman
Executive Director
(559) 303-4150

CEQA Consultant

Provost & Pritchard Consulting Group
Ryan McKelvey, Environmental Project Manager
(559) 449-2700

PROJECT LOCATION

The Project is located in Tulare County, California, approximately 190 miles southeast of Sacramento and 70 miles north of Bakersfield (see Figure 2-1 and Figure 2-2). The Project site is located approximately on Assessor's Parcel Number 052-040-007 and 052-040-009. The centroid of the Project site is 36° 26' 53.02"N, 119° 13' 8.55"W.

GENERAL PLAN DESIGNATION AND ZONING

Table 2-1: General Plan Designation and Zoning

Project Area	General Plan Designation	Zoning District
ONSITE	Valley Agriculture	AE-20
ADJACENT LANDS	Valley Agriculture	AE-20

2.2 DESCRIPTION OF THE PROJECT

PROJECT BACKGROUND AND PURPOSE

The East Kaweah Groundwater Sustainability Agency (EKGSA) is a joint powers groundwater regulatory agency that is located in the Sierra Nevada's Kaweah Watershed and manages a portion of the Kaweah Subbasin. The EKGSA represents approximately 117,300 acres land in Tulare County. The EKGSA was formed in response to the passing of the Sustainable Groundwater Management Act (SGMA). This legislation provides local agencies with the framework to manage groundwater basins in a sustainable manner, recognizing that groundwater is most effectively managed at the local level. Member agencies that make up the EKGSA include the City of Lindsay, Exeter Irrigation District (ID), Ivanhoe ID, Lindmore ID, Lindsay-Strathmore ID, and Stone Corral ID.

The EKGSA has been selected for grant funding through the Multi-benefit Land Repurposing Program with the Department of Conservation (DOC) for the development of a recharge basin, two turnout facilities, and conservation space.

PROJECT DESCRIPTION

The Project, located on an approximately 60-acre site north of the community of Ivanhoe adjacent to Cottonwood Creek, includes construction of a multi cell recharge basin facility. The Project would assist the EKGSA in expanding its groundwater recharge efforts ultimately supporting the goals of SGMA. The Project would include two turnouts and pump structures with capacity of approximately 30 cubic feet per second each. The proposed turnout facilities would allow the EKGSA to divert surface water from Cottonwood Creek into the proposed basin area to increase groundwater storage. Diverted water would consist of Central Valley Project water diverted into Cottonwood Creek upstream of the Project site. The proposed facilities would consist of cast-in-place concrete turnout structures, control gates, trash racks, and related appurtenances. One turnout facility would be located at the northeast edge of the proposed basin cells along the west bank of Cottonwood Creek and the other would be located at the southeast edge of the proposed basins cells along the west bank of Cotton Creek. The turnout structures would connect to a pump box structure through approximately 250 linear feet (LF) each of reinforced concrete piping (likely 36-inch diameter), equipped with a metered connection, lift pump(s) and would discharge into a distribution channel. The turnout and pump structures' excavation depth would be up to 15 feet below ground surface. Approximately six (6) interbasin connection structures would also be constructed to connect the distribution channel to the proposed basin cells. Each connection would be equipped with two structures (in both delivery channel and basin cell), rip rap, and 90 LF of piping. The Project would also include a conservation space area that would be pedestrian accessible. Conservation space would be in the form of terraced grading within the basin cells with flatter side slopes (i.e. 6:1 or flatter) to facilitate plantings for native habitats and provide varying water depths such as areas with 3 feet of water depth, areas with 1.5 feet, and areas with 6-9 inches of water depth. There would also be graded dirt walking paths around and between the basin cells. In addition, a graded dirt parking area would be constructed to accommodate vehicles traveling to the site. The dirt parking area is expected to be, at maximum, 90,000 square feet. The proposed facilities would be owned and operated by the EKGSA.

Construction would include equipment mobilization, excavation of earthwork for the recharge basin cells and structures, construction of basin perimeter berms, and grading on the outer portion of the berms for the purpose of providing pedestrian-accessible conservation space and parking. The Project site would contain temporary staging areas for construction equipment lay-down. Basin components would include constructing ponds/cells within the basin, as well as performance testing and demobilization. Excavated material would be used on site for berm construction along the basin perimeter and between each proposed cell. Any excess material would be exported off site. New berm construction would not exceed six (6) feet in height, measured from the exterior toe to the top of new berm. The maximum depth of ground disturbance for the basin would be as much as eight (8) feet.

The proposed multi-cell recharge basin is anticipated to recharge approximately 1,000 acre-feet (AF) in years when water is available, assuming a recharge rate of 0.75 AF per acre across approximately 45 acres of wetted area, and 30 days of surplus surface water availability.

CONSTRUCTION SCHEDULE

Construction of the Project is anticipated to be completed over approximately six months beginning in July of 2025 and ending in December of 2025. Generally, construction would occur between the hours of 7am and 7pm, Monday through Saturday, excluding holidays.

CONSTRUCTION EQUIPMENT

Construction equipment would likely include the following equipment used during construction:

- Excavators,
- Backhoes,
- Graders,
- Skid steers,
- Loaders,
- Hauling trucks,
- Scrapers,
- Compactors
- D9 dozer,
- Large tractor and large discing unit,
- Water trucks supplying water for dust control and conditioning soil for compaction, and
- Large watercannon and hoses

OPERATION AND MAINTENANCE

The operation and maintenance would be consistent with similar basin facilities in the area. The EKGSA would monitor groundwater conditions to minimize negative impacts on the surrounding areas (such as nearby wells, crops, and septic systems). The proposed facilities would be owned and operated by the EKGSA.

SITE AND SURROUNDING LAND USES AND SETTINGS

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

Direction from Project Site	Existing Use	General Plan Designation	Zone District
NORTH	Orchard	Valley Agriculture	AE-20
EAST	Orchard	Valley Agriculture	AE-20
SOUTH	Orchard	Valley Agriculture	AE-20
WEST	Orchard	Valley Agriculture	AE-20

OTHER PUBLIC AGENCIES WHOSE DISCRETIONARY APPROVAL MAY BE REQUIRED

- State Water Resources Control Board
- California Department of Fish and Wildlife

CONSULTATION WITH CALIFORNIA NATIVE AMERICAN TRIBES

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

The East Kaweah Groundwater Sustainability Agency has not received any written correspondence from a Tribe pursuant to Public Resources Code Section 21080.3.1 requesting notification of projects.

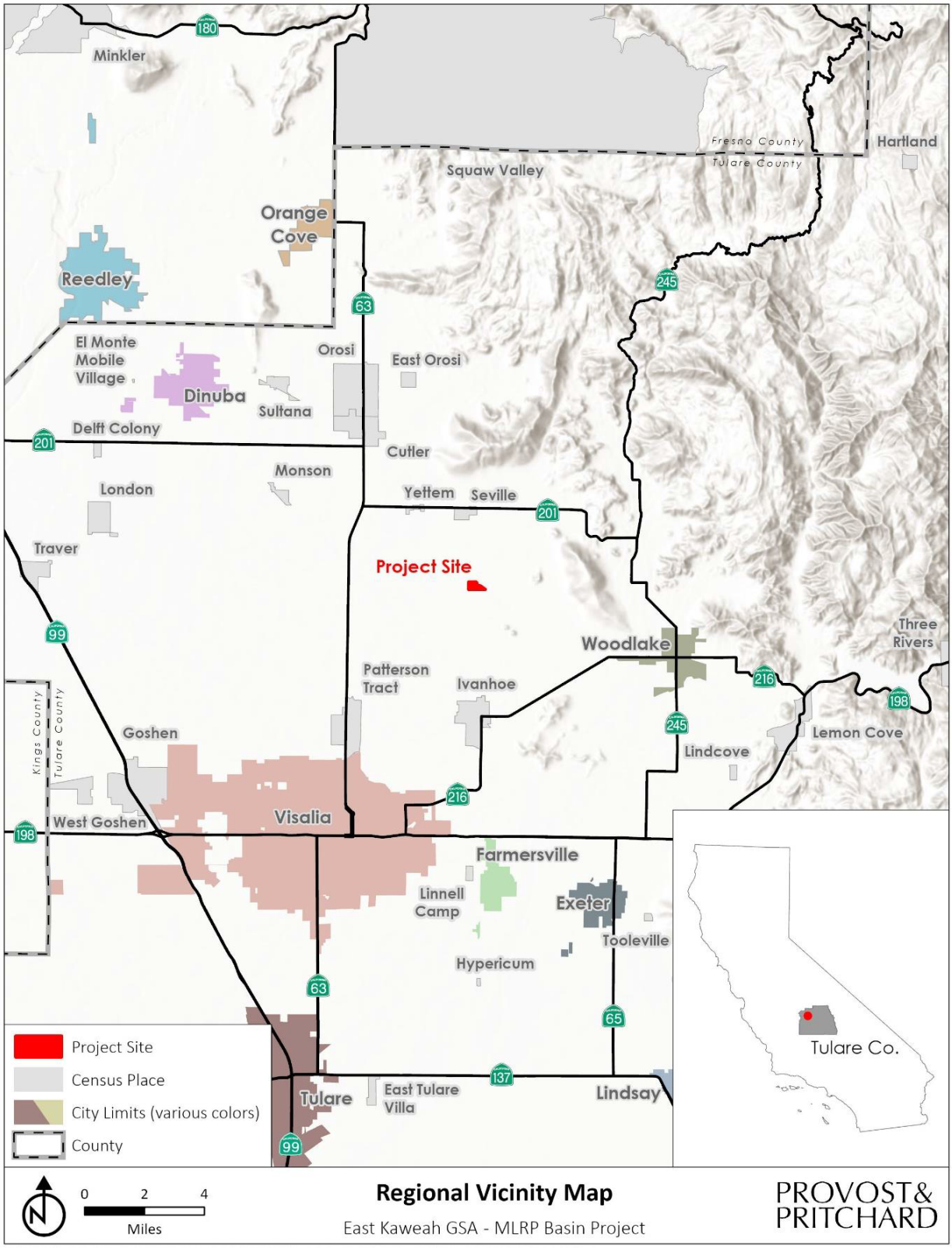

Figure 2-1: Regional Location Map

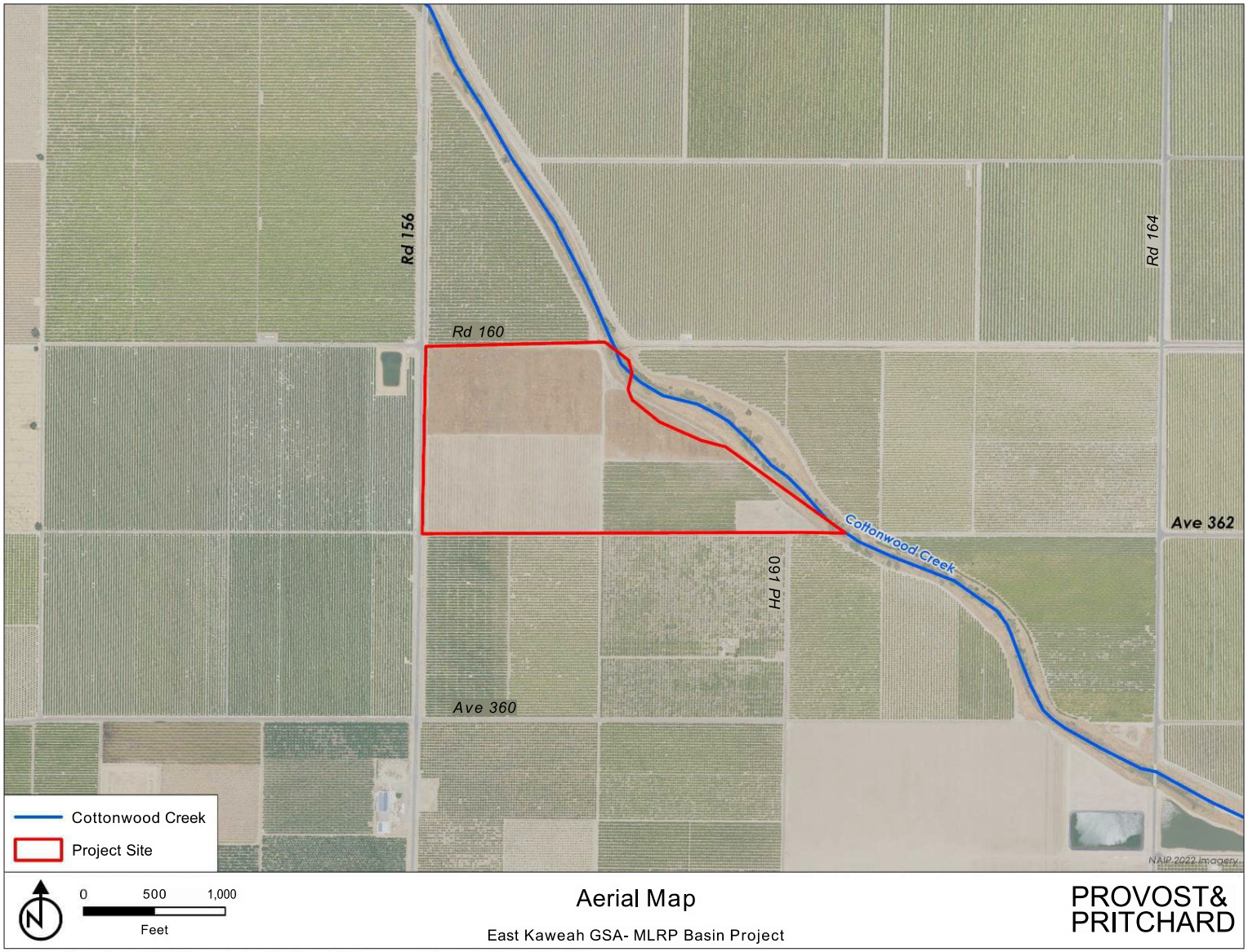

Figure 2-2: Aerial Site Map

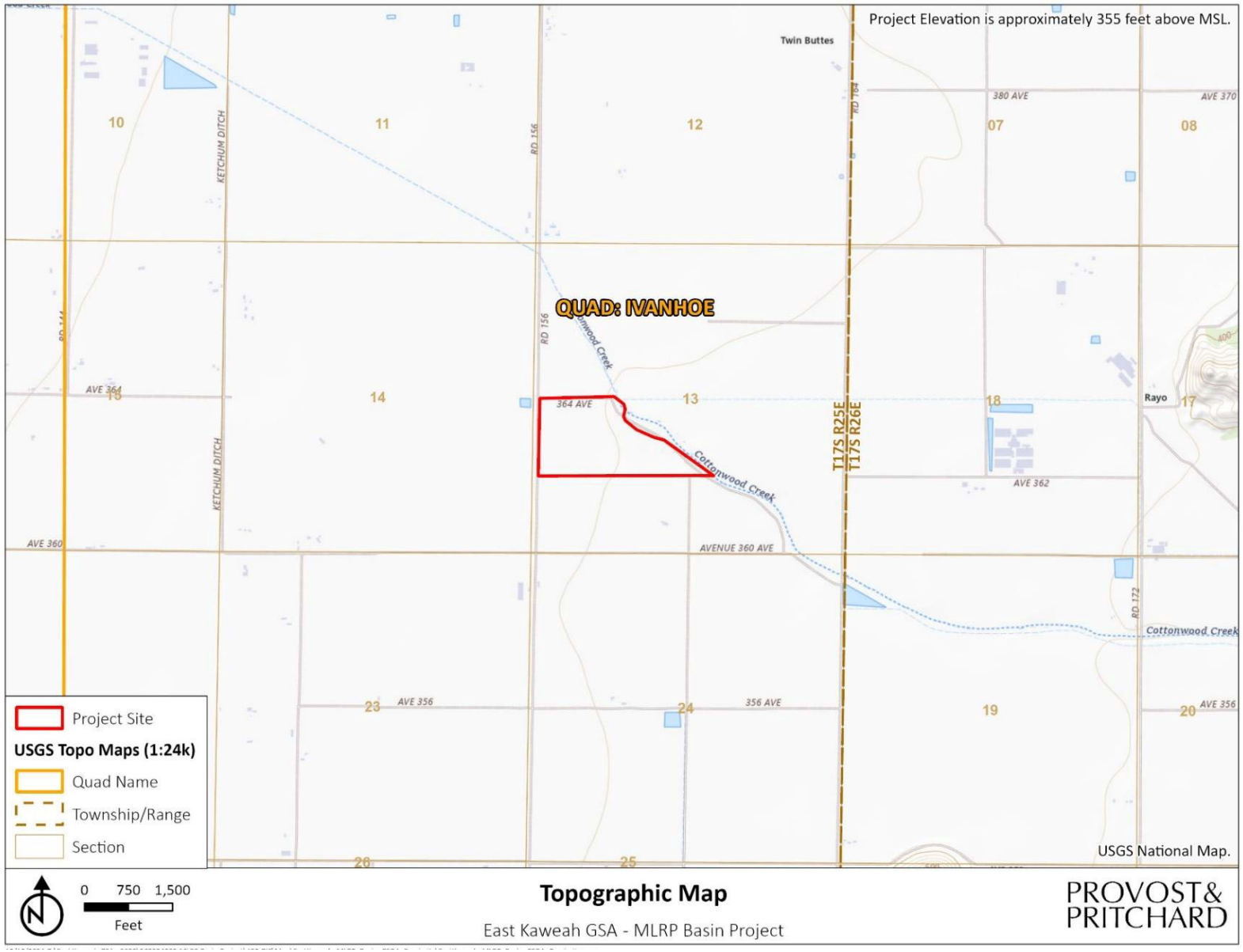

Figure 2-3: Topo Quad Map

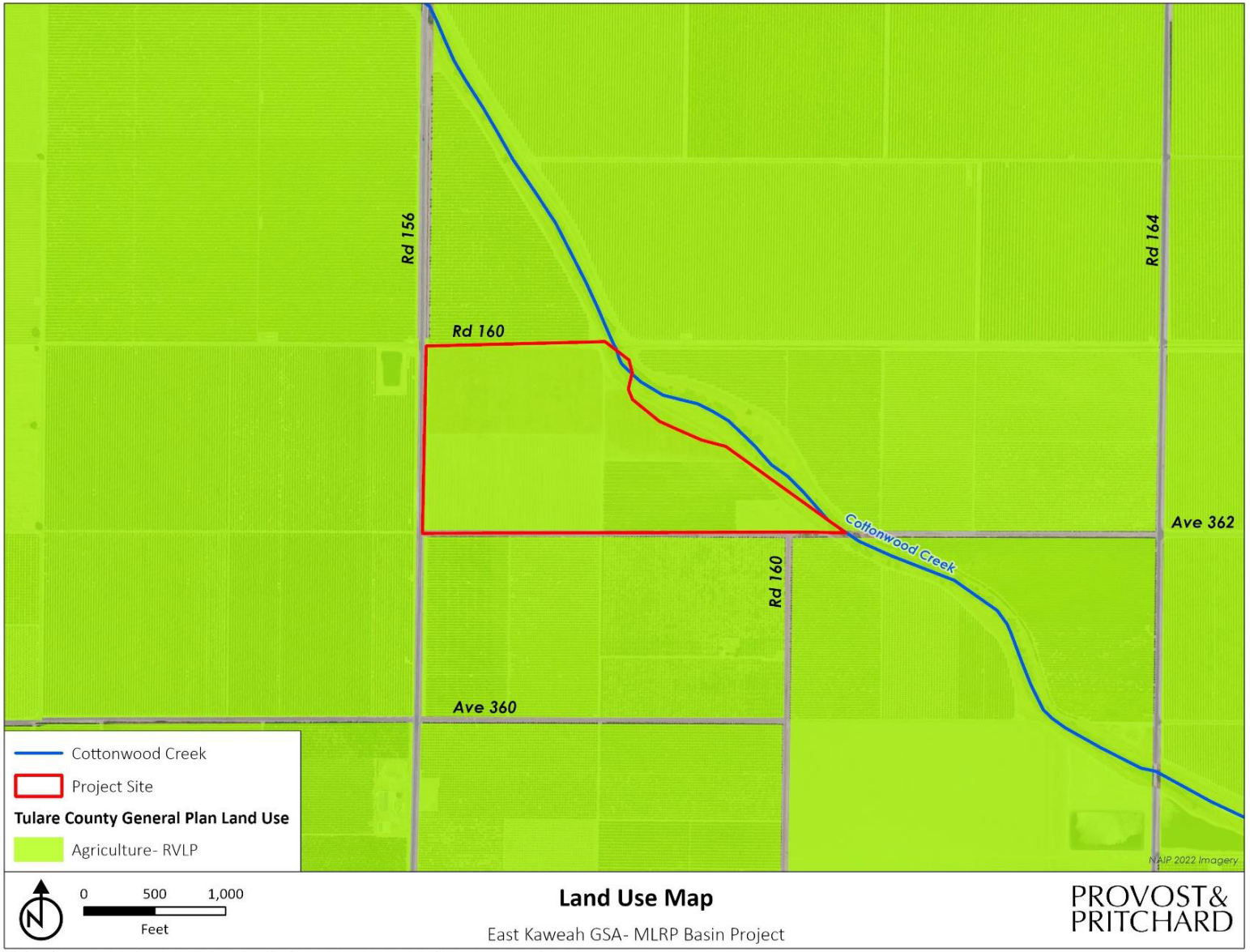

Figure 2-4: General Plan Land Use Designation Map

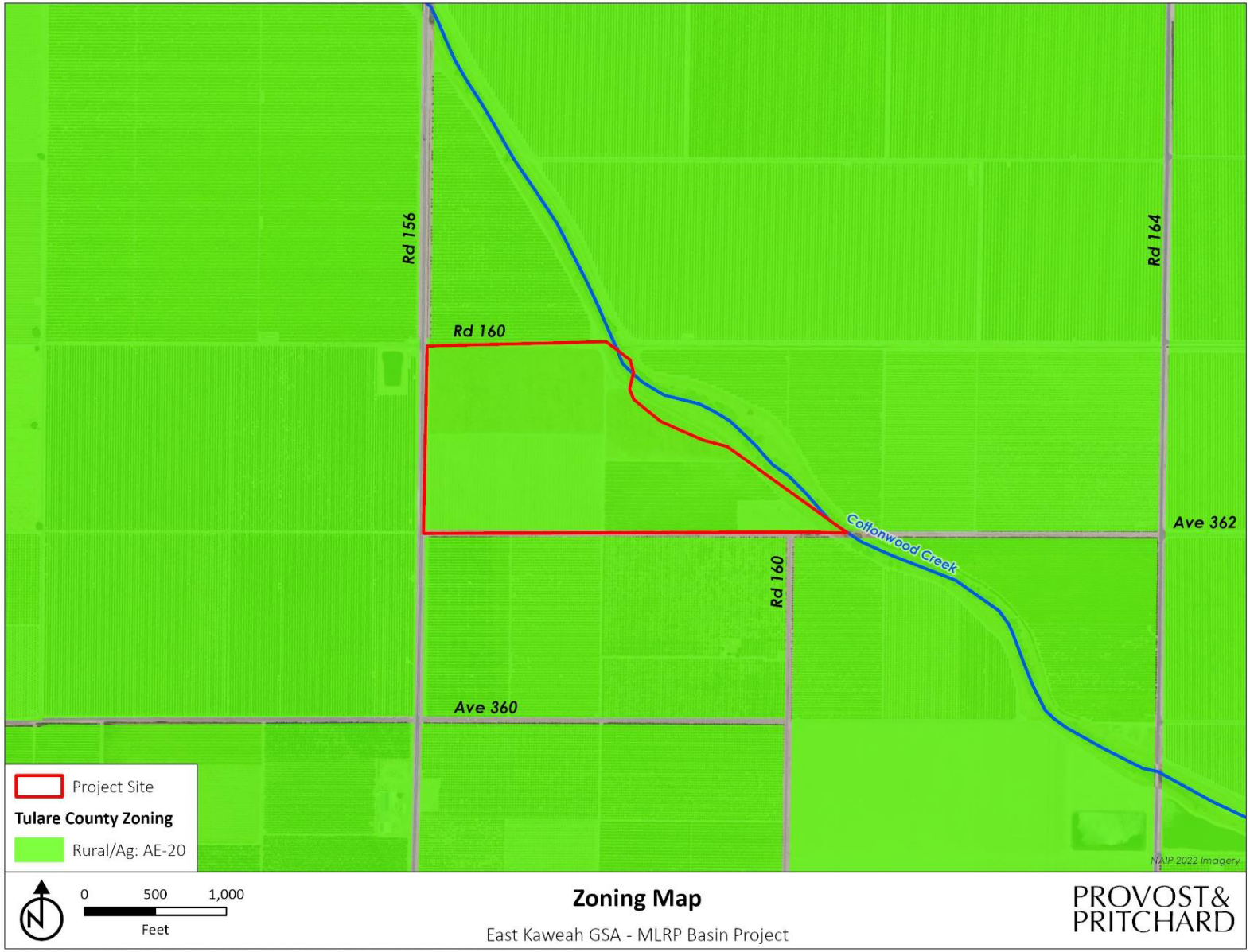

Figure 2-5: Zone District Map

CHAPTER 3 DETERMINATION

3.1 POTENTIAL ENVIRONMENTAL IMPACTS

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

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

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

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

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

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

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

3.2 DETERMINATION

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

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

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

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

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

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

Signature

1-17-2025
Date

MICHAEL D. HAGMAN
Printed Name/Position

EXECUTIVE DIRECTOR

CHAPTER 4 ENVIRONMENTAL IMPACT ANALYSIS

4.1 AESTHETICS

Table 4-1: Aesthetics Impacts

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

4.1.1 BASELINE CONDITIONS

The Project is located in Tulare County in the Central San Joaquin Valley. Lands in the vicinity consists of irrigated farmland. Agricultural practices in the vicinity consist of orchard cultivation to the north, south and west, while Cottonwood Creek traverses along the east boundary of the Project site. The nearest "eligible State Scenic Highway" identified by Caltrans is a portion State Route (SR) 198 east of Highway 99 located approximately 8.3 miles south of the Project site.[1] The Project site is relatively flat with elevations around 335 feet above mean sea level. Approximately 20 miles to the east lie the Sierra Nevada mountains, which is a prominent visual feature within Tulare County and in the San Joaquin Valley, in general; however, it can only be clearly seen on a clear day. Views are often obstructed by smog caused by the inversion layer found in the San Joaquin Valley. According to the Tulare County General Plan, the Project site, nor the Project vicinity, contain any designated scenic vistas.[2]

[1] (California Department of Transportation, 2023)
[2] (Tulare County 2030 General Plan Update, 2010)

4.1.2 IMPACT ANALYSIS

a) Have substantial adverse effect on a scenic vista?

No Impact. As mentioned, there are no designated scenic vistas that overlook the Project site, nor are there any on or near the Project site. Implementation of the Project would not result in any viewshed being obstructed from a scenic vista. Therefore, there would be no impact.

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

No Impact. The Project is not located within, or visible from, a designated state scenic highway. Therefore, there would be no impact.

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

Less than Significant Impact. The Project is located in Tulare County and is considered a non-urbanized area. Implementation of the Project would result in a concaved piece of land, surface water diversion equipment attached to Cottonwood Creek, and a graded path and open space for parking along the proposed basin. The Project does not include any facility or structure that would be substantially obtrusive or conspicuous. These Project features would not substantially degrade the existing visual character, nor would they degrade the quality of a public view. Any impacts would be less than significant.

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. No artificial lighting is proposed to be on-site or off-site. The Project site would be lit during the nighttime when/if maintenance trips are required; however, this would be on a temporary, as-needed basis. Therefore, the Project would not create a new source of substantial light or glare that would adversely affect day or nighttime views in the area or be inconsistent with existing conditions. Impacts would be less than significant.

4.2 AGRICULTURE AND FORESTRY RESOURCES

Table 4-2: Agriculture and Forest Impacts

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

4.2.1 BASELINE CONDITIONS

The Project is located in California's San Joaquin Valley in Tulare County. Tulare County is known for its agricultural production as it was the number one agriculture producing county in the United States for 2020.[3] In 2022, Tulare County's agriculture production grossed 8.6 billion dollars, an increase in 6.5% from the previous year.[4] The Project site is located on the northeast corner of Road 156 and Road 160, adjacent to Cottonwood Creek, approximately 3.6 miles north of the community Ivanhoe and 7 miles northeast of the City of Visalia. The Project site is planned and zoned for agricultural uses and has been used for farming walnuts.

4.2.2 APPLICABLE REGULATIONS

Federal

Federal Farmland Protection Policy Act

The Natural Resources Conservation Service (NRCS) oversees the Farmland Protection Policy Act (FPPA) (7 United States Code (USC) Section 4201, et seq.; see also 7 Code of Federal Regulations [CFR] 658). The FPPA (a subtitle of the 1981 Farm Bill) is national legislation designed to protect farmland. The FPPA states its purpose is to "minimize the extent to which federal programs contribute to the unnecessary conversion of farmland to nonagricultural uses." The FPPA applies to projects and programs that are sponsored or

[3] (University of California Agriculture and Natural Resources, 2022)
[4] (Tulare County Agricultural Commissioner, 2023)

financed in whole or in part by the federal government. The FPPA does not apply to private construction projects subject to federal permitting and licensing, projects planned and completed without assistance from a federal agency, federal projects related to national defense during a national emergency, or projects proposed on land already committed to urban development. The FPPA spells out requirements to ensure federal programs to the extent practical are compatible with State, local, and private programs and policies to protect farmland and calls for the use of the Land Evaluation and Site Assessment system to aid in analysis.

State

California Department of Conservation, Division of Land Resource Protection

As part of the Farmland Mapping and Monitoring Program (FMMP), the DOC applies the NRCS soil classifications to identify agricultural lands, and these agricultural designations are used in planning for the present and future of California's agricultural land resources. These designated agricultural lands are included in the Important Farmland Maps. The FMMP was established in 1982 to assess the location, quality, and quantity of agricultural lands and the conversion of these lands. The FMMP provides analysis of agricultural land use and land use changes throughout California. The DOC has a minimum mapping unit of 10 acres, with parcels that are smaller than 10 acres being absorbed into the surrounding classifications.

The list below provides a comprehensive description of all the categories mapped by the DOC.

- Prime Farmland. Farmland that has the best combination of physical and chemical features able to sustain long-term agricultural production. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.
- Farmland of Statewide Importance. Farmland similar to Prime Farmland but with minor shortcomings, such as greater slopes or less ability to store soil moisture. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.
- Unique Farmland. Farmland of lesser quality soils used for the production of the State's leading agricultural crops. This land is usually irrigated but may include non-irrigated orchards or vineyards as found in some climatic zones in California. Land must have been cropped at some time during the four years prior to the mapping date.
- Farmland of Local Importance. Land of importance to the local agricultural economy as determined by each county's board of supervisors and a local advisory committee.
- Grazing Land. Land on which the existing vegetation is suited to the grazing of livestock. This category was developed in cooperation with the California Cattlemen Association, University of California Cooperative Extension, and other groups interested in the extent of grazing activities. The minimum mapping unit for Grazing Land is 40 acres. \
- Native Vegetation. Land that is heavily wooded, rocky, barren, or riparian. It also includes wetland areas, grasslands that don't qualify as grazing land, and small bodies of water. Constructed wetlands are also considered nonagricultural and native vegetation.
- Urban and Built-up Land. Land occupied by structures with a building density of at least 1 unit to 1.5 acres, or approximately 6 structures to a 10-acre parcel. This land is used for residential, industrial, commercial, institutional, public administrative purposes, railroad and other transportation yards, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, water control structures, and other developed purposes.

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

As demonstrated in Figure 4-1, the FMMP for Tulare County designates project site as Prime Farmland and Unique Farmland.[5]

4.2.3 IMPACT ANALYSIS

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

Less than Significant Impact. The Project would include the construction of a multi-celled recharge basin, and associated water delivery equipment. The primary goal of the Project is to divert water from the Cottonwood Creek to the proposed basin for recharge. The replenishment of groundwater supplies would ultimately benefit agricultural wells in the vicinity and could potentially assist in the prevention of the need to fallow agricultural lands due to inadequate or costly recovery of declining groundwater supply. Groundwater replenishment associated with the Project is also consistent with the overall goals of SGMA, which aims to bring balance to groundwater management. Therefore, impacts would be less than significant.

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

Less than Significant Impact. No zoning changes would result from construction of the recharge basin. The Project site is currently under Williamson Act contract, but the proposed on-farm flood capture would be consistent with uses allowed under the Williamson Act. Therefore, impacts would be less than significant.

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

No Impact. There are no lands zoned for forest or timberland use in the Project site or the surrounding area. Therefore, the Project would not conflict with existing zoning for, or cause rezoning of, forest land, timberland, or timberland zoned Timberland Production. There would be no impact.

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

No Impact. There are no forests within the Project site or the surrounding area, therefore the Project would not result in the loss of or conversion of forest land to non-forest use. 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?

Less than Significant Impact. The Project site is designated as Valley Agriculture as per the Tulare County General Plan and zoned AE-20 (Agriculture, 20 acre minimum) under the Tulare County Zoning Ordinance. The Project would not convert the land from its existing agricultural designation to any other

[5] (California Department of Conservation, 2024)

land use. The intent of the Project is to expand and improve the storage capability in the EKGSA by capturing flood water. By doing so, the Project would help support ongoing agricultural endeavors by enhancing water availability. As a result, the Project would result in continued farming on surrounding agricultural lands that could potentially be fallowed due to lack of water. Impacts would be less than significant.

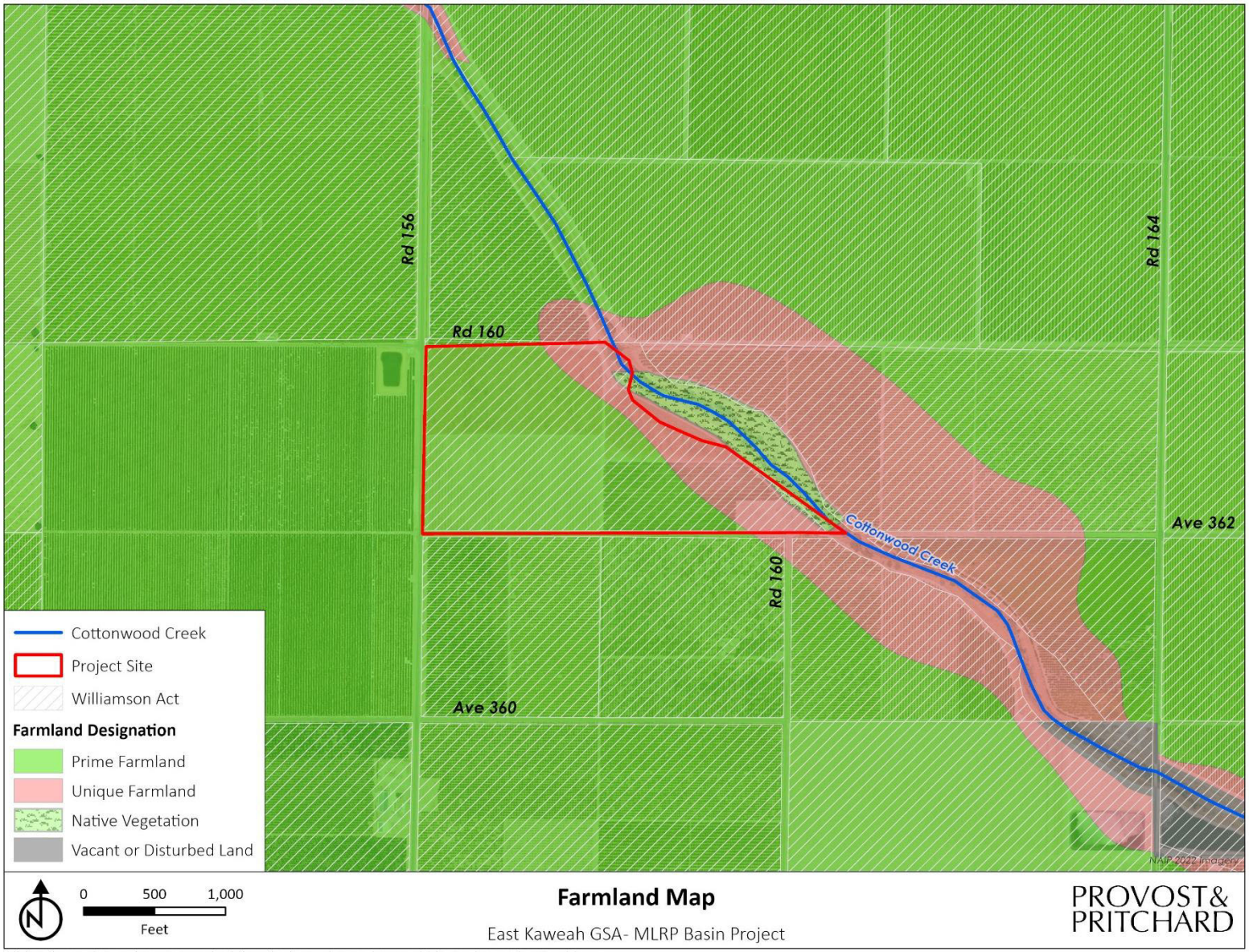

Figure 4-1: Farmland Designation Map

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 would be located in the County of Tulare, 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.[6] 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.

The Project site and lands in the Project's vicinity consist of farmland and Cottonwood Creek.

4.3.2 APPLICABLE REGULATIONS

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.

[6] (San Joaquin Valley Air Pollution Control District, 2022)

The United States Environmental Protection Agency (USEPA) designates areas for ozone (O_3), carbon monoxide (CO), and nitrogen dioxide (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-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 as "unclassified."

The SJVAB is currently designated as a nonattainment area with respect to the State PM_{10} standard, ozone, and $PM_{2.5}$ standards. The SJVAB is designated nonattainment for the National Ambient Air Quality Standard (NAAQS) eight-hour ozone and $PM_{2.5}$ standards. On September 25, 2008, the USEPA re-designated the San Joaquin Valley to attainment status for the PM_{10} NAAQS and approved the PM_{10} Maintenance Plan.[7]

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

Pollutant	Averaging Time	California Standards*		National Standards*	
		Concentration*	Attainment Status	Primary	Attainment Status
OZONE (O_3)	1-hour	0.09 ppm	Nonattainment/ Severe	–	No Federal Standard
	8-hour	0.070 ppm	Nonattainment	0.075 ppm	Nonattainment (Extreme)**
PARTICULATE MATTER (PM_{10})	AAM	20 µg/m³	Nonattainment	–	Attainment
	24-hour	50 µg/m³		150 µg/m³	
FINE PARTICULATE MATTER ($PM_{2.5}$)	AAM	9 µg/m³	Nonattainment	9 µg/m³	Nonattainment
	24-hour	No Standard		35 µg/m³	
CARBON MONOXIDE (CO)	1-hour	20 ppm	Attainment/ Unclassified	35 ppm	Attainment/ Unclassified
	8-hour	9 ppm		9 ppm	
	8-hour (Lake Tahoe)	6 ppm		–	
NITROGEN DIOXIDE (NO_2)	AAM	0.030 ppm	Attainment	53 ppb	Attainment/ Unclassified
	1-hour	0.18 ppm		100 ppb	
SULFUR DIOXIDE (SO_2)	AAM	–	Attainment	--	Attainment/ Unclassified
	24-hour	0.04 ppm		--	
	3-hour	–		0.5 ppm	
	1-hour	0.25 ppm		75 ppb	
LEAD (PB)	30-day Average	1.5 µg/m³	Attainment	–	No Designation/ Classification
	Calendar Quarter	–		--	
	Rolling 3-Month Average	–		0.15 µg/m³	
SULFATES (SO_4)	24-hour	25 µg/m³	Attainment	No Federal Standards	
HYDROGEN SULKDWCDE (H_2S)	1-hour	0.03 ppm (42 µg/m³)	Unclassified		

[7] (San Joaquin Valley Air Pollution Control District, 2022)

Pollutant	Averaging Time	California Standards*		National Standards*	
		Concentration*	Attainment Status	Primary	Attainment Status
VINYL CHLORIDE (C_2H_3CL)	24-hour	0.01 ppm (26 µg/m^3)	Attainment		
VISIBILITY-REDUCING PARTICLE MATTER	8-hour	Extinction coefficient: 0.23/km-visibility of 10 miles or more due to particles when the relative humidity is less than 70%.	Unclassified		

** For more information on standards visit: https://ww3.arb.ca.gov/research/aaqs/aaqs2.pdf*
*** No Federal 1-hour standard. Reclassified extreme nonattainment for the Federal 8-hour standard 07-02-2024.*
****Secondary Standard.*
Source: http://www.valleyair.org/aqinfo/attainment.htm. Accessed July 2024.

CONSTRUCTION-GENERATED EMISSIONS

Emissions associated with the Project were calculated using CalEEMod Air Quality Model, Version 2022.1.1.28. Construction of the Project is assumed to be completed over approximately six months. 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.

4.3.3 THRESHOLDS

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), Nitrogen Oxides (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 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 NO_X 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)
ROG	10	10
NO_X	10	10
CO	100	100
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://www.valleyair.org/transportation/GAMAQI-2015/FINAL-DRAFT-GAMAQI.PDF. Accessed July 2, 2024.

4.3.4 IMPACT ANALYSIS

Short-Term Construction Generated Emissions

Estimated construction-generated emissions are summarized in Table 4-6 and Table 4-7. Operational emissions of the Project would be considered negligible due to the type of use proposed on-site. A negligible amount of emissions could result from use of water conveyance infrastructure.

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	0.21	1.91	1.87	<0.005	0.33	0.17
SJVAPCD Threshold	*10*	*10*	*100*	*27*	*15*	*15*
Threshold Exceeded?	No	No	No	No	No	No

Table 4-7: Maximum Daily Construction Related Emissions of Criteria Air Pollutants

Source	Daily Emissions Maximum (in pounds)					
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Construction – Summer	3.30	29.7	29.3	0.06	4.93	2.59
Construction – Winter	3.39	31.7	30.8	0.06	9.13	5.22
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 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 Project would not result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is in non-attainment. As shown in Table 4-6 and Table 4-7, the Project would not exceed an emissions threshold which has been set by the SJVAPCD for construction related emissions. While the Project would provide conservation space, due to the remote location of the Project site, it is not anticipated the Project would attract a significant number of visitors. The amount of regular vehicle trips are not anticipated to significantly exceed the existing traffic in the area. Therefore, long-term operational emissions would be negligible and would not exceed any set

threshold governing air quality emission generation within the SJVAPCD. 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 Project would not result in significant long-term operational emissions. Construction related emissions, shown in Table 4-6 and Table 4-7 , would be temporary in nature and would cease upon completion of Project construction.

Short-term construction activities; however, could result in temporary increases in pollutant concentrations that could impact nearby sensitive receptors. Sensitive Receptors are groups that would be more affected by air, noise, light pollution, pesticides, and other toxic chemicals than others. This includes infants, children under 16, elderly over 65, athletes, and people with cardiovascular and respiratory diseases. High concentrations of these groups would include daycares, residential areas, hospitals, elder care facilities, schools, and parks. The Project site; however, is located in an agriculturally dominated area with the nearest sensitive receptor being a residence located approximately 4,000 feet west across Road 156. Therefore, any 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?

No Impact. Project construction would utilize diesel and gasoline powered equipment, which are already used during harvest and cultivation phases of the existing farming operations within the area. Therefore, there would be no impact.

4.4 BIOLOGICAL RESOURCES

Table 4-8: Biological Resources Impacts

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

4.4.1 BASELINE CONDITIONS

GENERAL

The Project site is located in the San Joaquin Valley, on the northeast corner of Road 156 and Road 160, adjacent to Cottonwood Creek, just approximately 3.6 miles north of the community Ivanhoe and 7 miles northeast of the City of Visalia in Tulare County. Surrounding lands to the north, south, and east are agricultural, and a paved road runs adjacent to the western boundary. The topography of the site is relatively flat with elevations ranging from approximately 355 to 368 feet above mean sea level.

Like most of California, the Project site experiences a Mediterranean climate. Warm, dry summers are followed by cool, moist winters. In the summer, average high temperatures range between 88- and 96 degrees Fahrenheit (°F), but often exceed 96 °F, and the humidity is generally low. Winter temperatures

are often below 60 °F during the day and rarely exceed 65 °F. On average, the City of Visalia receives approximately 10.9 inches of precipitation in the form of rain yearly, most of which occurs between October and May.[8]

HYDROLOGY

The nearest surface water to the Project is Cottonwood Creek, which crosses through the northeast corner of the site. Cottonwood Creek is inundated infrequently. Cottonwood Creek is fed by stormwater and snowmelt runoff from the Sierra Nevada foothills. Cottonwood Creek flows from Dunlap west into the valley and where it eventually connects with Cross Creek.[9]

SOILS

Two soil mapping units representing two soil types were identified within the Project site and are listed in Table 4-9 (see Appendix B for the Web Soil Survey Report). The soils are displayed with their core properties in the table below, according to the Major Land Resource Area of California. Both soils are primarily used for crops, grazing, and wildlife habitat.

Table 4-9: List of Soils Located on the Site and Their Basic Properties

Soil	Soil Map Unit	Percent of Site	Hydric Soil Category	Drainage	Permeability/ Conductivity	Runoff
Tujunga	Sand, loam, 0 to 2 percent slopes	23.2%	Non-hydric	Somewhat excessively	High saturated hydraulic	Negligible to low
Yettem	Sandy loam, 0 to 2 percent slopes	76.8%	Predominantly non-hydric	Well drained	Moderately rapid	Negligible or very low runoff

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. One of the minor soil mapping units located on the Project site was identified as hydric.

BIOTIC HABITATS

Four biotic habitats were observed within the Project site and included ruderal, orchard, creek, and ditch. (see Figure 4-2). These habitats and their constituent plant and animal species are described in more detail in the following sections.

4.4.1.1.1 RUDERAL

The ruderal habitat consisted of two fallow fields which were dominated mostly by non-native and invasive vegetation. The larger field is approximately six acres and is located on the northeast side of the Project site. A coyote den was observed north of the field in an open area which also contained ruderal habitat. The area contained two telephone poles, a water tank, a water well, an electrical box, as well as meters where two in-active black phoebe nests were identified. The second field is approximately 0.25 acres and is located on the southern end of the Project site. Other ruderal habitats within the Project site included the dirt roads located around the perimeter of the Project site, in between the parcels, and parallel to Cottonwood Creek. Both ruderal fields appeared to be managed semi-frequently. These fields can serve as nesting and foraging habitats for several bird species and forging and denning habitats for other species such as coyotes (*Canis latrans*) and striped skunks (*Mephitis mephitis*).

[8] (Weatherspark, 2024)
[9] (USGS.gov)

Wildlife species observed during the field survey included California ground squirrel (*Otospermophilus beecheyi*), California quail (*Callipepla californica*), cliff swallow (*Petrochelidon pyrrhonota*), and black phoebe (*Sayornis nigricans*).

The plant species observed during the field survey included sacred datura (*Datura wrightii*), tree tobacco (*Nicotiana glauca*), wild rye (*Leymus sp.*), giant reed (*Arundo donax*), common mullein (*Verbascum thapsus*), yellow star-thistle (*Centaurea solstitialis*), fiddle neck (*Amsinckia sp.*), horseweed (*Erigeron canadensis*), poison hemlock (*Conium maculatum*), milk thistle (*Silybum marianum*), shortpod mustard (*Hirschfeldia incana*), common myrtle (*Myrtus communis*), and annual burweed (*Ambrosia acanthicarpa*).

4.4.1.1.2 ORCHARD

Two areas of orchard habitat were identified within the Project site. The orchards observed on the west side of the Project site were installed recently and spaced several feet apart; the trees stood less than three feet tall. The second orchard was to the south side of the Project site and the trees were well established, showing signs of stress with no obvious fruiting bodies. The trees stood over six feet tall and were tightly compacted in standard production fashion. The orchard habitat could be used as nesting habitat for residential and migratory birds.

The plant species observed as a result of the survey included Mandarin orange (*Citrus reticulata*), wild tobacco, poison hemlock, California mugwort (*Artemisia douglasiana*), and horseweed.

4.4.1.1.3 CREEK

The creek habitat included less than one (1) acre within two sections of Cottonwood Creek. Most of the creek was dry at the time of the survey but there was some pooling water entering from a channel from the east side of the creek that was outside the Project site. The two sections of the creek where the turnout is expected to be installed are mostly open with sparse vegetation within the creek. An Aquatic Resources Delineation (ARD) was performed on the creek to determine the Ordinary High Water Mark (OHWM) by a qualified biologist on July 02, 2024, and a second ARD was completed by a permitting specialist on November 22, 2024. The creek habitat could be used as nesting and foraging habitat for residential and migratory birds, foraging habitat and movement corridor for a variety of species such as Virginia opossum (*Didelphis virginiana*), and northern raccoon (*Procyon lotor*), and coyote (*Canis latrans*). Tracks from these species were also observed within the creek habitat during the time of the survey.

Wildlife species observed as a result of the survey included western kingbird (*Tyrannus verticalis*), red-tailed hawk (*Buteo jamaicensis*), barn owl (*Tyto alba*), turkey vulture (*Cathartes aura*), common raven (*Corvus corax*), Eurasian collared dove (*Streptopelia decaocto*), and California quail.

The plant species observed as a result of the survey were Fremont cottonwood, bulrush (*Schoenoplectus acutus*), tall flatsedge (*Cyperus eragrostis*), California cocklebur (*Xanthium orientale*), barnyard grass (*Echinochloa crus-galli*), beardless rabbitsfoot grass (*Polypogon viridis*), Himalayan blackberry (*Rubus armeniacus*), and mistletoe (*Viscum album*).

In the northeast corner along the banks of the Project site, a small stand of three Fremont cottonwood trees (*Populus fremontii*) was observed. Open stands of riparian habitat are common in this region due to disturbance by agricultural activities. The vegetation within this area was not dense enough to support riparian wildlife-specific species.

4.4.1.1.4 DITCH

The ditch habitat ran north to south parallel to the Project site and Road 156 and continued beyond the boundary of the Project site. The ditch was dirt-lined with little to no terrestrial vegetation growing along

the banks of the canal. There was some water pooling from the north culvert pipe but stopped within a few feet of the pipe. Small fish were observed in the pooled water and a frog species, most likely bullfrogs, were observed further back in the culvert pipe. An ARD was performed on this ditch to determine the OHWM by a qualified biologist on July 02,2024. When water is present in the ditch, the ditch habitat could be used as foraging habitat for residential and migratory birds, northern raccoons, striped skunk, and Virginia opossum.

The plant species observed during the survey as a result of the survey included, bottlebrush (*Elymus elymoides*), broomsedge (*Andropogon virginicus*), and Bermuda grass (*Cynodon dactylon*).

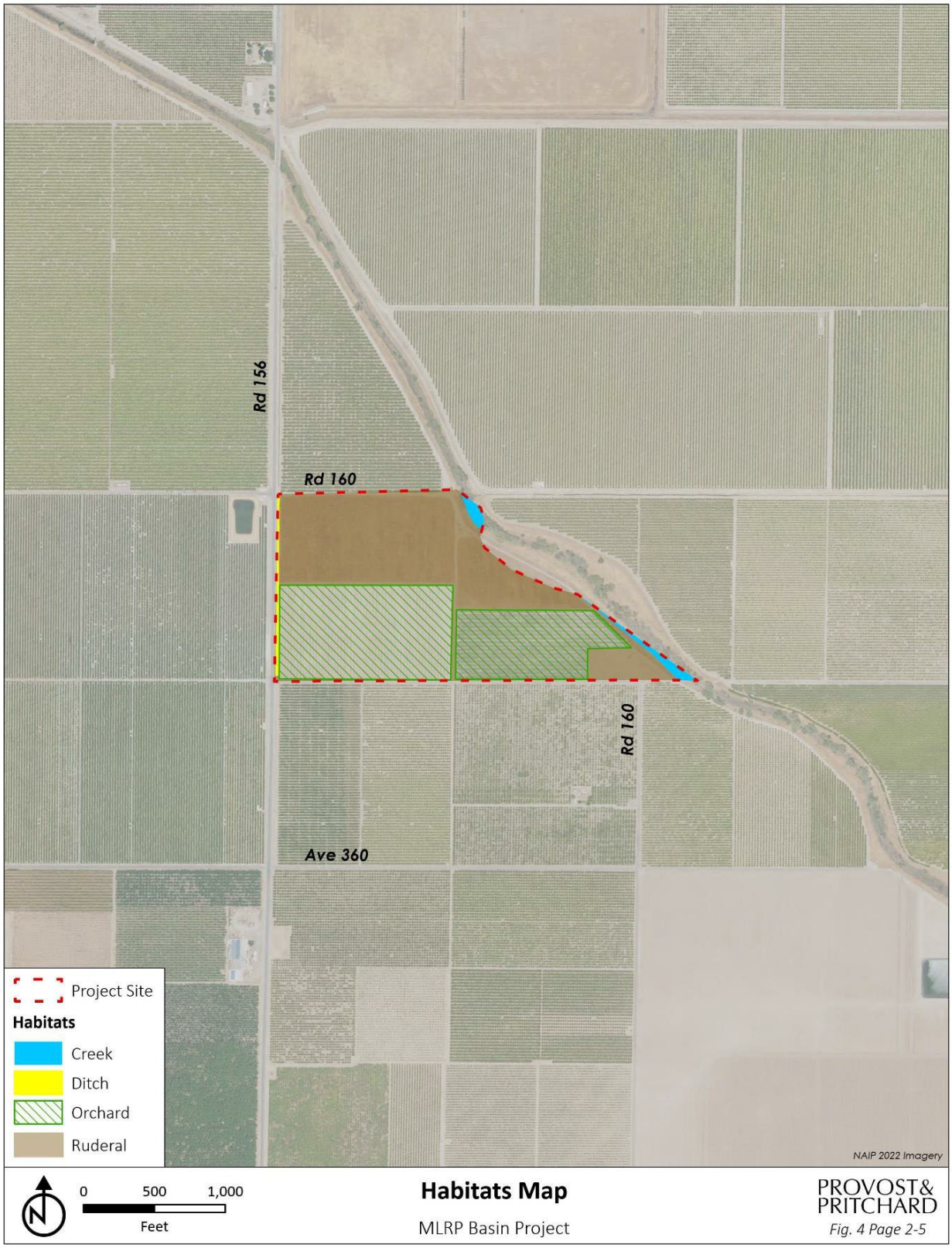

Figure 4-2: Habitat Map

4.4.1.2 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 3.6), these natural communities of special concern can be found within the CNDDB. 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. Riparian habitats were present adjacent to Cottonwood Creek.

4.4.1.3 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 Project site and vicinity.

4.4.1.4 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.

Cottonwood Creek was surrounded by agriculture and rural roads, it is likely to function as wildlife movement corridors. Numerous wildlife tracks were observed during the field survey in the creek such as coyote, raccoon, and opossum.

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. No native wildlife nursery sites were found within the Project site.

4.4.1.5 SPECIAL STATUS PLANT AND ANIMAL

A query of the CNDDB for occurrences of special status plant and animal species was conducted for the *Round Mountain* United States Geological System 7.5-minute quadrangle that contains the APE, and for the eight surrounding quadrangles: Orange Cove South, Stokes Mtn., Auckland, Monson, Woodland, Visalia, Exeter, and Rocky Kill. A query of the IPaC was also completed for the Project site. These species, and their potential to occur within the APE, are listed in Table 4-10 and Table 4-11, 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 4-11. Species lists obtained from CNDDB and IPaC are available in Appendix B and Appendix C of Appendix B.

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

Species	Status*	Habitat	Occurrence within the Site
Alkali-sink goldfields (*Lasthenia chrysantha*)	CNPS 1B	Found in vernal pool and wet saline flat habitats in the San Joaquin Valley region at elevations below 700 feet. Blooms February – April.	**Absent.** No vernal pools were observed within the project site or the surrounding area.
Brittlescale (*Atriplex depressa*)	CNPS 1B	Found in the Central Valley in alkaline or clay soils, typically in meadows or annual grasslands at elevations below 1,100 feet. Sometimes associated with vernal pools. Blooms June – October.	**Absent.** No suitable habitat was observed within the project site. The most recent recorded observation occurred nine miles northwest of the project site in 1968.
Calico monkeyflower (*Diplacus pictus*)	CNPS 1B	Found in the Sierra Nevada foothills and the Tehachapi mountains in bare, sunny, shrubby areas, around granite outcrops within foothill woodland communities at elevations between 450 and 4,100 feet. Blooms March – May.	**Absent.** The project site is outside the elevation range for this species.
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 habitat required for this species was not observed within the project site.
California satintail (*Imperata brevifolia*)	CNPS 2B	Often found in wet springs, meadows, streambanks, and floodplains, and can also be found in coastal scrub, riparian scrub, Mojavean desert scrub, chaparral, and alkali seeps at elevations below 1,600 feet. Blooms September – May.	**Absent.** The habitat required for this species was not observed within the project site.
Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*)	CNPS 1B	Found on alkaline and saline soils in vernal pools and playas in grassland at elevations below 4,500 feet. Blooms April – May.	**Absent.** The habitat required for this species was not observed within the project site. Suitable soil was absent from the project site.
Earlimart orache (*Atriplex cordulata* var. *erecticaulis*)	CNPS 1B	Found in the San Joaquin Valley in saline and alkaline soils, typically within valley grasslands at elevations below 400 feet. Blooms August – September.	**Absent.** The habitat required for this species was not observed within the project site. Suitable soil was absent from the project site.
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 required habitat for this species was not observed within the project 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.** Vernal pools, freshwater wetlands, and riparian communities were not observed within the project site.

Species	Status*	Habitat	Occurrence within the Site
Kaweah brodiaea (*Brodiaea insignis*)	CE, CNPS 1B	Found in the Sierra Nevada foothills in foothill woodland and valley grassland communities at elevations between 650 and 1,700 feet. Blooms May – June.	**Absent.** The project site is outside the elevation range for this species.
Lesser saltscale (*Atriplex minuscula*)	CNPS 1B	Found in the San Joaquin Valley in sandy, alkaline soils in alkali scrub, valley and foothill grassland, and alkali sink communities at elevations below 750 feet. Blooms April – October.	**Absent.** The habitat required for this species was not observed within the project site. Suitable soil was absent from the project site.
Recurved larkspur (*Delphinium recurvatum*)	CNPS 1B	Occurs in chenopod scrub, cismontane woodland, and grassland habitats on poorly drained, fine, alkaline soils; often in valley saltbush or valley chenopod scrub communities at elevations between 100 and 2,600 feet. Blooms March – June.	**Absent.** The habitat required for this species was not observed within the project site. Suitable soil was absent from the project site.
San Joaquin adobe sunburst (*Pseudobahia peirsonii*)	FT, CE, CNPS 1B	Found in the San Joaquin Valley and the Sierra Nevada foothills in bare, dark clay soils in valley and foothill grassland and cismontane woodland communities at elevations between 300 and 3,000 feet. Blooms March – May.	**Absent**. The habitat required for this species was not observed within the project site. Suitable soil was absent from the project site.
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.** Vernal pools, freshwater wetlands, and wetland riparian communities were not observed within the project site.
Sanford's arrowhead (*Sagittaria sanfordii*)	CNPS 1B	This species is an aquatic plant and is found in the San Joaquin Valley and other parts of California in freshwater marshes, ponds, canals, and ditches at elevations below 1,000 feet. Blooms May – October.	**Unlikely.** The ditch habitat does not contain a permanent water source that would make the ditch a suitable habitat for this species. The most recent recorded observation occurred three miles northwest of the project site in 2018.
Spiny-sepaled button-celery (*Eryngium spinosepalum*)	CNPS 1B	Found in the Sierra Nevada foothills and the San Joaquin Valley in vernal pools, swales, and roadside ditches. Often associated with clay soils in vernal pools within grassland communities. Occurs at elevations between 50 and 4,200 feet. Blooms April – July.	**Absent.** No vernal pools were observed within the project site.
Striped adobe-lily (*Fritillaria striata*)	CT, CNPS 1B	Found in the Sierra Nevada foothills in adobe soil within valley grassland and foothill woodland communities at elevations below 3,300 feet. Blooms February – April.	**Absent.** The habitat required for this species was not observed within the project site. Suitable soil was absent from the project site.
Vernal pool smallscale (*Atriplex persistens*)	CNPS 1B	Occurs in the Central Valley in alkaline vernal pools at elevations below 400 feet. Blooms June – September.	**Absent.** No vernal pools were observed within the project site.

Species	Status*	Habitat	Occurrence within the Site
Winter's sunflower (*Helianthus winteri*)	CNPS 1B	Found in the southeastern Sierra Nevada foothills on steep, south-facing grassy slopes, rock outcrops, and road-cuts at elevations ranging from 590-1509 feet. Blooms year-round.	**Unlikely.** The required habitat features such as rock outcrops were not observed within the project site. The most recent recorded observation was 1.5 miles northeast of the project site in 2018.

Table 4-11: List of Special Status Animals with Potential to Occur on the Site and/or in the Vicinity

Species	Status*	Habitat	Occurrence within the Site
American badger (*Taxidea taxus*)	CSSC	Prefers drier open stages of shrub, forest, and herbaceous habitats with friable soils to burrow, but can be found within numerous habitats throughout California, including the margins of agricultural lands. Needs a sufficient prey base of burrowing rodents.	**Unlikely.** The project site lacked a sufficient prey base regularly to support a population of this species. The most recent recorded observation occurred eight miles south of the project site in 1994.
Burrowing owl (*Athene cunicularia*)	CC	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.	**Possible.** California ground squirrels and their burrows, and a coyote den were observed. These burrows and dens could used by this species for burrowing along a slope in the ruderal habitat and within the same ruderal field within the east section of the project site. These burrows and dens could used by this species for burrowing. Also, suitable grassland habitat for foraging was observed within the north and east sections of the project site. The most recent recorded observation was five miles west of the project site in 2007.
California condor (*Gymnogyps californianus*)	FE, CE, CFP	Typically nests in cavities in canyon or cliff faces but has also been recorded nesting in giant sequoias in Tulare County. Requires vast expanses of open savannah, grassland, and/or foothill chaparral in mountain ranges of moderate altitude. Forages for carrion up to 100 miles from their roost/nest sites.	**Unlikely.** The species could forage within the project site but there were no suitable nesting locations within the project site or surrounding areas for this species. There were no occurrence records for this species within the 9 quads search in CNDDB.
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.** Vernal pools or upland habitat were not observed within the project site or the surrounding area.
Conservancy fairy shrimp (*Branchinecta conservatio*)	FE	Found in large, turbid freshwater vernal pools in the Central Valley, from Tehama County in the north to Merced County in the south, with one outlying population in Ventura County's Interior Coast Ranges.	**Absent.** Vernal pools were not observed within the project site or the surrounding area.
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	**Unlikely.** Nectar plants required for this species were not observed within the project site. The most recent recorded

Species	Status*	Habitat	Occurrence within the Site
		genera include snapdragons, scorpionweeds, primroses, poppies, and buckwheats.	observation occurred 10 miles southeast of the project site in 1979.
Foothill yellow-legged frog – south Sierra Distinct Population Segment (*Rana boylii*)	FC, CE	Frequents rocky streams and rivers with rocky substrate and open, sunny banks in forests, chaparral, and woodlands. Occasionally found in isolated pools, vegetated backwaters, and deep, shaded, spring-fed pools.	**Absent.** Cottonwood Creek and the creek habitat do not contain water regularly to be able to support this species. Additionally, the creek and creek habitat lack habitat features such as rocky substrates to be considered suitable habitat.
Monarch butterfly (*Danaus plexippus*)	FC	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.	**Possible.** Nectar plants were observed that the adults of the species could forage from during migrating/breeding season. The most recent recorded observation occurred 6.5 miles south southeast of the project site in 2023 via iNaturalist. *Asclepias* species that occur regionally would have been blooming and visible at the time of the survey, however none were observed.
Northern California legless lizard (*Anniella pulchra*)	CSSC	Found primarily underground, burrowing in loose, sandy soil. Forages in loose soil and leaf litter during the day. Occasionally observed on the surface at dusk and night.	**Unlikely**. Cottonwood Creek and the creek habitat do not contain a permanent water source to create moist leaf litter conditions that are required for this species. The most recent recorded observation occurred eight miles south of the project site in 2015.
Northern leopard frog (*Lithobates pipiens*)	CSSC	Inhabits grassland, wet meadows, potholes, forests, woodland, brushlands, springs, canals, bogs, marshes, and reservoirs in scattered locations in California. Generally, prefers permanent water with abundant riparian vegetation.	**Unlikely.** Cottonwood Creek, the creek habitat, and the ditch habitat do not contain a permanent water source for this species. The most recent recorded observation occurred three miles northwest of the project site in 1961.
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.	**Unlikely.** Cottonwood Creek and creek habitat do not contain water regularly to be considered suitable habitat for this species. The most recent recorded observation occurred 7.5 miles southwest of the project site in 1895.
Pallid bat (*Antrozous pallidus*)	CSSC	Found in grasslands, chaparral, and woodlands, where it feeds on ground- and vegetation-dwelling arthropods, and occasionally takes insects in flight. Prefers to roost in rock crevices, but may also use tree cavities, caves, bridges, and other human-made structures.	**Unlikely.** The species could forge within the project site. However, there were no suitable roosting or maternal roosting areas within the project site or the surrounding area. The most recent recorded observation occurred six miles south of the project site in 2004.
San Joaquin kit fox (*Vulpes macrotis mutica*)	FE, CT	Opportunistically forages in a variety of habitats. Dens in burrows within alkali sink, valley grassland, and woodland habitats in valleys and adjacent foothills and in human-made structures in cities, rangeland, and agricultural areas.	**Unlikely.** The project site and the surrounding area lack a sufficient prey base to regularly support a population of this species. The most recent recorded observation occurred 5.5 miles southeast of the project site in 1990.
Tipton kangaroo rat (*Dipodomys nitratoides nitratoides*)	FE, CE	Inhabits saltbush scrub and sink scrub communities in the Tulare Lake Basin of the southern San	**Absent.** The required soil and habitat for this species was not observed within the project site or the surrounding area.

Species	Status*	Habitat	Occurrence within the Site
		Joaquin Valley. This species needs soft friable soils to burrow.	
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.	**Possible**. Cottonwood Creek and the creek habitat within the project site contained bull rush that could support this species during the nesting bird season. The most recent recorded observation occurred 13 miles southeast of the project site in 2014.
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 were not observed within the project site.
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.** Vernal pools were not observed within the project site or the surrounding area.
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.** Vernal pools were not observed within the project site or the surrounding area.
Western mastiff bat (*Eumops perotis californicus*)	CSSC	Found in open, arid to semi-arid habitats, including dry desert washes, flood plains, chaparral, oak woodland, open ponderosa pine forest, grassland, and agricultural areas, where it feeds on insects in flight. Roosts most commonly in crevices in cliff faces but may also use high buildings and tunnels.	**Unlikely.** The project site does not provide suitable roosting habitat for this species. The most recent recorded observation occurred 11 miles southeast of the project site in 1994.
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.	**Unlikely.** No suitable habitat for the adult phase of this species was observed within the project site. The most recent recorded observation occurred one mile northeast of the project site in 2011.
Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*)	FT, CE	Suitable nesting habitat in California includes dense riparian willow-cottonwood and mesquite habitats along a perennial river. Once common in the California Central Valley, as well as coastal valleys and riparian habitats east of the Sierra Nevada, habitat loss now constrains the California breeding population to small numbers of birds.	**Absent.** The project site is outside the current known range of this species.

Species	Status*	Habitat	Occurrence within the Site
Willow flycatcher (*Empidonax traillii*)	CE	For nesting inhabits extensive thickets of low, dense willows/cottonwood on the edges of wet meadows, ponds, or backwaters below 8,500 feet in elevation. Habitats not suitable for nesting could still be used for migration and foraging.	**Unlikely.** Cottonwood Creek and the creek habitat contain marginal riparian habitat for this species including Fremont's cottonwoods. However, the trees were not at a high enough density within the project site that the species would use the trees for nesting. The most recent recorded observation was 6.77 miles from the project site in 1988.

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

Possible:	Species not observed on the Project site, but it could occur there from time to time.
Unlikely:	Species not observed on the Project site, and would not be expected to occur there except, perhaps, as a transient.
Absent:	Species not observed on the Project 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
		CFP	California Fully Protected
		CSSC	California Species of Special Concern

CNPS LISTING

1B	Plants rare, threatened, or endangered in California and elsewhere.	2B	Plants rare, threatened, or endangered in California, but more common elsewhere.

4.4.3 IMPACT ANALYSIS

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

Less than Significant Impact with Mitigation Incorporated. Of the 19 regionally occurring special status plant species, 19 are considered absent from or unlikely to occur within the Project site due to past or ongoing disturbance and/or the absence of suitable habitat. These species include alkali-sink goldfields, calico monkeyflower, California alkali grass, California satintail, Coulter's goldfields, Earlimart orache, Greene's tuctoria, Hoover's spurge, Kaweah brodiaea, lesser saltscale, recurved larkspur, San Joaquin adobe sunburst, San Joaquin Valley Orcutt grass, Sanford's arrowhead, spiny-sepaled button-celery, striped adobe-lily, vernal pool smallscale, Winter's sunflower. Since it is unlikely that these species would occur onsite, implementation of the Project should have no impact on these 19 special status species through construction mortality, disturbance, or loss of habitat. Mitigation measures are not warranted

Of the 22 regionally occurring special status animal species, 19 are considered absent from or unlikely to occur within the Project site due to past or ongoing disturbance and/or the absence of suitable habitat. These species include: American badger, California condor, California tiger salamander, Conservancy fairy shrimp, Crotch's bumble bee, foothill yellow-legged frog, northern California legless lizard, northern leopard frog, northwestern pond turtle, pallid bat, San Joaquin kit fox, Tipton kangaroo rat, valley elderberry longhorn beetle, vernal pool fairy shrimp, vernal pool tadpole shrimp, western mastiff bat, western yellow-billed cuckoo, western spadefoot, and willow-flycatcher. Since it is unlikely that these species would occur onsite, implementation of the Project should have no impact on these 19 special status species through construction mortality, disturbance, or loss of habitat. Mitigation measures are not warranted.

Species that were identified as candidate, sensitive, or special status species by CDFW, USFWS, that have the potential to be impacted by Project include: Burrowing owl, Monarch butterfly, and Tricolored blackbird . Discussion and corresponding mitigation measures are provided below.

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

The Project site contains suitable nesting and foraging habitat for a variety of protected bird species, such as migratory birds, raptors, and special status birds. The survey was conducted during nesting bird season, and one active nest was observed. It is anticipated that during the nesting bird season, protected birds could nest on the ground or in shrubs, trees, or structures within the Project site and forage within the Project site. Burrowing owl (BUOW) and tricolor blackbird, are the special status bird species likely to occur within the Project site. Protected birds located within or adjacent to the Project 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 Project site or 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 significant impact under CEQA.

While foraging habitat for protected birds is 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-1**, **BIO-2**, and **BIO-3** will reduce potential impacts to protected nesting birds to a less than significant level under CEQA and will help the Project comply with state and federal laws protecting these bird species. The above-referenced mitigation measures are identified in Section 0 at the end of this section.

PROJECT-RELATED MORTALITY AND/OR DISTURBANCE TO BURROWING OWL

The Project area contains suitable nesting and foraging habitat for BUOWs. Construction activities that adversely affect the nesting success of BUOWs or result in the mortality of individuals constitute a violation of state and federal laws and would be considered a significant impact under CEQA. In addition to **BIO-1**, **BIO-2**, and **BIO-3**, implementation of mitigation measures **BIO-4**, **BIO-5**, and **BIO-6**, will reduce potential impacts to nesting or roosting BUOW to a less than significant level under CEQA and ensure compliance with state and federal laws protecting this avian species. The above-referenced mitigation measures are identified in Section 0 at the end of this section.

PROJECT-RELATED IMPACTS TO MONARCH BUTTERFLIES

Both ruderal fields, the ditch, and creek habitats had species of flowering plants that could be used as a food source for migrating/breeding monarch butterflies. However, if any individual(s) are on-site during Project activities, they would be expected to leave the site if disturbed. Additionally, larval host plants were absent from the Project site at the time of the field survey. Therefore, impacts would be less than significant and mitigation measures are not warranted.

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. No trees adjacent to Cottonwood Creek will be disturbed during Project activities. There are no CNDDB-designated "natural communities of special concern" recorded within the Project site or surrounding lands. There would be no impact and mitigation measures are not warranted.

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. An ARD was conducted on July 7 and November 22, 2024, to evaluate the site for potential waters of the United States and delineate potential jurisdictional boundaries of these features. The investigation and delineation were conducted in accordance with the 1987 Corps of Engineers Wetland Delineation Manual, and the Arid West Regional Supplement.[10]

The Cottonwood Creek within the Project area, below the ordinary high-water mark, could most likely fall under the jurisdiction of USACE as a waters of the United States and construction activities in this area could be subject to USACE permit requirements pursuant to Section 404 of the CWA. This Project may be authorized under a Nationwide Permit but could require an individual permit if Nationwide Permit limits are exceeded. In addition, a Section 401 of the CWA Water Quality Certification from the RWQCB is required for dredge and fill of waters of the State and activities must meet State water quality standards. These permits and certifications are typically issued on the condition that the applicant agrees to provide mitigation that result in no net loss of wetland functions, jurisdictional waters or beneficial uses.

If the Project's construction work could result in impacts to waters of the United States, the Project proponent would be required to secure permits from USACE and RWQCB. Compliance with each permit requires avoidance, minimization, and mitigation measures to ensure that Project-related impacts to these potentially jurisdictional waters are less-than-significant in nature or are fully mitigated.

Project activities that have the potential to alter the Creek including the bed, bank, floodplain and associated riparian habitat, and would be within CDFWs jurisdiction, would be subject to Section 1602 of the California Fish and Game Code. The Project proponent would be required to notify CDFW if the Project's activities have potential to impact rivers, streams, or the riparian corridor of any aquatic features onsite that may be beneficial to fish or wildlife resources. If CDFW determines that the Project could potentially adversely affect fish and wildlife resources and/or riparian habitat, a Lake or Streambed Alteration (LSA) Agreement would be issued prior to construction. LSA Agreements are typically issued with mandatory avoidance and minimization measures, protective measures for special status species, and required compensatory mitigation for removal of riparian trees, shrubs, and herbaceous cover along the banks. Compliance with measures of the LSA Agreement would ensure that the Project's impacts to aquatic features and riparian habitat within CDFW's jurisdiction remain less-than-significant or are fully mitigated.

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

The Project's compliance with said regulatory requirements would result in less than significant impacts.

[10] (United States Army Corps of Engineers, 1987)

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

Less than Significant Impact with Mitigation Incorporated. Cottonwood Creek could function as a wildlife movement corridor for native wildlife that may normally avoid passing through areas within the Project site due to activities or from the level of disturbed habitat within the Project site.

Implementation of the mitigation measures **BIO-7**, **BIO-8**, and **BIO-9** will reduce potential impacts to wildlife movement corridors to a less than significant level under CEQA and ensure compliance with state and federal laws protecting this avian species. The above-referenced mitigation measures are identified in Section 0 at the end of this section.

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 Tulare County General Plan. There are no known Habitat Conservation Plans or Natural Community Conservation Plans in the Project vicinity. Mitigation measures are not warranted.

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.

4.4.4 MITIGATION

Project-Related Mortality and/or Nest Abandonment of Migratory Birds, Raptors, and Special Status Birds

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

BIO-2 **(*Pre-construction Surveys*):** If activities must occur within the nesting bird season (February 1 to August 30), a "qualified biologist" (someone who is familiar with identifying birds and has performed nesting bird surveys) will conduct a pre-construction survey for active nests within five (5) calendar days prior to the start of construction. It will be completed within the Project site, and up to 100 feet outside of the Project site for nesting migratory birds and up to 500 feet outside of the Project site for nesting raptors. Raptor nests are considered "active" upon the nest-building stage. If no active nests are observed, no further mitigation is required. A "qualified biologist" will conduct pre-construction surveys for tricolored blackbird nests and breeding colonies within seven (7) days prior to the start of construction. The "qualified biologist" will survey for tricolored blackbird nests onsite and within a 300-foot radius. This one-time take avoidance survey will be conducted in accordance with the Staff Guidance Regarding Avoidance of Impacts to Tricolored Blackbird Breeding Colonies on Agricultural Fields (California Department of Fish and Wildlife 2015), or current guidance.

BIO-3 (*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. If necessary, avoidance buffers will be identified with flagging, fencing, or other easily visible means, and will be maintained until the biologist has determined that the nestlings have fledged.

Project-Related Mortality and/or Disturbance to Burrowing Owl

BIO-4 (*Pre-construction Take Avoidance Survey*): A "qualified biologist" (someone who is familiar with identifying the species, is familiar with the species' year-round habitat use, and can identify the species) will conduct a pre-construction take avoidance survey for BUOW and suitable burrows, in accordance with CDFW's Staff Report on Burrowing Owl Mitigation (2012), within seven (7) days prior to the start of construction activities. The survey shall include the proposed work area and surrounding lands up to 500 feet. If construction is halted for more than seven (7) consecutive days, another preconstruction survey shall be completed prior to the reinitiation of construction activities.

BIO-5 (*Avoidance*): If an active BUOW burrow is detected, the occurrence will be reported to the CNDDB, and avoidance buffers shall be implemented. 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 burrow(s), and the level of Project disturbance. If necessary, avoidance buffers will be identified with flagging, fencing, or other easily visible means, and will be maintained until the biologist has determined that the nestlings have fledged and all BUOW have left the Project area.

BIO-6 (*Formal Consultation*): If BUOW is detected during surveys and cannot be avoided, consultation with CDFW is warranted to discuss how to implement the Project and avoid take. If take cannot be avoided, take authorization through the acquisition of an ITP pursuant to Fish and Game Code section 2081, subdivision (b) is necessary to comply with CESA.

Project-Related Impacts to Wildlife Movement Corridors

BIO-7 (Operational Hours): Construction activities should be limited to a half hour after sunrise through a half hour before sunset to reduce potential impacts to wildlife movement corridors.

BIO-8 (Wildlife Access): Access should not be blocked outside of construction hours or during overnight hours or weekends. If construction must block both sides of a wildlife access route, an alternative route through the construction area should be identified by a "qualified biologist" and maintained throughout the construction schedule timeframe.

BIO-9 (Cover Excavations): Pipeline/culvert/siphon excavations and vertical pipes should be covered each night to prevent wildlife from falling in and becoming trapped or injured during migratory or dispersal movements.

4.5 CULTURAL RESOURCES

Table 4-12: 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

PEDESTRIAN SURVEY

A Phase I Cultural Resources Assessment was prepared for the Project by Taylored Archaeology, dated August 2024 (Revised November 2024) (see Appendix C). As part of the Phase I Cultural Resources Assessment, Taylored Archaeology archaeologists conducted an intensive pedestrian survey of the Project Area of Potential Effect (APE) on July 20, 2024. The survey method varied based on the specific conditions within the APE. The survey began in the southwest corner of the APE and was completed from west to east along transects oriented north to south using parallel transects spaced 15 meters apart in most of the APE. In the southeast portion, the transects oriented west to east in areas that were accessible in the orchard. All areas of the APE were accessible and surveyed. The archaeologist carefully inspected all exposed ground surface and rodent burrow back-dirt piles and other areas of bare earth for soil discoloration that could indicate the presence of artifacts (e.g., lithics and ceramic sherds), soil depressions, and features indicating of the former presence of buildings or structures (e.g., postholes and foundations).

The APE was checked for both prehistoric deposits and historic-age features, structures, and artifacts more than 50 years old that may be present on the ground surface. The archaeologists photographed portions of the APE using digital cameras. A survey plan map of the site boundary was used to see vegetation, structures, map out transects and surveyed, and recorded observations on field notes, and collected locational data on a Gaia Global Positioning System application.

RECORDS SEARCH

On July 3, 2024, Taylored Archaeology requested a cultural resource records search from the Southern San Joaquin Valley Information Center (SSJVIC) of the California Historical Resources Information System (CHRIS) at California State University in Bakersfield. The purpose of this request was to identify and review prior cultural resource studies and previously recorded cultural resources on or near the APE. The records search included prior cultural resources investigation reports conducted, previously recorded resources within the APE and a 1.0-mile radius around the APE. Also included in research were cultural resource records (DPR forms) as well as the Historic Properties Directory of the Office of Historic Preservation list, General Land Office Maps, Archaeological Determinations of Eligibility list, and the California Inventory of Historic Resources list.

According to the search results, no prior cultural resource studies were conducted within the APE. Two previous cultural resources studies were within a 1.0-mile radius of the APE. Neither of these two studies intersected the APE.

The SSJVIC reported one historic-era resource within the APE, the Cottonwood Creek Levee (P-54-004856). Further review of the DPR forms for the Cottonwood Creek Levee reveals limited information is available regarding the builder or architect of this resource. The date of construction is also unknown. When originally recorded in 2007, the DPR form speculated the levee may have been built in the late 19th century, but the levee only first appears on USGS topographic maps starting in 1950. The levee does not appear on Cottonwood Creek in a 1946 aerial map of the APE.

The SSJVIC search also reported two additional resources within the 1.0-mile radius of the APE. The report associated with P-54-004856 was not on file with the SSJVIC. The two resources within 1.0 mile of the APE were Westward Farms, formerly known as Yamaguchi Labor Camp - J.D. Martin Ranch (P-54-002513), and the SCE Big Creek Hydroelectric System, Big Creek East and West 220kV Transmission Line (P-54-004832). Neither of these two resources overlap the APE. The Yamaguchi Labor Camp – J.D. Martin Ranch was recorded in 1980, and based on aerial imagery appears to have been demolished sometime between 1994 and 2003.

NATIVE AMERICAN OUTREACH

On July 3, 2024, a request was sent to the Native American Heritage Commission (NAHC) as part of this archaeological survey report for a Sacred Lands File (SLF) search. The objective of the SLF search was to identify any known places of spiritual, sacred activity or traditional use or gathering areas that are present in or near the APE. The NAHC responded via email on July 22, 2024. The SLF search did not identify the presence of tribal cultural resources in the Project APE. In addition, the NAHC's response letter included contact information for local Native American tribal representatives who may have knowledge or interest in sharing information about the APE and surrounding area. On July 24, 2024, each Native American representative listed was sent a nongovernmental outreach letter via email or certified mail notifying them of the Project and asking if they had any knowledge of the Project area or surrounding vicinity. The letters included a description of the Project and a topographic map of the location. Follow-up by emails were sent on August 7, 2024. Chairperson Elizabeth Kipp of the Big Sandy Rancheria of Western Mono Indians responded by email that they have no comments or concerns with the Project and that anytime anything of cultural significance is discovered, they request to be notified. Chairperson Kenneth Woodrow of the Wuksache Indian Tribe/Eshom Valley Band responded by telephone on August 13, 2024, stating the Project area is in a culturally sensitive area and requested a tribal monitor for all ground disturbing activity in the APE. Chairman Curtis Lee of the Cold Springs Rancheria responded via email on August 15, 2024, stating the APE was outside the Cold Springs Rancheria geographical area and the tribe had no interest in the Project. As of the date of this report, no other responses have been received.

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?

Less than Significant Impact with Mitigation Incorporated. A CHRIS records search, from the SSJVIC, was conducted in July 2024. According to the search results, no prior cultural resource studies were conducted within the APE while two previous cultural resources studies were within a 1.0-mile radius of the APE. The search also confirmed the presence of one historic-era resource within the APE, the

Cottonwood Creek Levee. Further review of the DPR forms for the Cottonwood Creek Levee reveals limited information is available regarding the builder or architect of this resource. The date of construction is also unknown. The search also reported two additional resources within 1.0 mile of the APE. Neither of the two additional resources overlap the APE. (Appendix C)

It is unlikely that the Project has the potential to result in significant impacts or adverse effects to cultural or historical resources, such as archaeological remains, artifacts or historic properties. However, in the improbable event that cultural resources are encountered during Project construction, implementation of mitigation measure **CUL-1** and **CUL-2** outlined below would reduce impacts to less than significant.

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

Less than Significant Impact with Mitigation Incorporated. The Project would excavate and grade the site to increase the areas storage capability of stormwater. There is no evidence or record that the Project has the potential to be an unknown burial site, or the site of buried human remains. In the unlikely event of such a discovery, mitigation shall be implemented. With incorporation of mitigation measure **CUL-2** outlined below, impacts resulting from the discovery of remains interred on the Project site would be less than significant.

4.5.3 MITIGATION

CUL-1 (Monitor) An archaeological monitor shall be present on the Project site during ground disturbing activities within the APE. In the event of accidental discovery of unidentified archaeological remains during development or ground disturbing activities within any portion of the APE, all work shall be halted in the immediate vicinity (within a 100-foot radius) until a qualified archaeologist can identify the discovery and assess its significance.

CUL-2 (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-3 (Human Remains) In the event that human remains are discovered on the Project site, the Tulare County Coroner must be notified of that discovery (Health and Safety Code Section 7050.5) and all activities in the immediate area if the find or in any nearby area reasonably suspected of overlie adjacent human remains must cease until appropriate and lawful measures have been implemented. If the Coroner determines that the remains are not recent, but rather of Native American origin, the Coroner shall notify the Native American Heritage Commission (NAHC) in Sacramento within 24 hours to permit the NAHC to determine the most likely descendent of the deceased Native American.

4.6 ENERGY

Table 4-13: 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 is located on the northeast corner of Road 156 and Road 160, adjacent to Cottonwood Creek, just approximately 3.6 miles north of the community Ivanhoe and 7 miles northeast of the city of Visalia in Tulare County. The Project area is served by Southern California Edison for its energy needs, while Southern California Gas Company is the natural gas provider for the area.

4.6.2 IMPACT ANALYSIS

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

Less than Significant Impact. As discussed in Section 4.3 the Project would not exceed any air emission thresholds during construction or operation. Construction of the Project would also be required to comply with California Code of Regulations Title 13, Motor Vehicles, Section 2449(d)(2)-Idling, which limits idling times of construction vehicles to no more than five minutes, thereby precluding unnecessary and wasteful consumption of fuel because of unproductive idling of construction equipment. Project operations would use a negligible amount of energy to pump water from Cottonwood Creek to the basin. Due to the site no longer being farmed, energy usage would be less than existing conditions.

Energy consumption of non-residential uses is currently governed by the 2022 California Building Code, Part 6 for structures, and Title 20 of the California Code of Regulations for appliances. Energy consumption is anticipated to decrease over time as more energy efficient standards take effect and energy-consuming equipment reaches its end-of-life and necessitates replacement. 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 greenhouse gas (GHG) emissions. These include, among others, Assembly Bill (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 Project would not conflict with or obstruct a State or local plan for renewable energy or energy efficiency. Therefore, there would be no impacts.

4.7 GEOLOGY AND SOILS

Table 4-14: 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

GEOLOGY AND SOILS

The Project is located in Tulare County, in the southern section of California's Great Valley Geomorphic Province, or Central Valley. The Sacramento Valley makes up the northern third and the San Joaquin Valley makes up the southern two-thirds of the geomorphic province.[11] Both valleys are watered by large rivers flowing west from the Sierra Nevada Range, with smaller tributaries flowing east from the Coast Ranges. Most of the surface of the Great Valley is covered by Quaternary (present day to 1.6 million years ago) alluvium. The sedimentary formations are steeply upturned along the western margin due to the uplifted

[11] (California Department of Conservation, 2002)

Sierra Nevada Range. From the time the Valley first began to form, sediments derived from erosion of igneous and metamorphic rocks and consolidated marine sediments in the surrounding mountains have been transported into the Valley by streams.

FAULTS AND SEISMICITY

The Project site is not located within the Alquist-Priolo Earthquake Fault Zone and no known faults cut through the soil at the site. The nearest major fault is the San Andreas Fault, located approximately 80 miles west-southwest of the Project site.[12] The San Andreas Fault is the dominant active tectonic feature of the Coast Ranges and represents the boundary of the North American and Pacific plates. A smaller fault zone, the Kern Canyon Fault, is located approximately 45 miles south of the Project site.[13]

LIQUEFACTION

The potential for liquefaction, which is the loss of soil strength due to seismic forces, is dependent on soil types and density, the groundwater table, and the duration and intensity of ground shaking. Although no specific liquefaction hazard areas have been identified in the County, this potential is recognized throughout the San Joaquin Valley where unconsolidated sediments and a high-water table coincide. It is reasonable to assume that due to the depth to groundwater within the southern portion of Tulare County, liquefaction hazards would be negligible.

SOIL SUBSIDENCE

There are two types of Subsidence: Land subsidence and hydrocompaction subsidence. Hydrocompaction subsidence occurs when a large land area settles due to over-saturation. These areas are typically composed of open-textured soils that become saturated, high in silt or clay content. Land subsidence occurs when an extensive amount of ground water, oil, or natural gas is withdrawn from below the ground surface. The San Joaquin Valley has become an area that has increasingly experienced subsidence due to excessive groundwater pumping activities lowering the water table.

DAM AND LEVEE FAILURE

The closest dam to the Project site is the Bravo Lake Reservoir and is approximately 7.4 miles southeast of the Project site. The Dam Breach Inundation Map by DWR indicates that Project Site is outside of the inundation zone for the Bravo Lake Reservoir.[14]

4.7.2 IMPACT ANALYSIS

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

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

ii. Strong seismic ground shaking?

a.i - a.ii) Less than Significant Impact. The Project site is located in an area traditionally characterized by relatively low seismic activity. The Project site is not located in an Alquist-Priolo Earthquake Fault Zone as established by the Alquist-Priolo Fault Zoning Act. The nearest major fault is the San Andreas Fault,

[12] (California Department of Conservation, 2023)
[13] Ibid.
[14] (California Department of Water Resources, 2022)

located approximately 74 miles west-southwest of the Project site. All Project features would be constructed in a manner to handle seismic events, as required by the California Building Code (CBC). This would result in less than significant impacts. In addition, the Project would not include habitable structures; therefore, the Project would not result in potential substantial adverse effects, including the risk of loss, injury, or death. Impacts would be less than significant.

iii. Seismic-related ground failure, including liquefaction?

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

iv. Landslides?

No Impact. The Project is located in a relatively flat area with little to no potential for landslides to occur. Construction of the Project would not increase the likelihood for landslides to occur at the Project site. Therefore, there would be no impact.

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

Less than Significant Impact. The Project construct a multi-cell flood capture basin. The topography of the site includes small hills near the north side of the site which slope down towards the east and south sides of the site. Elevations are approximately 430 feet above mean sea level. Project features would result in loss of topsoil, as the depth of the basin must be excavated, and soil removed. Excavated soil will be kept on site and will be placed along the outer perimeter to create the embankments and roadways to impound the water for recharge operations. Therefore, the impact would be less than significant.

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

Less than Significant Impact. The Project is not anticipated to adversely affect soil stability or increase the potential for local or regional landslides, subsidence, liquefaction, or collapse. As discussed previously, the Project site is in an area that is not reasonably assumed to contain conditions conducive to liquefaction hazards. The Project would not exacerbate hazards related to unstable soil and would not result in on- or off-site landslides, lateral spreading, subsidence, liquefaction, or collapse. Impacts would be less than significant.

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

Less than Significant Impact. The Project would not contain any facilities that could be affected by expansive soils, nor would substantial grading change the topography such that the Project would generate substantial risks to life or property. In addition, the Project site does not include soils that are conducive to expanding and contracting; therefore, impacts would be less than significant.

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

No Impact. The Project would not include any habitable structures; therefore, new septic installation or alternative wastewater disposal systems are not necessary for the Project. There would be no impact.

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

Less than Significant Impact. Paleontological resources are fossilized remains of flora and fauna and associated deposits. Most fossils are found in sedimentary rock. Sedimentary rock is formed by dirt (sand, silt, or clay) and debris that settles to the bottom of an ocean or lake and compresses for such a long time that it becomes hard as a rock. CEQA requires that a determination be made as to whether a project would directly or indirectly destroy a unique paleontological resource or site or unique geological feature (CEQA Appendix G(v)(c)). If an impact is significant, CEQA requires feasible measures to minimize the impact (CCR Title 14(3) Section 15126.4(a)(1)). PRC Section 5097.5 (see above) also applies to paleontological resources.

The Project would require grading and excavation activities on a previously farmed site. The Project would comply with California Public Resources Code Section 5097.5 which pertains to the protection of paleontological resources. With compliance with said regulation, impacts would be less than significant.

4.8 GREENHOUSE GAS EMISSIONS

Table 4-15: 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. Ozone is not emitted directly into the atmosphere but is formed by a complex series of chemical reactions between volatile organic compounds, nitrogen oxides, and sunlight.

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

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

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

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

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

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

Emissions of GHGs contributing to global climate change are largely attributable to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors. About three-quarters of human emissions of CO_2 to the global atmosphere during the past 20 years are due to fossil fuel burning. Atmospheric concentrations of CO_2, CH_4, and N_2O have increased 31 percent, 151 percent, and 17 percent, respectively, since the year 1750 (CEC 2008). GHG emissions are typically expressed in carbon dioxide-equivalents (CO_2e), based on the GHG's Global Warming Potential (GWP). The GWP is dependent on the lifetime, or persistence, of the gas molecule in the atmosphere. For example, one ton of CH_4 has the same contribution to the greenhouse effect as approximately 21 tons of CO_2. Therefore, CH_4 is a much more potent GHG than CO_2. In accordance with SJVAPCD's *CEQA Greenhouse Gas Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects*[15], 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.

CalEEMod air quality modeling software was run on October 2024 and is contained in Appendix A.

4.8.2 IMPACT ANALYSIS

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

Less than Significant Impact. Short-term construction emissions associated with the Project were calculated using CalEEMod, Version 2022.1.1.28. 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 six months. Remaining assumptions were based on

[15] (San Joaquin Valley Air Pollution Control District, 2022)

the default parameters contained in the model. Modeling assumptions and output files are included in Appendix A. Estimated construction-generated emissions are summarized in Appendix A. As discussed in Section 4.3, the amount of operational related emissions generated would be considered negligible.

Table 4-16: Short-term Construction Related GHG Emissions

	Emissions (MT CO_2e) in Tons per Year
Maximum Annual Construction CO_2e Emissions	388
AB 32 Consistency Threshold for Stationary Source Projects*	10,000
Threshold Exceeded?	No

* As published in the Bay Area Air Quality Management District's CEQA Air Quality Guidelines. Available online at http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en Accessed 10/09/2024.

Construction related generation of GHGs would be a maximum of 388 metric tons of carbon dioxide equivalent ($MTCO_2e$) per year. While some operational emissions could result from the Project, this quantity would be negligible. 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.

The Project would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment. GHG emissions would be generated during construction. As shown in Table 4-16, the Project would not result in the generation of GHG emissions that would exceed the AB 32 consistency threshold of 10,000 $MTCO_2e$ annually during construction activities. 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 4-17: Hazards and Hazardous Materials Impacts

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

4.9.1 BASELINE CONDITIONS

HAZARDOUS MATERIALS

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

including underground storage tank (UST) cases and non-UST cleanup programs, including Spills-Leaks-Investigations-Cleanups sites, Department of Defense (DOD)sites, and Land Disposal program. A search of the DTSC EnviroStor database and the SWRCB GeoTracker performed on October 9, 2024 determined that there are no known active hazardous waste generators or hazardous material spill sites within the Project site.[16]

AIRPORTS

The Woodlake Municipal Airport is located immediately south of the Project site. The Fresno-Yosemite International Airport is located approximately 42 miles northwest of the Project site.

EMERGENCY RESPONSE PLAN

The Tulare County Office of Emergency Services coordinates the development and maintenance of the Tulare County Operational Area Master Emergency Services Plan. Tulare County offers an alert system called "AlertTC". AlertTC is Tulare County's public mass notification system, designed to keep those who live or work in Tulare County informed of important information during emergency events. The system is administered by the County of Tulare and is operated in partnership with many Tulare County cities.[17]

SENSITIVE RECEPTORS

Common sensitive receptors typically consist of residences, schools, day care centers, hospitals, and nursing homes. The nearest sensitive receptors to the Project site are the single-family residences to the north and east, with the closest being approximately 100 feet away.

4.9.2 IMPACT ANALYSIS

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

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

a and b) Less than Significant Impact. Construction activities as a part of the Project may involve the use of hazardous materials used for construction equipment. These may include materials such as fuels, paints, solvents, as well as other potentially hazardous materials. Storage, transport, and use of these materials would comply with all local, State, and federal standards and regulations. While unlikely, there is a risk that a leak of a hazardous material could occur during construction. Standard construction Best Management Practices (BMPs) included in the Storm Water Pollution Prevention Plan (SWPPP) would reduce potential releases of fuels and other hazardous materials by controlling runoff leaving the Project site. Therefore, with the inclusion of the SWPPP, impacts would be less than significant.

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

Less than Significant Impact. The nearest school facility to the Project is Ivanhoe Elementary School, located approximately 3.8 miles south of the Project site. Due to the Project's location, there would be no potential for the Project to emit emissions or materials within one-quarter mile of a school. Therefore, there would be no impact.

[16] (State Water Resources Control Board, 2024); (Department of Toxic Substances Control, 2024)
[17] (Tulare County , 2023)

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

No Impact. The Project does not involve land that is actively listed as a hazardous materials site pursuant to Government Code Section 65962.5 and is not included on a list compiled by the DTSC. Both the SWRCB's Geotracker and DTSC's EnviroStor websites were checked for contaminated groundwater or sites in the area. 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 Project would be located in a rural area of Tulare County. The Project site is located approximately 5.4 miles east of the Sequoia Field Airport, the nearest airport to the Project site. The Project would not expose people either working or residing in the area to excessive noise levels due to the Project's distance from the airport. Therefore, there would be no impact.

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

No Impact. The Project does not provide any physical barriers or disturb any roadways in such a way that would impede emergency or hazards response; all work conducted near public rights-of-way would be required to meet County Fire Department and Sheriff Department standards which would ensure any impacts would be less than significant. Therefore, the Project would not interfere with implementation of an emergency response plan or evacuation plan. Impacts would be less than significant. There would be no impact.

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

Less than Significant Impact. As discussed in further detail in Section 4.20, the Project would not expose people or structures either directly or indirectly to a significant loss, injury or death involving wildland fires. The Project site is in an agriculturally developed area of Tulare County that is not considered wildland. In addition, the Project would not conflict with any local, State, or federal standard or regulation governing wildfire. Therefore, there would be no impact.

4.10 HYDROLOGY AND WATER QUALITY

Table 4-18: 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

Hydrology in the Project area is associated with the Tulare Lake Hydrologic Region, containing three main subbasins. The Tulare Lake subbasin is in the northern alluvial fan and basin subarea characterized by southwest to south flowing rivers, creeks, and irrigation canal systems that convey water from the Sierra Nevada to the west toward the Tulare Lake Bed. The southern portion of the basin is internally drained by the Kings, Kaweah, Tule, and Kern Rivers.[18] The Tulare Lake Basin comprises the drainage area of the San Joaquin Valley south of the San Joaquin River and is essentially a closed basin because surface water drains north into the San Joaquin River only in years of extreme rainfall.

[18] (California Department of Water Resources. Natural Resources Agency, 2015)

The nearest surface water to the project is Cottonwood Creek, which is a part of the Project site. Cottonwood Creek is inundated infrequently. Cottonwood Creek is fed by stormwater or snowmelt runoff from upland areas into Cottonwood Creek in the Fresno hills near Dunlap. Cottonwood Creek continues into the valley where it eventually connects with Cross Creek.[19]

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 Project would be required to implement a SWPPP. A SWPPP involves site planning and scheduling, limiting disturbed soil areas, and determining best management practices to minimize the risk of pollution and sediments being discharged from construction sites. Implementation of the SWPPP would minimize the potential for the Project to substantially alter the existing drainage pattern in a manner that would result in substantial erosion or siltation onsite or offsite. Additionally, there would be no discharge to any surface source. However, there would be percolation discharge to groundwater via the proposed multi-cell recharge basin. Use of chemicals or surfactants would not be generated through the maintenance or operation of the Project and as such, there would be no discharge directly associated with Project implementation that could impact water quality standards. The Project would not violate any water quality standards and would not impact waste discharge requirements. Impacts would be less than significant.

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

Less than Significant Impact. The purpose of the Project is to improve groundwater supplies by recharging the underlying aquifer with flood waters. Implementation of the Project would increase the local groundwater table. Any impacts to the underlying groundwater supply would be less than significant.

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

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

Less than Significant Impact. The Project would improve groundwater storage and prevent exceedances of stormwater drainage systems by providing depressional spaces for surface water to be captured and stored for recharge purposes. The Project would not alter the course of the flow of a stream or river in which substantial erosion or siltation could occur. In addition, the Project would not result in an increase in the amount of surface runoff because the scope of this Project does not include the conversion of any permeable surface into impermeable surfaces. The proposed conservation space would not include pavement, concrete, or any other impermeable material. Therefore, impacts would be less than significant.

[19] (U.S. Geological Survey)

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

Less than Significant Impact. The Project would improve groundwater storage and prevent exceedances of storm water drainage systems or additional polluted runoff by providing a depressional space for surface water. The volume would be stored and allowed to infiltrate the underlying soils over a period of time after a storm or flood event in an effort to recharge and replenish the underground aquifers. There would be no impact.

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

Less than Significant Impact. Construction activity would involve excavation and soil disturbing activities that could contribute to surface runoff. However, as described under impact analysis "a", the Project would be required to implement a SWPPP to reduce any impacts. Therefore, with the inclusion of the SWPPP and its associated BMPs, impacts would be less than significant.

iv. impede or redirect flood flows?

Less than Significant Impact. The Project would divert water from Cottonwood Creek; however, the waterway would still maintain its existing channel and flood waters would continue to flow as currently exists. The Project would utilize excess flood flows to improve groundwater storage and prevent exceedances of storm water drainage systems by providing a depressional space for surface water. Impacts would be less than significant.

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

Less than Significant Impact. The Cottonwood Creek runs along the eastern boundary of the Project site. Furthermore, the eastern edge of the Project is located in a 100-year floodplain (see Figure 4-3). In order to minimize erosion and run-off during construction activities, a SWPPP would be implemented, and the contractor would comply with all Cal/OSHA regulations regarding regular maintenance and inspection of equipment, spill prevention, and spill remediation in order to reduce the potential for incidental release of pollutants or hazardous substances onsite. While the Project would be located within a 100-year flood zone, the measures listed above would diminish any potential impacts to a less than significant level.

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

Less than Significant Impact. The Project would require coverage under the SWRCB CGP. In accordance with the requirements of the CGP, a risk assessment would be prepared and submitted to the Central Valley RWQCB to determine the Project's risk level and associated water quality control requirements. These requirements would include the preparation and implementation of a SWPPP identifying specific BMPs to be implemented and maintained on the site in order to comply with the applicable effluent standards and prevent any potential groundwater quality impacts. Therefore, the Project would not conflict with a water quality control plan. Additionally, the Project would increase recharge to the underlying aquifer, ultimately enhancing groundwater levels. Therefore, the Project would not conflict with the EKGSA Groundwater Sustainability Plan. Impacts would be less than significant.

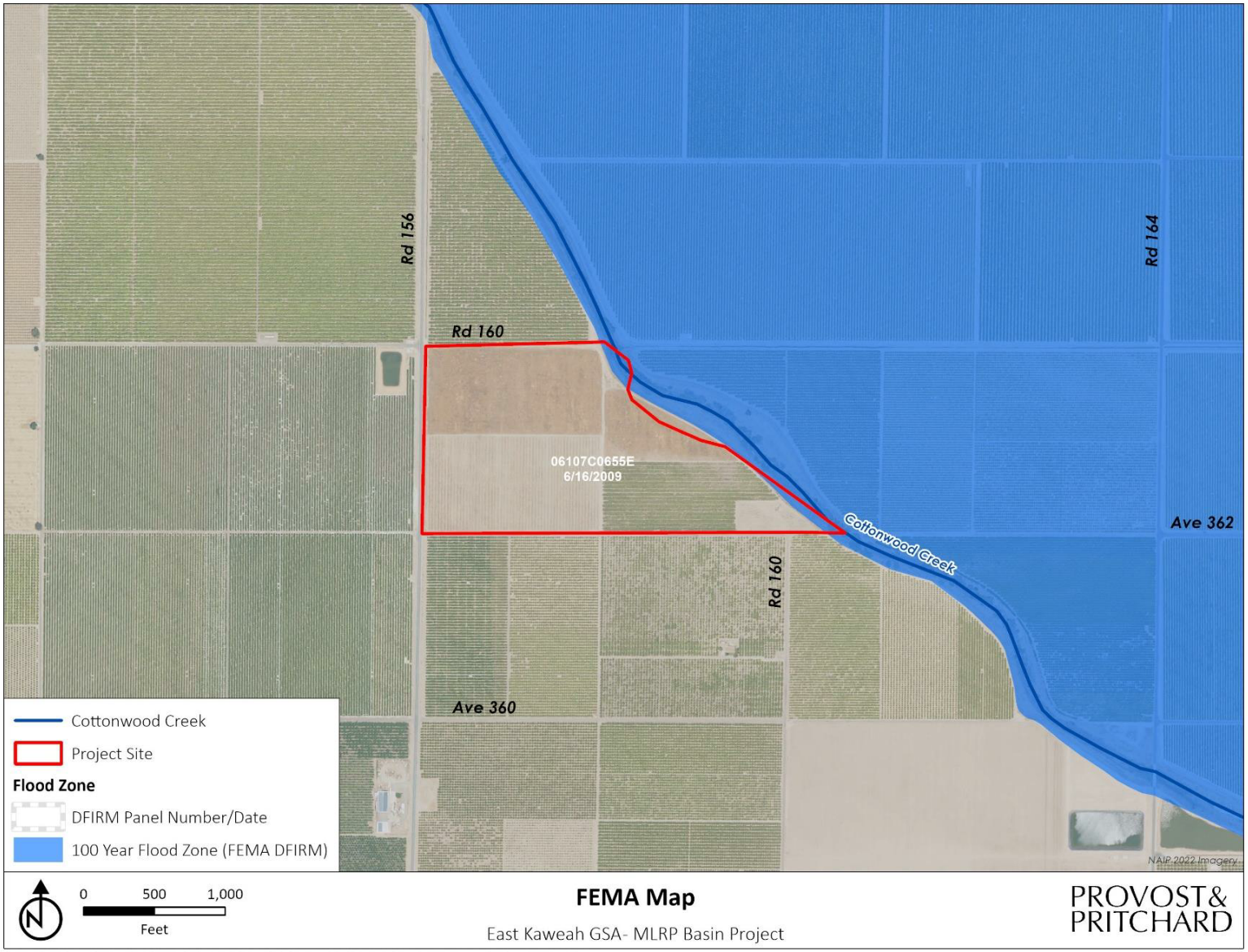

Figure 4-3: FEMA Flood Map

4.11 LAND USE AND PLANNING

Table 4-19: 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 Project is located in Tulare County, which is the land use authority for the Project site. The Project site is designated Valley Agriculture and is located within the County's Rural Valley Lands Plan as well as zoned AE-20. As seen in, the surrounding lands are also zoned AE-20 and planned for agriculture.

4.11.3 IMPACT ANALYSIS

a) Would the project physically divide an established community?

No Impact. The Project would not physically divide an established community. As mentioned, the Project site is located in an unincorporated portion of the County on the northeast corner of Road 156 and Road 160, adjacent to Cottonwood Creek, approximately 3.6 miles north of the community Ivanhoe and 7 miles northeast of the City of Visalia in Tulare County. The Project site, and the surrounding area, are dominated by agriculturally used parcels. Therefore, there would be no impact.

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

No Impact. The Project site is zoned and planned for agricultural uses under the Tulare County Zoning Ordinance and General Plan. While a basin is not explicitly listed as a permitted use under the Tulare County Zoning Ordinance, the Project site would allow for groundwater recharge which would ultimately result in benefits to agricultural operations. Therefore, there would be no impact.

4.12 MINERAL RESOURCES

Table 4-20: 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

The bulk of Tulare County's mineral extraction activities focus on aggregate (sand, gravel, and crushed stone), which is primarily used in building materials. Historically, the Kaweah River, Lewis Creek, and the Tule River have provided the main sources of high-quality sand and gravel in Tulare County. The highest quality deposits are located at the Kaweah and Tule Rivers. According to the Tulare County General Plan Background Report, all of the known potential mineral resource locations are mapped within the foothills and/or along major water courses. Similarly, the only active oil and gas fields are located in the foothills along Deer Creek.[20] These sources do not identify any known potential mineral resource locations within or adjacent to the Project site. The Project site is not delineated on a local land use plan as a locally important mineral resource recovery site. The California Geological Survey Division of Mines and Geology has not classified the Project site as a Mineral Resource Zone (MRZ) under the Surface Mining and Reclamation Act.[21] California's Division of Oil, Gas and Geothermal Resources has no records of active oil or gas wells on the Project site or in the immediate area.[22]

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) Less than Significant Impact. No known mineral resources are within the Project site nor has the site been classified as an MRZ. Therefore, implementation of the Project would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents, nor would it result in the loss of availability of a locally important mineral resource recover site delineated on a local

[20] (Environmental Science Associates, 2010)
[21] (California Department of Conservation, 2022)
[22] (California Department of Conservation, 2022)

general plan, specific plan or other land use plan since no known mineral resources occur in this area. There would be no impact.

4.13 NOISE

Table 4-21: 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

The Project is located in Tulare County in an unincorporated portion of the County on the northeast corner of Road 156 and Road 160, adjacent to Cottonwood Creek, approximately 3.6 miles north of the community Ivanhoe and 7 miles northeast of the City of Visalia. The Project site consists of a vacant 60-acre lot that has been farmed for walnuts. The site is surrounded to the north, south, and west by agricultural land and to the west by the Cottonwood Creek. The closest residence to the Project site is approximately 4,000 feet west across Road 156. Primary contributors to existing baseline ambient noise levels in the area of the Project site consist of automobile and truck traffic along Road 156 and Road 160 and noise related to surrounding agricultural farming operations.

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 primarily surrounded by land in agricultural production with associated rural residential homes. Construction of the Project will occur during weekdays during daytime hours. The Federal Highway Administration has compiled noise measurement data regarding the noise-generating characteristics of various types of construction equipment. Table 4-22 provides a summary of these typical noise levels of construction equipment as measured at a distance of 50 feet from the operating equipment.[23]

[23] (U.S. Department of Transportation, 2006)

Table 4-22: Typical Noise Levels of Construction Equipment

Type of Equipment	Impact Device?	Specification Maximum Sound Levels for Analysis (50 feet)
Auger Drill Rig	No	85
Backhoe	No	80
Compactor	No	82
Dozer	No	85
Excavator	No	85
Grader	No	85

Although the Project is likely to use construction equipment whose sound levels exceed the General Plan standard resulting in potentially significant noise and vibrations to sensitive receptors during construction, the Project site is situated approximately 4,000 feet east of the closest sensitive receptor (rural residence) and any noise generated from the Project would be attenuated to a level suitable for sensitive receptors. Any impacts resulting from construction related noise would be less than significant.

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

No Impact. Construction of the Project would require the use of heavy equipment that would temporarily increase ground borne noise and ground vibration levels at properties near the work area. Ground borne vibration or ground borne noise impacts may be produced by construction equipment and by large trucks and would be limited to the construction phase of the Project. Construction activity ground borne noise levels at and near the Project areas would fluctuate, depending on the particular type, number, and duration of uses of various pieces of construction equipment. These impacts would be temporary. The Project would not require jackhammers or pile driving equipment, which further reduces the potential for ground borne vibrations. Project operations would not generate noticeable ground borne vibration or ground borne noise, nor would they exceed FTA thresholds for vibration at the nearest residences. Furthermore, the nearest sensitive receptor is approximately 4,000 feet away and would not be impacted. Overall, there would be no impact.

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

No Impact. The Project would not be located within an airport land use plan or within two miles of an airport. The nearest airport, Sequoia Field Airport, is located approximately 5.4 miles west of the Project site. Furthermore, the Project would not involve the development of habitable structures or require the presence of permanent staff onsite. There would be no impact.

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

According to the U.S Census Bureau, as of July 1, 2023, Tulare County has an estimated population of 479,468 people. Since the 2020 Census, it is estimated that Tulare County grew approximately 1.3% from 473,117.[24] Additionally, it is estimated that Tulare County currently has 140,670 households.[25]

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) Less than Significant Impact. The goal of the Project is not to induce population growth. The Project would construct basins in an effort to capture and use stormwater and flood flows. Additionally, the Project would provide conservation space. The Project would not encourage population growth directly or indirectly. No residential structures would be built, and the Project would not displace any number of people. Furthermore, the existing agricultural zoning and land use designation would not be changed to a residential designation and therefore would not encourage or facilitate population growth. Project implementation would have no impact on population and housing.

[24] (United States Census Bureau, 2023)
[25] Ibid.

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

Fire Protection: The Project area would be served by the Tulare County Fire Department (TCFD). The closest TCFD station to the Project is located at 32868 Hawthorne Rd, Ivanhoe, CA approximately 4.3 miles south of the Project site.

Police Protection: Police protection is provided by the Tulare County Sheriff's Office. The closest Tulare County Sheriff station to the Project is located at 40765 Rd 128, Cutler, CA approximately 6.7 miles northwest.

Schools: The nearest school facility to the Project is Ivanhoe Elementary School, located approximately 3.8 miles south of the Project site.

Parks: The nearest park to the Project site is the City of Visalia's St. Johns Park, located approximately 7.4 miles southwest of the Project site.

Landfills: The nearest landfill to the Project site is the Visalia Landfill, located approximately 9.75 miles southeast of the Project site.

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:

a-i – a-v) Less than Significant Impact. The Project would not require new or altered governmental facilities in order to maintain acceptable service ratios, response times, or other performance objectives for public services. The Project involves the construction of a recharge basin for groundwater recharge, two surface water turnout facilities to divert water into the basin, and a conservation space in the form of a walking path surrounding the basin. While the conservation space might encourage people to use the site for recreational activities, the amount of conservation space proposed would not accommodate a significant amount of people and it would be located in a generally rural and remote location. Implementation of the Project would not require additional fire or police protection any more than what would currently be needed on the site without it. In addition, the Project would not result in habitable structures that could result in an increase in population requiring the need for public service expansion or alteration. Impacts would be less than significant.

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

Tulare County has several regional parks, as well as State and national parks, national forest, wilderness areas, and ecological reserves. There are 13 parks and recreation facilities that are owned and operated by Tulare County. The Tulare County Resource Management Agency, Parks and Recreation Branch maintains and develops regional parks and landscaped areas. Colonel Allensworth State Historic Park is the only State Park in Tulare County. Mountain Home State Forest, a State Forest managed by the California Department of Forestry and Fire Protection, is situated just east of Porterville and contains numerous Giant Sequoias. Lake Kaweah and Lake Success are federal recreation areas within Tulare County, operated by the U.S. Army Corps of Engineers. The majority of the recreational opportunities within Tulare County are found within Sequoia National Forest, Giant Sequoia National Monument, and in Sequoia and Kings Canyon National Parks.

Federal lands, such as wilderness, national forests, monuments, and parks occupy 52.2 percent of land area within Tulare County. Agricultural uses encompass 43 percent of the County's land. The remainder comprises miscellaneous uses, such as County parks, urban uses in cities, unincorporated communities, and hamlets, and infrastructure rights-of-way. The Tulare County General Plan sets forth guidelines in order to maintain an overall standard of five or more acres of public County parkland per 1,000 population in unincorporated areas, regional parks at one-acre per 1,000 population, neighborhood parks at three to six acres per 1,000 population, and community parks at one to two acres per 1,000 population.[26]

As noted in Section 4.15, the closest recreational facility to the Project is the City of Visalia's St. Johns Park, located approximately 7.4 miles southwest of the Project site.

[26] (Tulare County 2030 General Plan Update, 2010)

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?

No Impact. Impacts on parks and recreational facilities are typically analyzed based on increases in permanent residents from projects involving residential developments. The Project proposes to construct a groundwater recharge basin, two surface water turnout facilities, and conservation space, and therefore, is not a residential development. Therefore, there would be no impacts to parks and other public recreational facilities, and no mitigation is required.

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?

Less than Significant Impact. The Project would include additional recreational facilities by including a walking path around the perimeter of the proposed recharge basin. As required with construction of the whole Project, construction of the walking path would adhere to the various mitigation measures and regulatory requirements discussed throughout this document. Implementation of the mitigation measures and regulatory requirements would result in impacts being less than significant.

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 is on the northeast corner of Road 156 and Road 160, adjacent to Cottonwood Creek, just approximately 3.6 miles north of the community Ivanhoe and 7 miles northeast of the City of Visalia in Tulare County. Road 156 runs in a north-south direction along the western boundary of the Project site. The southern boundary of the Project site is bounded by Road 160. There are no State or interstate highways in the immediate vicinity.

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?

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

a and b) Less than Significant Impact. The Project includes the construction of a multi-cell recharge basin on an approximately 60-acre site, two surface water turnout facilities, and a conservation space area that would be pedestrian accessible. Construction traffic associated with the Project would be minimal and temporary, lasting approximately six months. Operational traffic consists of as-needed maintenance trips to the site. No road improvements are proposed as a part of the Project. There would not be a significant adverse effect to existing roadways in the area.

Construction associated with the Project would be restricted to the Project site and it would not intersect any roadways or pedestrian/bicycle paths. Construction-related impacts would be temporary and there would be no impacts to the surrounding transportation network. Road closures and detours are not anticipated as part of construction.

There is no population growth associated with the Project, nor would implementation of the Project result in an increase of staff or drivers utilizing roadways in the area. Therefore, implementation of the

Project would not increase the demand for any changes to congestion management programs or interfere with existing level of service standards during the operational phase. The proposed conservation space may increase vehicles traveling to the site. However, as the proposed conservation space is minimal compared to the rest of the site and the remote/rural location of the site, it is not anticipated that there would be many visitors that would increase roadway usage to a significant level. The Project site would also include an area for vehicles to park which would mitigate any offsite parking conflicts. Overall, 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)?

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

d) Would the project result in inadequate emergency access?

Less than Significant Impact. As mentioned above in Impact Assessments a, b, and c, the Project would not propose new roadway design features or permanent alterations to roadways. All potential disturbances to roadways during construction would be temporary. Road closures and detours are not anticipated as part of the construction phase of the Project. The operational phase of the Project would have minimal effect on roadways or emergency access. Therefore, overall potential Project-related impacts to emergency access on local roadways would be considered 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 (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☐	☒	☐

4.18.1 BASELINE CONDITIONS

The Project's APE is in the Southern Valley Yokuts ethnographic territory of the San Joaquin Valley. Within California, the Yokuts were generally divided into three major groups, the Northern Valley Yokuts, the Southern Valley Yokuts, and the Foothill Yokuts. The Yokuts are a sub-group of the Penutian language that covers much of coastal and central California and Oregon.

NATIVE AMERICAN OUTREACH

Taylored Archaeology requested a SLF search from the NAHC on July 3, 2024. The NAHC responded on July 22, 2024, via email with a letter regarding Taylored Archaeology's request. The SLF search did not identify the presence of tribal cultural resources in the Project APE. The NAHC supplied a list of Native American representatives to contact for information or knowledge of cultural resources in the APE and the surrounding area.

The following Native American organizations/individuals were contacted from the list provided by NAHC below:

1. Tribal Administrator Tom Zizzo of Big Sandy Rancheria of Western Mono Indians

2. Chairperson Elizabeth Kipp of Big Sandy Rancheria of Western Mono Indians
3. Vice Chairperson Joel Marvin of Big Sandy Rancheria of Western Mono Indians
4. Tribal Administrator Desiree Lewis of Cold Springs Rancheria of Mono Indians of California
5. Chairperson Shane Ratchford of Cold Springs Rancheria of Mono Indians of California
6. Chairperson Robert Ledger of the Dumna Wo-Wah Tribal Government
7. Chairperson Delia Dominguez of Kitanemuk and Yowlumne Tejon Indians
8. Chairperson Charlotte Lange of Mono Lake Kutzadika Tribe
9. Chairperson Ron Goode of the North Fork Mono Tribe
10. Council Member - Archaeological Director Jesse Valdez of the North Fork Mono Tribe
11. Tribal Secretary Anna Phipps of the North Fork Mono Tribe
12. Cultural Specialist II Samantha McCarty of the Santa Rosa Rancheria Tachi Yokut Tribe
13. Tribal Historic Preservation Officer Shana Powers of the Santa Rosa Rancheria Tachi Yokut Tribe
14. Cultural Specialist I Nichole Escalon of the Santa Rosa Rancheria Tachi Yokut Tribe
15. Chairperson Michelle Heredia-Cordova of Table Mountain Rancheria
16. Cultural Resource Director Bob Pennell of Table Mountain Rancheria
17. Chairperson David Alvarez of Traditional Choinumni Tribe
18. Environmental Department Director Kerri Vera of the Tule River Tribe
19. Tribal Archaeologist Joey Garfield of the Tule River Indian Tribe
20. Chairperson Neil Peyron of the Tule River Indian Tribe
21. Chairperson Kenneth Woodrow of the Wuksache Indian Tribe/Eshom Valley Band

Follow-up by emails were sent on August 7, 2024. Chairperson Elizabeth Kipp of the Big Sandy Rancheria of Western Mono Indians responded by email that they have no comments or concerns with the Project and that anytime anything of cultural significance is discovered, they request to be notified. Chairperson Kenneth Woodrow of the Wuksache Indian Tribe/Eshom Valley Band responded by telephone on August 13, 2024, stating the Project area is in a culturally sensitive area and requested a tribal monitor for all ground disturbing activity in the APE. Chairman Curtis Lee of the Cold Springs Rancheria responded via email on August 15, 2024, stating the APE was outside the Cold Springs Rancheria geographical area and the tribe had no interest in the Project. As of the date of this report, no other responses have been received.

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:

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

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

a-i – a-ii) Less than Significant Impact. A search of the NAHC SLF was completed for the APE. No tribal cultural resources were identified. Additionally, a records search was conducted at the SSJVIC, California

State University, Bakersfield. This search also determined that tribal cultural resources were not present on-site.

The District, as a public lead agency, has not received any written correspondence from a Tribe pursuant to Public Resources Code Section 21080.3.1 requesting notification of a proposed project.

According to the Phase I Cultural Resources Assessment prepared for the Project (Appendix C), based upon ethnographic data, historical maps, and archaeological sensitivity models, the Project area was dominated by natural watercourses and likely contained a rich supply of natural resources for indigenous populations. Thus, there is a moderate possibility of encountering buried cultural resources during Project ground disturbing activities. Therefore, implementation of mitigation measures **CUL-1**, **CUL-2**, and **CUL-3,** described in Section 4.5 are recommended in the event cultural materials or human remains are unearthed during excavation or construction. Implementation of mitigation measures referenced above will reduce impacts to tribal cultural resources to less than significant.

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

The Project site is located on the northeast corner of Road 156 and Road 160, adjacent to Cottonwood Creek, approximately 3.6 miles north of the community Ivanhoe and 7 miles northeast of the City of Visalia in Tulare County. The site is currently a vacant lot and does not include any water or sewer infrastructure. The nearest public agency that provides water and sewer services is the Ivanhoe Public Utility District which serves the community of Ivanhoe 3.6 miles south of the Project site . Solid waste in the Project area is managed by the Tulare County Solid Waste Department.

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?

No Impact. The Project would not require construction, relocation, or expansion of facilities for water, wastewater treatment, storm water drainage, electric power, natural gas, or telecommunications. There would be no impact.

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

No Impact. The Project consists of the construction of a groundwater recharge basin, two turnout facilities, and conservation space. The proposed basin would be used in the efforts to achieve groundwater sustainability. Project operation is passive and would not reduce the area's available water supply under any scenario. There would be no impact.

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

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

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

Less than Significant Impact. The Project would generate minor amounts of solid waste during construction; however, it would be temporary and properly disposed of during construction and upon completion. No solid waste would be generated during operation and maintenance. Any impacts with regard to solid waste 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 Project would continue to comply with any federal, State, and local regulations related to 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

As per maps provided by the Office of the State Fire Marshal, the Project site is located outside of any Fire Hazard Severity Zones.[27] The Project site is also not located in an area that has been designated as a State Responsibility Area (SRA) by the California Board of Forestry and Fire Protection's State Responsibility Area Viewer.[28] The site is considered a local responsibility area and is served by the Tulare County Fire Department.

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?

[27] (Cal Fire, 2024)
[28] (California Department of Forestry and Fire Protection, 2023)

c) If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

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

a-d) No Impact. The Project site is not located in or near an SRA, nor located on lands classified as a very high fire hazard severity zone. The nearest SRA Fire Hazard Zone, a moderate fire hazard severity zone, is located 3 miles east of the Project site. Construction of the new basin cells would not impede any existing or future emergency response plans. The Project site and the surrounding lands consist of agricultural and related infrastructure on relatively flat and open land. Additionally, the Project does not include the construction of any residential components or habitable structures of any kind, nor would it require any employees to be stationed permanently at the site. There would be no impact.

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?	☐	☐	☒	☐

4.21.1STATEMENT 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 Impacts with Mitigation Incorporated. The analysis conducted in this IS/MND results in a determination that the Project, with incorporation of mitigation measures, will have a less than significant effect on the environment. The potential for impacts to biological resources, cultural resources, and tribal cultural resources from the construction and operation of the Project will be less than significant with the incorporation of the mitigation measures discussed in their individual sections and in Chapter 5 Mitigation, Monitoring, and Reporting Program. Accordingly, the Project will involve no potential for significant impacts through the degradation of the quality of the environment, the reduction in the habitat or population of fish or wildlife, including endangered plants or animals, the elimination of a plant or animal community or example of a major period of California history or prehistory.

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

Less than Significant Impact. CEQA Guidelines Section 15064(i) states that a Lead Agency shall consider whether the cumulative impact of a project is significant and whether the effects of the project are cumulatively considerable. The assessment of the significance of the cumulative effects of a project must, therefore, be conducted in connection with the effects of past projects, other current projects, and probable future projects. The Project involves the construction of a recharge basin for groundwater recharge, two surface water turnout facilities to divert water into the basin, and a conservation space in the form of a walking path surrounding the basin. No additional roads would be constructed as a result of the Project, nor would any additional public services be required. The Project is not expected to result in direct or indirect population growth. Therefore, implementation of the Project would not result in significant cumulative impacts and all potential impacts would be reduced to less than significant through the implementation of mitigation measures and basic regulatory requirements incorporated into future Project design.

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

Less than Significant Impact. The Project would include the construction of stormwater capture basins. The Project in and of itself would not create a significant hazard to the public or the environment. Construction and operation-related air quality/dust exposure impacts could occur temporarily as a result of Project construction. However, implementation of basic regulatory requirements identified in this IS/MND would ensure that impacts are less than significant. Therefore, the Project would not have any direct or indirect adverse impacts on humans. This impact would be less than significant.

CHAPTER 5 MITIGATION, MONITORING, AND REPORTING PROGRAM

This Mitigation Monitoring and Reporting Program (MMRP) has been formulated based upon the findings of the Initial Study/Mitigated Negative Declaration (IS/MND) for the East Kaweah Groundwater Sustainability Agency MLRP Basin Project in Tulare County. The MMRP lists mitigation measures recommended in the IS/MND for the Project and identifies monitoring and reporting requirements.

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

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

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

Mitigation, Monitoring, and Reporting Program						
Item	Mitigation Measure	When Monitoring is to Occur	Frequency of Monitoring	Agency Responsible for Monitoring	Method to Verify Compliance	Verification of Compliance
Biological Resources						
Project-Related Mortality and/or Nest Abandonment or Migratory Birds, Raptors, and Special Status Birds						
BIO-1	**(Avoidance)**: The Project's construction activities will occur, if feasible, between September 1 and January 31 (outside of the nesting bird season) to avoid impacts to nesting birds.	September 1 to January 31	Once, as determined by qualified biologist during construction activities	EKGSA with assistance of a qualified biological subconsultant		
BIO-2	**(Pre-construction Surveys)**: If activities must occur within the nesting bird season (February 1 to August 30), a "qualified biologist" (someone who is familiar with identifying birds and has performed nesting bird surveys) will conduct a pre-construction survey for active nests within five (5) calendar days prior to the start of construction. It will be completed within the Project site, and up to 100 feet outside of the Project site for nesting migratory birds and up to 500 feet outside of the Project site for nesting raptors. Raptor nests are considered "active" upon the nest-building stage. If no active nests are observed, no further mitigation is required. A "qualified biologist" will conduct pre-construction surveys for tricolored blackbird nests and breeding colonies within seven (7) days prior to the start of construction. The "qualified biologist" will survey for tricolored blackbird nests onsite and within a 300-foot radius. This one-time take avoidance survey will be conducted in accordance with the Staff Guidance Regarding Avoidance of Impacts to Tricolored Blackbird Breeding Colonies on Agricultural Fields (California Department of Fish and Wildlife 2015), or current guidance.	Prior to construction activities	Once, as determined by qualified biologist prior to construction activities	EKGSA with assistance of a qualified biological subconsultant		
BIO-3	**(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	Prior to construction activities	Once, Prior to ground disturbing activities and the	EKGSA with assistance of a qualified biological subconsultant		

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
	CDFW and/or USFWS guidelines, the biology of the species, conditions of the nest(s), and the level of Project disturbance. If necessary, avoidance buffers will be identified with flagging, fencing, or other easily visible means, and will be maintained until the biologist has determined that the nestlings have fledged.		start of construction			
Project-Related Mortality and/or Disturbance to Burrowing Owl						
BIO-4	**(Pre-construction Take Avoidance Survey)**: A "qualified biologist" (someone who is familiar with identifying the species, is familiar with the species' year-round habitat use, and can identify the species) will conduct a pre-construction take avoidance survey for BUOW and suitable burrows, in accordance with CDFW's Staff Report on Burrowing Owl Mitigation (2012), within seven (7) days prior to the start of construction activities. The survey shall include the proposed work area and surrounding lands up to 500 feet. If construction is halted for more than seven (7) consecutive days, another preconstruction survey shall be completed prior to the reinitiation of construction activities.	7 days prior to construction	Once, as determined by qualified biologist prior to construction activities	EKGSA with assistance of a qualified biological subconsultant		
BIO-5	**(Avoidance)**: If an active BUOW burrow is detected, the occurrence will be reported to the CNDDB, and avoidance buffers shall be implemented. 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 burrow(s), and the level of project disturbance. If necessary, avoidance buffers will be identified with flagging, fencing, or other easily visible means, and will be maintained until the biologist has determined that the nestlings have fledged and all BUOW have left the Project area.	Upon discovery of BUOW burrow	Once, as determined by qualified biologist during construction activities	EKGSA with assistance of a qualified biological subconsultant		
BIO-6	**(Formal Consultation)**: If BUOW is detected during surveys and cannot be avoided, consultation with CDFW is warranted to discuss how to implement the	September 1 to January 31 or	Once, as determined by qualified biologist	EKGSA with assistance of a		

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
	Project and avoid take. If take cannot be avoided, take authorization through the acquisition of an ITP pursuant to Fish and Game Code section 2081, subdivision (b) is necessary to comply with CESA.	February 1 to August 31	during construction activities	qualified biological subconsultant		
Project-Related Impacts to Wildlife Movement Corridors						
BIO-7	**(Operational Hours)**: Construction activities should be limited to a half hour after sunrise through a half hour before sunset to reduce potential impacts to wildlife movement corridors.	During construction activities	Daily, during construction activities	EKGSA		
BIO-8	**(Wildlife Access):** Access should not be blocked outside of construction hours or during overnight hours or weekends. If construction must block both sides of a wildlife access route, an alternative route through the construction area should be identified by a "qualified biologist" and maintained throughout the construction schedule timeframe.	During construction activities	Daily, during construction activities	EKGSA		
BIO-9	**(Cover Excavations):** Pipeline/culvert/siphon excavations and vertical pipes should be covered each night to prevent wildlife from falling in and becoming trapped or injured during migratory or dispersal movements	During construction activities	Daily, during construction activities	EKGSA		
Cultural Resources						
CUL-1	**(Monitor)** An archaeological monitor shall be present on the Project site during ground disturbing activities within the APE. In the event of accidental discovery of unidentified archaeological remains during development or ground disturbing activities within any portion of the APE, all work shall be halted in the immediate vicinity (within a 100-foot radius) until a qualified archaeologist can identify the discovery and assess its significance.	During construction activities	Daily, during construction activities	EKGSA		
CUL-2	**(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,	Upon discovery of archaeological remains	Daily, during construction activities	EKGSA		

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 project proponent shall abide by recommendations of the archaeologist					
CUL-3	**(Human Remains)** In the event that human remains are discovered on the Project site, the Tulare County Coroner must be notified of that discovery (Health and Safety Code Section 7050.5) and all activities in the immediate area if the find or in any nearby area reasonably suspected of overlie adjacent human remains must cease until appropriate and lawful measures have been implemented. If the Coroner determines that the remains are not recent, but rather of Native American origin, the Coroner shall notify the Native American Heritage Commission (NAHC) in Sacramento within 24 hours to permit the NAHC to determine the most likely descendent of the deceased Native American.	Upon discovery of human remains	Daily, during construction activities	EKGSA		
Tribal Cultural Resources						
See **CUL-1**, **CUL-2**, and **CUL-3** above						

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APPENDICES

Appendix A: CalEEMod Output Files

EKGSA MLRP Basin Custom Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	EKGSA MLRP Basin
Construction Start Date	1/1/2025
Lead Agency	East Kings GSA
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	1.90
Precipitation (days)	24.4
Location	36.449394929447436, -119.22163676690592
County	Tulare
City	Unincorporated
Air District	San Joaquin Valley APCD
Air Basin	San Joaquin Valley
TAZ	2773
EDFZ	9
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.28

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	60.0	Acre	60.0	0.00	0.00	—	—	—

2. Emissions Summary

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	3.92	3.30	29.7	29.3	0.06	1.23	3.70	4.93	1.14	1.45	2.59	—	6,720	6,720	0.28	0.06	0.46	6,744
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	4.03	3.39	31.7	30.8	0.06	1.37	7.76	9.13	1.26	3.96	5.22	—	6,706	6,706	0.28	0.06	0.01	6,730
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	1.37	1.16	10.5	10.2	0.02	0.43	1.35	1.79	0.40	0.54	0.94	—	2,335	2,335	0.10	0.02	0.07	2,343
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.25	0.21	1.91	1.87	< 0.005	0.08	0.25	0.33	0.07	0.10	0.17	—	387	387	0.02	< 0.005	0.01	388

3. Construction Emissions Details

3.1. Site Preparation (2025) - 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Roa Equipment	3.94	3.31	31.6	30.2	0.05	1.37	—	1.37	1.26	—	1.26	—	5,295	5,295	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
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	0.05	0.05	0.43	0.41	< 0.005	0.02	—	0.02	0.02	—	0.02	—	72.5	72.5	< 0.005	< 0.005	—	72.8
Dust From Material Movement	—	—	—	—	—	—	0.11	0.11	—	0.05	0.05	—	—	—	—	—	—	—
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	0.08	0.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	12.0	12.0	< 0.005	< 0.005	—	12.1
Dust From Material Movement	—	—	—	—	—	—	0.02	0.02	—	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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.06	0.65	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	93.4	93.4	0.01	< 0.005	0.01	95.0
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
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	—	1.33	1.33	< 0.005	< 0.005	< 0.005	1.35
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	—	0.22	0.22	< 0.005	< 0.005	< 0.005	0.22
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

3.3. Grading (2025) - 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	3.80	3.20	29.7	28.3	0.06	1.23	—	1.23	1.14	—	1.14	—	6,599	6,599	0.27	0.05	—	6,622
Dust From Material Movement	—	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—	—

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	3.80	3.20	29.7	28.3	0.06	1.23	—	1.23	1.14	—	1.14	—	6,599	6,599	0.27	0.05	—	6,622
Dust From Material Movement	—	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—	—
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	1.28	1.08	10.0	9.54	0.02	0.42	—	0.42	0.38	—	0.38	—	2,224	2,224	0.09	0.02	—	2,231
Dust From Material Movement	—	—	—	—	—	—	1.21	1.21	—	0.48	0.48	—	—	—	—	—	—	—
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	0.23	0.20	1.83	1.74	< 0.005	0.08	—	0.08	0.07	—	0.07	—	368	368	0.01	< 0.005	—	369
Dust From Material Movement	—	—	—	—	—	—	0.22	0.22	—	0.09	0.09	—	—	—	—	—	—	—
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	0.11	0.11	0.06	0.95	0.00	0.00	0.11	0.11	0.00	0.03	0.03	—	121	121	0.01	0.01	0.46	123
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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	0.07	0.75	0.00	0.00	0.11	0.11	0.00	0.03	0.03	—	107	107	0.01	0.01	0.01	109
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.02	0.26	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	37.3	37.3	< 0.005	< 0.005	0.07	38.0
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	0.01	0.01	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	6.18	6.18	< 0.005	< 0.005	0.01	6.29
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

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	1/1/2025	1/7/2025	5.00	5.00	—
Grading	Grading	1/8/2025	6/28/2025	5.00	123	—

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	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37

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	17.5	7.70	LDA,LDT1,LDT2
Site Preparation	Vendor	—	6.80	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	7.70	LDA,LDT1,LDT2
Grading	Vendor	—	6.80	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	—	—	7.50	0.00	—
Grading	—	—	369	0.00	—

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%

8. User Changes to Default Data

Screen	Justification
Construction: Construction Phases	No demolition, construction, paving, or architectural coatings

HARP Project Summary Report 10/7/2024 10:43:48 AM

PROJECT INFORMATION
HARP Version: 21081
Project Name: EKGSAMLRP
Project Output Directory: C:\HARP2\EKGSAMLRP
HARP Database: NA

FACILITY INFORMATION
Origin
X (m):300737
Y (m):4036172
Zone:11
No. of Sources:1
No. of Buildings:0

EMISSION INVENTORY
No. of Pollutants:1
No. of Background Pollutants:0

Emissions
ScrID StkID ProID PolID PolAbbrev Multi Annual Ems MaxHr Ems MWAF (lbs/yr) (lbs/hr)

_____ CON 0 0 9901 DieselExhPM 1 158.7 0.17075 1

Background
PolID PolAbbrev Conc (ug/m^3) MWAF

Ground level concentration files (\glc\)

9901MAXHR.txt
9901PER.txt

POLLUTANT HEALTH INFORMATION
Health Database: C:\HARP2\Tables\HEALTH17320.mdb
Health Table Version: HEALTH21221
Official: True

PolID PolAbbrev InhCancer OralCancer AcuteREL InhChronicREL OralChronicREL InhChronic8HRREL

_____ 9901 DieselExhPM 1.1 5

AIR DISPERSION MODELING INFORMATION
Versions used in HARP. All executables were obtained from USEPA's Support Center for Regulatory Atmospheric Modeling website (http://www.epa.gov/scram001/) AERMOD: 18081
AERMAP: 18081
BPIPPRM: 04274
AERPLOT: 13329

METEOROLOGICAL INFORMATION Version: 21112
Surface File: C:\Users\jarredo\Documents\HARP\Visalia Muni 93144\Visalia_07-10.SFC
Profile File: C:\Users\jarredo\Documents\HARP\Visalia Muni 93144\Visalia_07-10.PFL
Surface Station: 93144
Upper Station: 23230
On-Site Station: 0
Start Date & Time: 7 1 1 1
End Date & Time: 10 12 31 24
Hours Processed: 35064
Calm Hours: 9719
Missing Hours: 1240

LIST OF AIR DISPERSION FILES
AERMOD Input File: \EKGSAMLRP_AERMOD.inp
AERMOD Output File: \EKGSAMLRP_AERMOD.out
AERMOD Error File: \EKGSAMLRP_AERMOD.ERR
Plotfile list

_____
MAX1HRCON.PLT
PERIODCON.PLT

LIST OF RISK ASSESSMENT FILES
Health risk analysis files (\hra\)

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MLRP_CancerRisk.csv
MLRP_CancerRiskSumByRec.csv
MLRP_GLCList.csv
MLRP_HRAInput.hra
MLRP_NCAcuteRisk.csv
MLRP_NCAcuteRiskSumByRec.csv
MLRP_NCChronicRisk.csv
MLRP_NCChronicRiskSumByRec.csv
MLRP_Output.txt
MLRP_PathwayRec.csv
MLRP_PolDB.csv

Spatial averaging files (\sa\)

_____

**HARP - Air Dispersion Modeling and Risk Tool v21081
**10/7/2024
**Exported Risk Results
REC,GRP,NETID,X,Y,SCENARIO,CV,CNS,IMMUN,KIDNEY,GILV,REPRO/
DEVEL,RESP,SKIN,EYE,BONE/TEETH,ENDO,BLOOD,ODOR,GENERAL,MAXHI
1,SENSITIV,,301376,4035507,NonCancerChronicDerived_InhSoilDermMMilk,0,0,0,0,0
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**HARP - Air Dispersion Modeling and Risk Tool v21081
**10/7/2024
**Exported Risk Results
REC,GRP,NETID,X,Y,RISK_SUM,SCENARIO,INHAL_RISK,SOIL_RISK,DERMAL_RISK,MMILK_RISK,WATER_RISK,FISH_RISK,CROP_RISK,BEEF_RISK,DAIRY_RISK,PIG_RISK,CHICKEN_RISK,EGG_RISK
1,SENSITIV,,301376,4035507,1.9295E-06,0.5YrCancerDerived_InhSoilDermMMilk,1.9295E-06,0,0,0,0,0,0,0,0,0,0,0
2,SENSITIV,,299606,4035977,2.5372E-07,0.5YrCancerDerived_InhSoilDermMMilk,2.5372E-07,0,0,0,0,0,0,0,0,0,0,0

Appendix B: Biological Resources Evaluation

EAST KAWEAH GROUNDWATER SUSTAINABILITY AGENCY

MLRP BASIN PROJECT BIOLOGICAL EVALUATION

TULARE COUNTY
DECEMBER 2024

PREPARED FOR:
East Kaweah Groundwater Sustainability Agency
Lindsay, California 93247

PREPARED BY:
PROVOST & PRITCHARD CONSULTING GROUP
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Report Prepared for:

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Report Prepared by:

Provost & Pritchard Consulting Group
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Project Manager: Ryan McKelvey, Senior Planner
QA/QC: Mary Beth Bourne, Associate Biologist
Other personnel involved in report preparation: Phil Slater, GIS Specialist, and Morganne Colvard, Project Administrator

Contact:

Ryan McKelvey
(661)-616-5900
Ext520

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ACRONYMS AND ABBREVIATIONS

ARD.....Aquatic Resources Delineation
BUOW.....Burrowing owl
CDFW.....California Department of Fish and Wildlife
CEQA .....California Environmental Quality Act
CNDDB..... California Natural Diversity Database
CNPS..... California Native Plant Society
County.....Tulare County
EPA ..... Environmental Protection Agency
°F.....degrees Fahrenheit
IPaC .....United States Fish and Wildlife Service's Information for Planning and Consultation system
MBTA..... Migratory Bird Treaty Act
NRCS..... Natural Resources Conservation Service
OHWM .....Ordinary High Water Mark
Project.....East Kaweah Groundwater Sustainability MLRP Basin 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
USFWS.....United States Fish and Wildlife Service
USGS..... United States Geological Survey

1 INTRODUCTION

This Biological Evaluation, prepared by Provost & Pritchard Consulting Group (Provost & Pritchard) in compliance with the California Environmental Quality Act (CEQA), includes descriptions of the biological resources present or with potential to occur within the proposed East Kaweah Groundwater Sustainability MLRP Basin Project (or "project") and surrounding areas, potential project-related impacts to those resources, and mitigation measures to reduce these impacts to a less-than-significant level under CEQA.

1.1 PROJECT DESCRIPTION

The project is located in the San Joaquin Valley, northwest of the City of Visalia and southeast of the City of Woodlake in the northeast portion of Tulare County (County), California (see Figure 1 and Figure 3). The project site is approximately 60 acres. The project site includes the work area where the project will occur as well as areas that will be temporarily impacted such as access roads and staging areas.

The project involves constructing a multi-cell recharge basin facility on the 60-acre site. The project would include two turnouts and pump structures with a capacity of approximately 30 cubic feet per second one at the north end of the APE and the second at the southeast corner of the APE. The proposed turnout facility would allow the East Kaweah Groundwater Sustainability Agency to divert surface water from Cottonwood Creek into the proposed basin area to increase groundwater storage**.** Diverted water would consist of Central Valley Project water diverted into Cottonwood Creek upstream of the project site. The proposed facility would consist of two cast-in-place concrete turnout structures, control gate(s), a trash rack, and related appurtenances located northeast of the proposed basin cells along the west bank of Cottonwood Creek. The turnout structure would connect to a pump box structure through approximately 250 linear feet (LF)of reinforced concrete piping (likely 36-inch diameter), equipped with a metered connection, lift pump(s), and would discharge into a distribution channel. The turnout and pump structure excavation depth would be up to 15 feet below ground surface. Approximately six (6) interbasin connection structures would also be constructed to connect the distribution channel to the proposed basin cells. Each connection would be equipped with two structures (in both delivery channel and basin cell), rip rap, and 90 LF of piping. The project would also include a conservation space area that would be pedestrian accessible. Conservation space would be in the form of graded dirt walking paths around and between the basin cells. In addition, a dirt parking area would be constructed to accommodate vehicles traveling to the site. The dirt parking area is anticipated to be, at maximum, 90,000 square feet.

1.2 REPORT OBJECTIVES

Construction activities such as those proposed by the project could potentially impact 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.

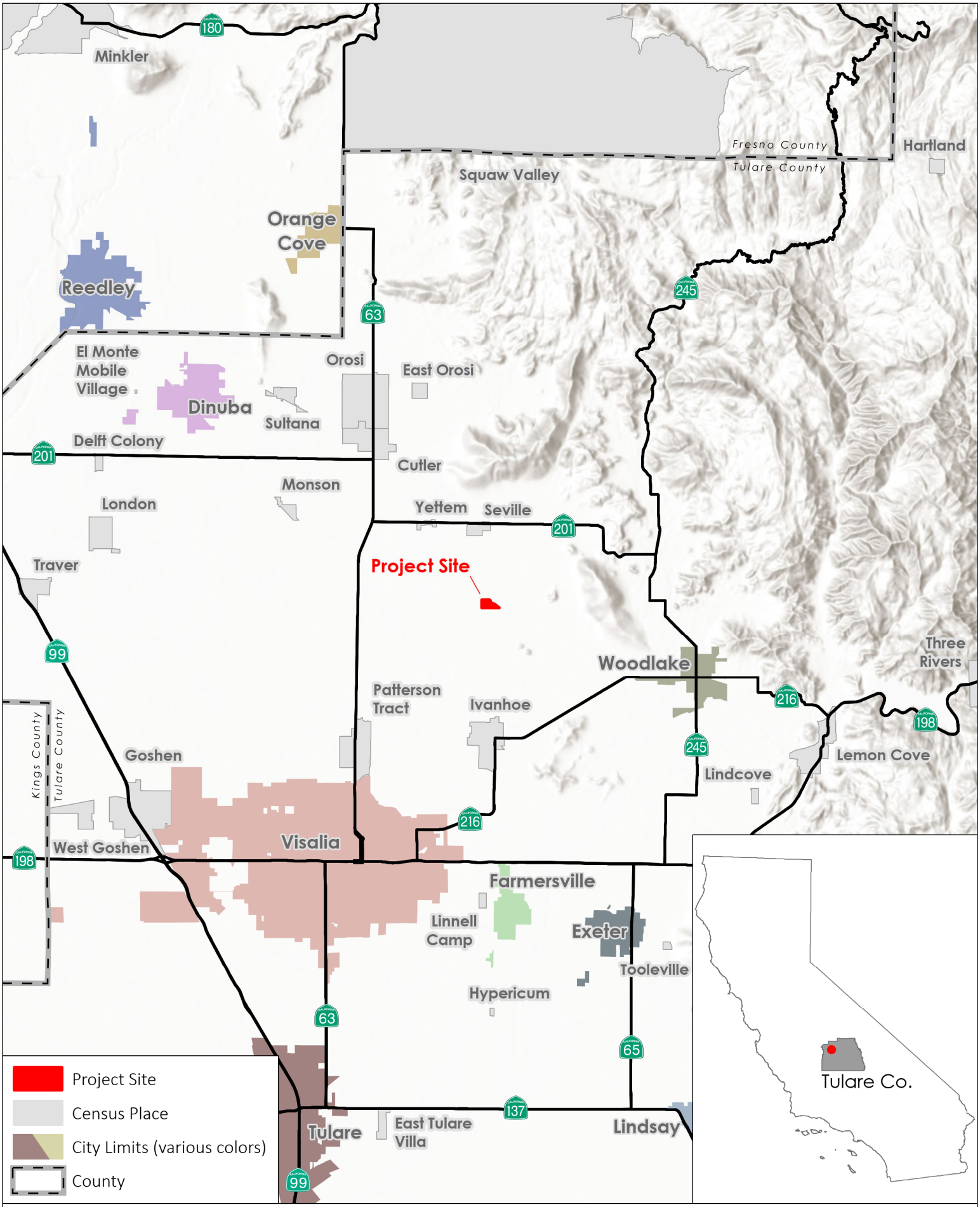
This report addresses issues related to the following:

- The presence of sensitive biological resources on the project site, or with the potential to occur on the project site.
- 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 project site-specific information related to existing biological resources.

- Make reasonable inferences about the biological resources that could occur on the project site based on habitat suitability and the proximity of the project site 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, 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) and are generally consistent with recommendations of the resource agencies for affected biological resources.



Regional Vicinity Map

MLRP Basin Project

PROVOST& PRITCHARD

Fig. 1 Page 1-3

0 500 1,000
Feet

Project Site

MLRP Basin Project

PROVOST& PRITCHARD

Fig. 2 Page 1-4

1.3 STUDY METHODOLOGY

A reconnaissance-level field survey of the project site was conducted on July 2, 2024, by Provost & Pritchard biologist, Jenny McCarthy. The survey consisted of walking and driving throughout the project site 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. McCarthy then utilized the results of the field survey to conduct an analysis of potential project-related impacts to biological resources based on the resources known to occur or with the potential to occur within the project site. 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, 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 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 those features of the project that could be subject to the jurisdiction of federal and/or state agencies, such as the United States Army Corps of Engineers (USACE), California Department of Fish and Wildlife (CDFW), Regional Water Quality Control Board (RWQCB) and the State Water Resources Control Board (SWRCB).

2 EXISTING CONDITIONS

2.1 REGIONAL SETTINGS

2.1.1 TOPOGRAPHY

The project site is located within the *Ivanhoe* U.S. Geological Survey (USGS) 7.5-minute quadrangle within the northeast corner of the southwest corner of Section 13, Township 17 South, Range 25 East. The topography of the project site is relatively flat with elevations ranging from approximately 355 to 368 feet above mean sea level (see Figure 4).

2.1.2 CLIMATE

Like most of California, the project site experiences a Mediterranean climate. Warm, dry summers are followed by cool, moist winters. In the summer, average high temperatures range between 88- and 96 degrees Fahrenheit (°F), but often exceed 96 °F, and the humidity is generally low. Winter temperatures are often below 60 °F during the day and rarely exceed 65 °F. On average, the City of Visalia receives approximately 10.9 inches of precipitation in the form of rain yearly, most of which occurs between October and May (Weatherspark.com). The project site would be expected to receive similar amounts of precipitation.

2.1.3 HYDROLOGY

The nearest surface water to the project is Cottonwood Creek, which crosses through the northeast corner of the site. Cottonwood Creek is inundated infrequently. Cottonwood Creek is fed by stormwater and snowmelt runoff from the Sierra Nevada foothills. Cottonwood Creek flows from Dunlap west into the valley and where it eventually connects with Cross Creek (USGS.gov).

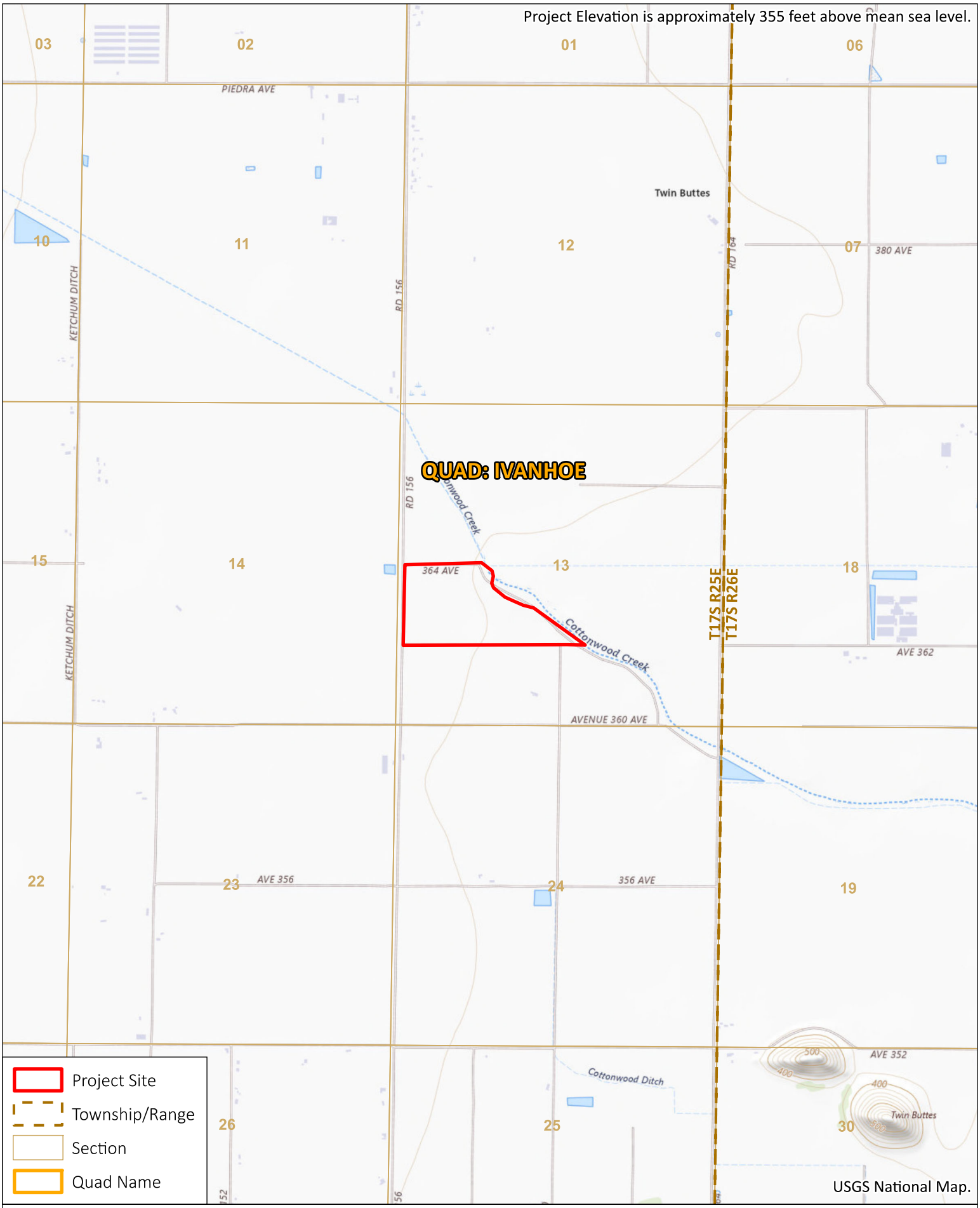
2.1.4 SOILS

Two soil mapping units representing two soil types were identified within the project site and are listed in Table 1 (see Appendix D for the Web Soil Survey Report). The soils are displayed with their core properties in the table below, according to the Major Land Resource Area of California. Both soils are primarily used for crops, grazing, and wildlife habitat.

Table 1: List of Soils Located on the Site and Their Basic Properties

Soil	Soil Map Unit	Percent of Site	Hydric Soil Category	Drainage	Permeability/ Conductivity	Runoff
Tujunga	Sand	23.2%	Non-hydric	Somewhat excessively	High saturated hydraulic	Negligible to low
Yettem	Sandy loam, 0 to 2 percent slopes	76.8%	Predominantly non-hydric	Well drained	Moderately rapid	Very low

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. One of the minor soil mapping units located on the project site was identified as hydric.



Topographic Map

MLRP Basin Project

PROVOST& PRITCHARD

Fig.. 3 Page 2-2

2.2 BIOTIC HABITATS

Four biotic habitats were observed within the project site and included ruderal, orchard, creek, and ditch (see Figure 4). These habitats and their constituent plant and animal species are described in more detail in the following sections.

2.2.1 RUDERAL

The ruderal habitat consisted of two fallow fields which were dominated mostly by non-native and invasive vegetation. The larger field is approximately six acres and is located on the northeast side of the project site. A coyote den was observed north of the field in an open area which also contained ruderal habitat. The area contained two telephone poles, a water tank, a water well, an electrical box, as well as meters where two in-active black phoebe nests were identified. The second field is approximately 0.25 acres and is located on the southern end of the project site. Other ruderal habitats within the project site included the dirt roads located around the perimeter of the project site, in between the parcels, and parallel to Cottonwood Creek. Both ruderal fields appeared to be managed semi-frequently. These fields can serve as nesting and foraging habitats for several bird species and forging and denning habitats for other species such as coyotes (*Canis latrans*) and striped skunks (*Mephitis mephitis*).

Wildlife species observed during the field survey included California ground squirrel (*Otospermophilus beecheyi*), California quail (*Callipepla californica*), cliff swallow (*Petrochelidon pyrrhonota*), and black phoebe (*Sayornis nigricans*).

The plant species observed during the field survey included sacred datura (*Datura wrightii*), tree tobacco (*Nicotiana glauca*), wild rye (*Leymus sp.*), giant reed (*Arundo donax*), common mullein (*Verbascum thapsus*), yellow star-thistle (*Centaurea solstitialis*), fiddle neck (*Amsinckia sp.*), horseweed (*Erigeron canadensis*), poison hemlock (*Conium maculatum*), milk thistle (*Silybum marianum*), shortpod mustard (*Hirschfeldia incana*), common myrtle (*Myrtus communis*), and annual burweed (*Ambrosia acanthicarpa*).

2.2.2 ORCHARD

Two areas of orchard habitat were identified within the project site. The orchards observed on the west side of the project site were installed recently and spaced several feet apart; the trees stood less than three feet tall. The second orchard was to the south side of the project site and the trees were well established, showing signs of stress with no obvious fruiting bodies. The trees stood over six feet tall and were tightly compacted in standard production fashion. The orchard habitat could be used as nesting habitat for residential and migratory birds.

The plant species observed as a result of the survey included Mandarin orange (*Citrus reticulata*), wild tobacco, poison hemlock, California mugwort (*Artemisia douglasiana*), and horseweed.

2.2.3 CREEK

The creek habitat included less than one (1) acre within two sections of Cottonwood Creek. Most of the creek was dry at the time of the survey but there was some pooling water entering from a channel from the east side of the creek that was outside the project site. The two sections of the creek where the turnout is expected to be installed are mostly open with sparse vegetation within the creek. An Aquatic Resources Delineation (ARD) was performed on the creek to determine the Ordinary High Water Mark (OHWM) by Provost & Pritchard Biologist Shaylea Stark on July 02, 2024, and a second ARD was completed by Permitting Specialist Kira McCall on November 22, 2024 (See Appendix E). The creek habitat could be used as nesting and foraging habitat for residential and migratory birds, foraging habitat and movement corridor for a variety of species such as Virginia opossum (*Didelphis virginiana*), and northern raccoon (*Procyon lotor*),

and coyote (*Canis latrans*). Tracks from these species were also observed within the creek habitat during the time of the survey.

Wildlife species observed as a result of the survey included western kingbird (*Tyrannus verticalis*), red-tailed hawk (*Buteo jamaicensis*), barn owl (*Tyto alba*), turkey vulture (*Cathartes aura*), common raven (*Corvus corax*), Eurasian collared dove (*Streptopelia decaocto*), and California quail.

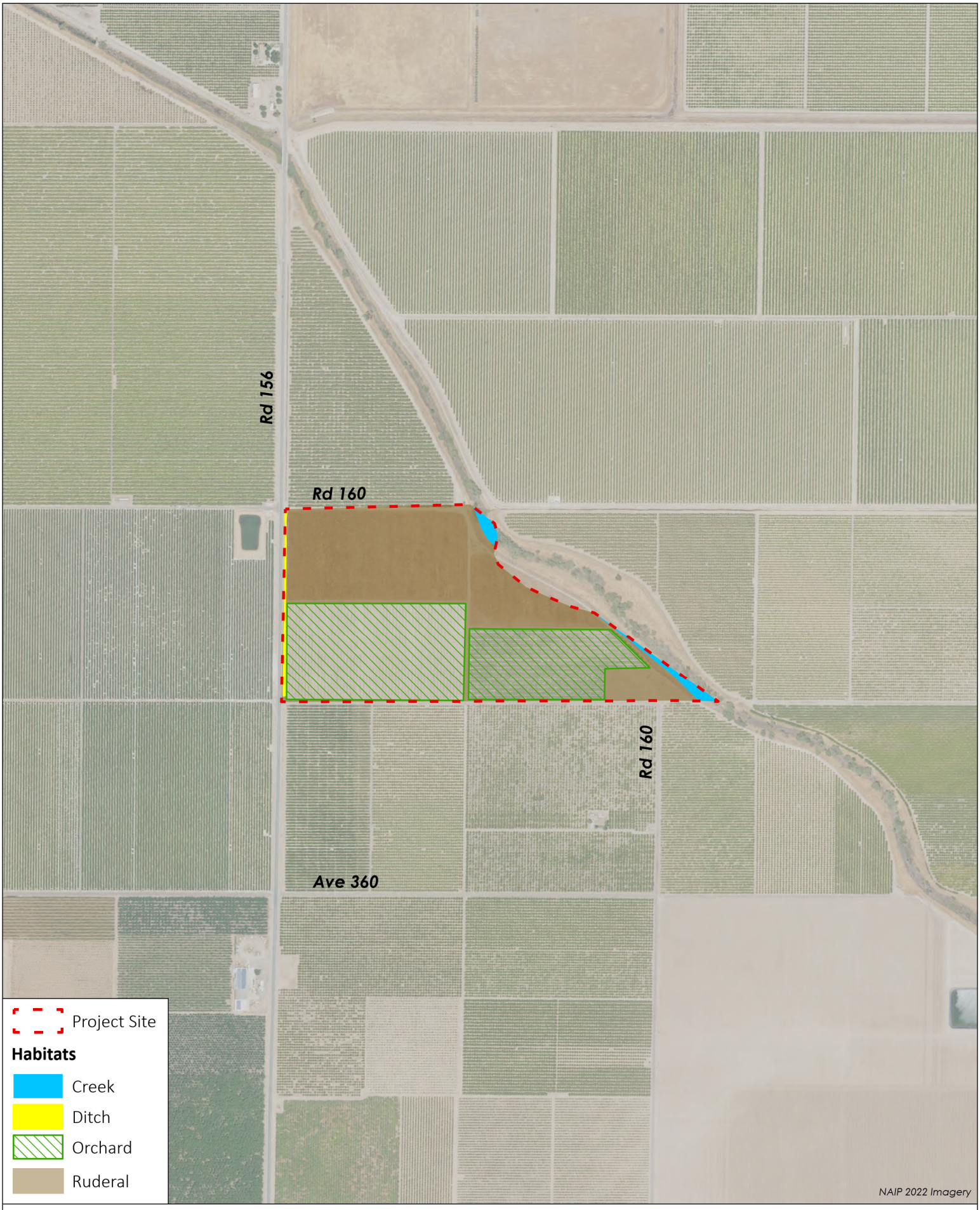
The plant species observed as a result of the survey were Fremont cottonwood, bulrush (*Schoenoplectus acutus*), tall flatsedge (*Cyperus eragrostis*), California cocklebur (*Xanthium orientale*), barnyard grass (*Echinochloa crus-galli*), beardless rabbitsfoot grass (*Polypogon viridis*), Himalayan blackberry (*Rubus armeniacus*), and mistletoe (*Viscum album*).

In the northeast corner along the banks of the project site, a small stand of three Fremont cottonwood trees (*Populus fremontii*) was observed. Open stands of riparian habitat are common in this region due to disturbance by agricultural activities. The vegetation within this area was not dense enough to support riparian wildlife-specific species.

2.2.4 DITCH

The ditch habitat ran north to south parallel to the project site and Road 156 and continued beyond the boundary of the project site. The ditch was dirt-lined with little to no terrestrial vegetation growing along the banks of the canal. There was some water pooling from the north culvert pipe but stopped within a few feet of the pipe. Small fish were observed in the pooled water and a frog species, most likely bullfrogs, were observed further back in the culvert pipe. An ARD was performed on this ditch to determine the OHWM by Provost & Pritchard Biologist Shaylea Stark on July 02,204 (See Appendix E). When water is present in the ditch, the ditch habitat could be used as foraging habitat for residential and migratory birds, northern raccoons, striped skunk, and Virginia opossum.

The plant species observed during the survey as a result of the survey included, bottlebrush (*Elymus elymoides*), broomsedge (*Andropogon virginicus*), and Bermuda grass (*Cynodon dactylon*).



Habitats Map

MLRP Basin Project

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Fig. 4 Page 2-5

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 3.6), these natural communities of special concern can be found within the CNDDB. 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. Riparian habitats were present adjacent to Cottonwood Creek.

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 project site and vicinity.

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.

Cottonwood Creek was surrounded by agriculture and rural roads, it is likely to function as wildlife movement corridors. Numerous wildlife tracks were observed during the field survey in the creek such as coyote, raccoon, and opossum.

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. No native wildlife nursery sites were found within the project site.

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 *Ivanhoe* USGS 7.5-minute quadrangles that contain the project site, and for the 8 surrounding USGS quadrangles: *Orange Cove South, Stokes Mtn., Auckland, Monson, Woodland, Visalia*, *Exeter,* and *Rocky Kill*.

A query of the IPaC was also completed for the project site. These species, and their potential to occur within the project site, 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 project site.

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

Species	Status*	Habitat	Occurrence within the Site
Alkali-sink goldfields (*Lasthenia chrysantha*)	CNPS 1B	Found in vernal pool and wet saline flat habitats in the San Joaquin Valley region at elevations below 700 feet. Blooms February – April.	**Absent.** No vernal pools were observed within the project site or the surrounding area.
Brittlescale (*Atriplex depressa*)	CNPS 1B	Found in the Central Valley in alkaline or clay soils, typically in meadows or annual grasslands at elevations below 1,100 feet. Sometimes associated with vernal pools. Blooms June – October.	**Absent.** No suitable habitat was observed within the project site. The most recent recorded observation occurred nine miles northwest of the project site in 1968.
Calico monkeyflower (*Diplacus pictus*)	CNPS 1B	Found in the Sierra Nevada foothills and the Tehachapi mountains in bare, sunny, shrubby areas, around granite outcrops within foothill woodland communities at elevations between 450 and 4,100 feet. Blooms March – May.	**Absent.** The project site is outside the elevation range for this species.
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 habitat required for this species was not observed within the project site.
California satintail (*Imperata brevifolia*)	CNPS 2B	Often found in wet springs, meadows, streambanks, and floodplains, and can also be found in coastal scrub, riparian scrub, Mojavean desert scrub, chaparral, and alkali seeps at elevations below 1,600 feet. Blooms September – May.	**Absent.** The habitat required for this species was not observed within the project site.
Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*)	CNPS 1B	Found on alkaline and saline soils in vernal pools and playas in grassland at elevations below 4,500 feet. Blooms April – May.	**Absent.** The habitat required for this species was not observed within the project site. Suitable soil was absent from the project site.

Species	Status*	Habitat	Occurrence within the Site
Earlimart orache (*Atriplex cordulata* var. *erecticaulis*)	CNPS 1B	Found in the San Joaquin Valley in saline and alkaline soils, typically within valley grasslands at elevations below 400 feet. Blooms August – September.	**Absent.** The habitat required for this species was not observed within the project site. Suitable soil was absent from the project site.
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 required habitat for this species was not observed within the project 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.** Vernal pools, freshwater wetlands, and riparian communities were not observed within the project site.
Kaweah brodiaea (*Brodiaea insignis*)	CE, CNPS 1B	Found in the Sierra Nevada foothills in foothill woodland and valley grassland communities at elevations between 650 and 1,700 feet. Blooms May – June.	**Absent.** The project site is outside the elevation range for this species.
Lesser saltscale (*Atriplex minuscula*)	CNPS 1B	Found in the San Joaquin Valley in sandy, alkaline soils in alkali scrub, valley and foothill grassland, and alkali sink communities at elevations below 750 feet. Blooms April – October.	**Absent.** The habitat required for this species was not observed within the project site. Suitable soil was absent from the project site.
Recurved larkspur (*Delphinium recurvatum*)	CNPS 1B	Occurs in chenopod scrub, cismontane woodland, and grassland habitats on poorly drained, fine, alkaline soils; often in valley saltbush or valley chenopod scrub communities at elevations between 100 and 2,600 feet. Blooms March – June.	**Absent.** The habitat required for this species was not observed within the project site. Suitable soil was absent from the project site.
San Joaquin adobe sunburst (*Pseudobahia peirsonii*)	FT, CE, CNPS 1B	Found in the San Joaquin Valley and the Sierra Nevada foothills in bare, dark clay soils in valley and foothill grassland and cismontane woodland communities at elevations between 300 and 3,000 feet. Blooms March – May.	**Absent**. The habitat required for this species was not observed within the project site. Suitable soil was absent from the project site.
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	**Absent.** Vernal pools, freshwater wetlands, and wetland riparian communities were not observed within the project site.

Species	Status*	Habitat	Occurrence within the Site
		2,600 feet. Blooms April – September.	
Sanford's arrowhead (*Sagittaria sanfordii*)	CNPS 1B	This species is an aquatic plant and is found in the San Joaquin Valley and other parts of California in freshwater marshes, ponds, canals, and ditches at elevations below 1,000 feet. Blooms May – October.	**Unlikely.** The ditch habitat does not contain a permanent water source that would make the ditch a suitable habitat for this species. The most recent recorded observation occurred three miles northwest of the project site in 2018.
Spiny-sepaled button-celery (*Eryngium spinosepalum*)	CNPS 1B	Found in the Sierra Nevada foothills and the San Joaquin Valley in vernal pools, swales, and roadside ditches. Often associated with clay soils in vernal pools within grassland communities. Occurs at elevations between 50 and 4,200 feet. Blooms April – July.	**Absent.** No vernal pools were observed within the project site.
Striped adobe-lily (*Fritillaria striata*)	CT, CNPS 1B	Found in the Sierra Nevada foothills in adobe soil within valley grassland and foothill woodland communities at elevations below 3,300 feet. Blooms February – April.	**Absent.** The habitat required for this species was not observed within the project site. Suitable soil was absent from the project site.
Vernal pool smallscale (*Atriplex persistens*)	CNPS 1B	Occurs in the Central Valley in alkaline vernal pools at elevations below 400 feet. Blooms June – September.	**Absent.** No vernal pools were observed within the project site.
Winter's sunflower (*Helianthus winteri*)	CNPS 1B	Found in the southeastern Sierra Nevada foothills on steep, south-facing grassy slopes, rock outcrops, and road-cuts at elevations ranging from 590-1509 feet. Blooms year-round.	**Unlikely.** The required habitat features such as rock outcrops were not observed within the project site. The most recent recorded observation was one and a half miles northeast of the project site in 2018.

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

Species	Status*	Habitat	Occurrence within the Site
American badger (*Taxidea taxus*)	CSSC	Prefers drier open stages of shrub, forest, and herbaceous habitats with friable soils to burrow, but can be found within numerous habitats throughout California, including the margins of agricultural lands. Needs a	**Unlikely.** The project site lacked a sufficient prey base regularly to support a population of this species. The most recent recorded observation occurred eight miles south of the project site in 1994.

Species	Status*	Habitat	Occurrence within the Site
		sufficient prey base of burrowing rodents.	
Burrowing owl (*Athene cunicularia*)	CC	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.	**Possible.** California ground squirrels and their burrows, and a coyote den were observed. These burrows and dens could used by this species for burrowing along a slope in the ruderal habitat and within the same ruderal field within the east section of the project site. These burrows and dens could used by this species for burrowing. Also, suitable grassland habitat for foraging was observed within the north and east sections of the project site. The most recent recorded observation was five miles west of the project site in 2007.
California condor (*Gymnogyps californianus*)	FE, CE, CFP	Typically nests in cavities in canyon or cliff faces but has also been recorded nesting in giant sequoias in Tulare County. Requires vast expanses of open savannah, grassland, and/or foothill chaparral in mountain ranges of moderate altitude. Forages for carrion up to 100 miles from their roost/nest sites.	**Unlikely.** The species could forage within the project site but there were no suitable nesting locations within the project site or surrounding areas for this species. There were no occurrence records for this species within the 9 quads search in CNDDB.
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.** Vernal pools or upland habitat were not observed within the project site or the surrounding area.
Conservancy fairy shrimp (*Branchinecta conservatio*)	FE	Found in large, turbid freshwater vernal pools in the Central Valley, from Tehama County in the north to Merced County in the south, with one outlying population in Ventura County's Interior Coast Ranges.	**Absent.** Vernal pools were not observed within the project site or the surrounding area.
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.	**Unlikely.** Nectar plants required for this species were not observed within the project site. The most recent recorded observation occurred 10 miles southeast of the project site in 1979.

Species	Status*	Habitat	Occurrence within the Site
Foothill yellow-legged frog – south Sierra Distinct Population Segment (*Rana boylii*)	FC, CE	Frequents rocky streams and rivers with rocky substrate and open, sunny banks in forests, chaparral, and woodlands. Occasionally found in isolated pools, vegetated backwaters, and deep, shaded, spring-fed pools.	**Absent.** Cottonwood Creek and the creek habitat do not contain water regularly to be able to support this species. Additionally, the creek and creek habitat lack habitat features such as rocky substrates to be considered suitable habitat.
Monarch butterfly (*Danaus plexippus*)	FC	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.	**Possible.** Nectar plants were observed that the adults of the species could forage from during migrating/breeding season. The most recent recorded observation occurred 6.5 miles south southeast of the project site in 2023 via iNaturalist. *Asclepias* species that occur regionally would have been blooming and visible at the time of the survey, however none were observed.
Northern California legless lizard (*Anniella pulchra*)	CSSC	Found primarily underground, burrowing in loose, sandy soil. Forages in loose soil and leaf litter during the day. Occasionally observed on the surface at dusk and night.	**Unlikely**. Cottonwood Creek and the creek habitat do not contain a permanent water source to create moist leaf litter conditions that are required for this species. The most recent recorded observation occurred eight miles south of the project site in 2015.
Northern leopard frog (*Lithobates pipiens*)	CSSC	Inhabits grassland, wet meadows, potholes, forests, woodland, brushlands, springs, canals, bogs, marshes, and reservoirs in scattered locations in California. Generally, prefers permanent water with abundant riparian vegetation.	**Unlikely.** Cottonwood Creek, the creek habitat, and the ditch habitat do not contain a permanent water source for this species. The most recent recorded observation occurred three miles northwest of the project site in 1961.
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.	**Unlikely.** Cottonwood Creek and creek habitat do not contain water regularly to be considered suitable habitat for this species. The most recent recorded observation occurred seven and a half miles southwest of the project site in 1895.
Pallid bat (*Antrozous pallidus*)	CSSC	Found in grasslands, chaparral, and woodlands, where it feeds on ground- and vegetation-dwelling arthropods, and occasionally takes insects in flight. Prefers to roost in rock crevices, but may also use tree cavities, caves, bridges, and other human-made structures.	**Unlikely.** The species could forge within the project site. However, there were no suitable roosting or maternal roosting areas within the project site or the surrounding area. The most recent recorded observation occurred six miles south of the project site in 2004.

Species	Status*	Habitat	Occurrence within the Site
San Joaquin kit fox (*Vulpes macrotis mutica*)	FE, CT	Opportunistically forages in a variety of habitats. Dens in burrows within alkali sink, valley grassland, and woodland habitats in valleys and adjacent foothills and in human-made structures in cities, rangeland, and agricultural areas.	**Unlikely.** The project site and the surrounding area lack a sufficient prey base to regularly support a population of this species. The most recent recorded observation occurred five and a half miles southeast of the project site in 1990.
Tipton kangaroo rat (*Dipodomys nitratoides nitratoides*)	FE, CE	Inhabits saltbush scrub and sink scrub communities in the Tulare Lake Basin of the southern San Joaquin Valley. This species needs soft friable soils to burrow.	**Absent.** The required soil and habitat for this species was not observed within the project site or the surrounding area.
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.	**Possible**. Cottonwood Creek and the creek habitat within the project site contained bull rush that could support this species during the nesting bird season. The most recent recorded observation occurred 13 miles southeast of the project site in 2014.
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 were not observed within the project site.
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.** Vernal pools were not observed within the project site or the surrounding area.
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.** Vernal pools were not observed within the project site or the surrounding area.
Western mastiff bat (*Eumops perotis californicus*)	CSSC	Found in open, arid to semi-arid habitats, including dry desert washes, flood plains, chaparral, oak woodland, open ponderosa pine forest, grassland, and agricultural areas, where it feeds on insects in flight. Roosts most commonly in crevices in cliff faces but may also use high buildings and tunnels.	**Unlikely.** The project site does not provide suitable roosting habitat for this species. The most recent recorded observation occurred 11 miles southeast of the project site in 1994.
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	**Unlikely.** No suitable habitat for the adult phase of this species was observed within the project site. The most recent recorded

Species	Status*	Habitat	Occurrence within the Site
		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.	observation occurred one mile northeast of the project site in 2011.
Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*)	FT, CE	Suitable nesting habitat in California includes dense riparian willow-cottonwood and mesquite habitats along a perennial river. Once common in the California Central Valley, as well as coastal valleys and riparian habitats east of the Sierra Nevada, habitat loss now constrains the California breeding population to small numbers of birds.	**Absent.** The project site is outside the current known range of this species.
Willow flycatcher (*Empidonax traillii*)	CE	For nesting inhabits extensive thickets of low, dense willows/cottonwood on the edges of wet meadows, ponds, or backwaters below 8,500 feet in elevation. Habitats not suitable for nesting could still be used for migration and foraging.	**Unlikely.** Cottonwood Creek and the creek habitat contain marginal riparian habitat for this species including Fremont's cottonwoods. However, the trees were not at a high enough density within the project site that the species would use the trees for nesting. The most recent recorded observation was 6.77 miles from the project site in 1988.

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

Possible:	Species not observed on the project site, but it could occur there from time to time.
Unlikely:	Species not observed on the project site, and would not be expected to occur there except, perhaps, as a transient.
Absent:	Species not observed on the project 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)	CC	California Candidate
		CT	California Threatened
		CFP	California Fully Protected
		CSSC	California Species of Special Concern

CNPS LISTING

1B	Plants rare, threatened, or endangered in California and elsewhere.	2B	Plants rare, threatened, or endangered in California, but more common elsewhere.

3 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 requiring removal of vegetation may result in the mortality or displacement of animals associated with this vegetation. Animals adapted to humans, roads, buildings, and pets may replace those species formerly occurring on a site. Plants and animals that are 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."

3.2 RELEVANT GOALS, POLICIES, AND LAWS

3.2.1 TULARE COUNTY ORDINANCE

The Tulare County General Plan contains the following goals and policies related to the project:

3.2.1.1.1 BIOLOGICAL RESOURCES

ERM-1: To preserve and protect sensitive significant habitats, enhance biodiversity, and promote healthy ecosystems throughout the County.

ERM-1.1: Protection of Rare and Endangered Species The County shall ensure the protection of environmentally sensitive wildlife and plant life, including those species designated as rare, threatened, and/or endangered by State and/or Federal government, through compatible land use development.

3.2.1.1.2 WATER QUALITY

WR-2: To provide for the current and long-range water needs of the County and for the protection of the quality of surface water and groundwater resources.

WR-2.1: Protect Water Quality All major land use and development plans shall be evaluated as to their potential to create surface and groundwater contamination hazards from point and non-point sources. The County shall confer with other appropriate agencies, as necessary, to assure adequate water quality review to prevent soil erosion; direct discharge of potentially harmful substances; ground leaching from storage of raw materials, petroleum products, or wastes; floating debris; and runoff from the site.

WR-2.3: Best Management Practices (BMPs) The County shall continue to require the use of feasible BMPs and other mitigation measures designed to protect surface water and groundwater from the adverse effects of construction activities, agricultural operations requiring a County Permit and urban runoff in coordination with the Water Quality Control Board.

3.2.1.1.3 WATER SUPPLY

WR-3: To provide a sustainable, long-term supply of water resources to meet domestic, agricultural, industrial, and recreational needs and to assure that new urban development is consistent with available water resources.

WR-3.3: Adequate Water Availability The County shall review new development proposals to ensure the intensity and timing of growth will be consistent with the availability of adequate water supplies. Projects must submit a Will-Serve letter as part of the application process, and provide evidence of adequate and sustainable water availability prior to approval of the tentative map or other urban development entitlement.

WR-3.4: Water Resource Planning The County shall continue participation in State, regional, and local water resource planning efforts affecting water resource supply and quality.

WR-3.6: Water Use Efficiency The County shall support educational programs targeted at reducing water consumption and enhancing groundwater recharge.

WR-3.7: Emergency Water Conservation Plan The County shall develop an emergency water conservation plan for County operated water systems to identify appropriate conservation policies that can be implemented during times of water shortages caused by drought, loss of one or more major sources of supply, contamination of one or more sources of supply, or other natural or man-made events.

WR-3.8: Educational Programs The County shall encourage the development of educational programs,

both by water purveyors and public agencies, in order to increase public awareness of water conservation opportunities and the potential benefits of implementing conservation measures and programs including water quality.

WR-3.10: Diversion of Surface Water Diversions of surface water or runoff from precipitation should be prevented where such diversions may cause a reduction in water available for groundwater recharge.

WR-3.11: Policy Impacts to Water Resources The County shall monitor actions taken at the federal and State level which impact water resources in order to evaluate the effects of these actions on the County's resources.

WR-3.12: Joint Water Projects with Neighboring Counties Tulare County will work with neighboring counties to promote development of joint water projects, such as a cross-valley canal, and other efforts to expand water supply.

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. Both agencies review CEQA 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"

The definition of "waters of the United States" (WOTUS) often changes from one presidential administration to the next and can also be affected by the outcomes of court cases involving federal jurisdiction of waters. The current definition (i.e. "Conforming Rule") was adopted under the Biden Administration in early 2023 and was subsequently revised in September 2023 to incorporate the U.S. Supreme Court's May 25, 2023, decision in the case of *Sackett* v. *Environmental Protection Agency* (EPA). The Conforming Rule has adopted much of the same WOTUS designations as the pre-2015 rules but has incorporated the most recent science and court case rulings. 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:

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 United States EPA;*
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 Conforming Rule has incorporated the best available science, relevant supreme court cases, public comment, technical expertise, and experience gained from more than 45 years of implementing the pre-2015 "waters of the United States" framework to inform jurisdictional limits. One significant court case involves the U.S. Supreme Court in its *2001 Solid Waste Agency of Northern Cook County v. United States Army Corps of Engineers (SWANCC)* decision. It was determined that channels and wetlands isolated from other jurisdictional waters cannot be considered jurisdictional on the basis of their use, hypothetical or observed, by migratory birds.

Similarly, in its 2006 consolidated *Carabell/Rapanos* decision, the United States Supreme Court ruled that a significant nexus between a wetland and other navigable waters must exist for the wetland itself to be considered a jurisdictional water. The Supreme Court heard *Sackett* v. *United States EPA* in May 2023, to determine governing standards of a significant nexus between waters of the United States and adjacent wetlands. The court decided that adjacent wetlands would be protected under the CWA only if it maintained a continuous surface water connection with a federal water body. This decision has limited protection for networks of wetlands connected to navigable waters through subsurface flow. The final decision was enacted in September 2023.

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

Under the Porter-Cologne Water Quality Control Act of 1969, the SWRCB has regulatory authority to protect the water quality of all surface water and groundwater in California ("waters of the state"). Nine RWQCBs oversee water quality at the local and regional level. The RWQCB for a given region regulates discharges of fill or pollutants into waters of the state through the issuance of various permits and orders. Discharges into Waters of the State that are also WOTUS require a Section 401 Water Quality Certification from the RWQCB as a prerequisite to obtaining certain federal permits, such as a Section 404 Clean Water Act permit. Discharges into all Waters of the State, even those that are not also 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 a NPDES permit.

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

3.3 POTENTIALLY SIGNIFICANT PROJECT-RELATED IMPACTS AND MITIGATION

Species protected by California Fish and Game Code, CDFW, USFWS, or CEQA that have the potential to be impacted by project activities include: burrowing owl (BUOW), tricolored blackbird, and other migratory birds and raptors. Corresponding mitigation measures can be found below.

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

The project site contains suitable nesting and foraging habitat for a variety of protected bird species, such as migratory birds, raptors, and special status birds. The survey was conducted during nesting bird season, and one active nest was observed. It is anticipated that during the nesting bird season, protected birds could nest on the ground or in shrubs, trees, or structures within the project site and forage within the project site. BUOW and tricolor blackbird, are the special status bird species likely to occur within the project site. Protected birds located within or adjacent to the project 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 project site or 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 significant impact under CEQA.

While foraging habitat for protected birds is 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 will help the project comply with state and federal laws protecting these bird species.

> Mitigation Measure BIO-1a (***Avoidance***)**:** The project's construction activities will occur, if feasible, between September 1 and January 31 (outside of the nesting bird season) to avoid impacts to nesting birds.
>
> Mitigation Measure BIO-1b (***Pre-construction Surveys***)**:** If activities must occur within the nesting bird season (February 1 to August 30), a "qualified biologist" (someone who is familiar with identifying birds and has performed nesting bird surveys) will conduct a pre-construction survey for active nests within five (5) calendar days prior to the start of construction. It will be completed

within the project site, and up to 100 feet outside of the project site for nesting migratory birds and up to 500 feet outside of the project site for nesting raptors. Raptor nests are considered "active" upon the nest-building stage. If no active nests are observed, no further mitigation is required. A "qualified biologist" will conduct pre-construction surveys for tricolored blackbird nests and breeding colonies within seven (7) days prior to the start of construction. The "qualified biologist" will survey for tricolored blackbird nests onsite and within a 300-foot radius. This one-time take avoidance survey will be conducted in accordance with the Staff Guidance Regarding Avoidance of Impacts to Tricolored Blackbird Breeding Colonies on Agricultural Fields (California Department of Fish and Wildlife 2015), or current guidance.

Mitigation Measure BIO-1c (*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. If necessary, avoidance buffers will be identified with flagging, fencing, or other easily visible means, and will be maintained until the biologist has determined that the nestlings have fledged.

3.3.2 PROJECT-RELATED MORTALITY AND/OR DISTURBANCE TO BURROWING OWL

The project area contains suitable nesting and foraging habitat for BUOWs. Construction activities that adversely affect the nesting success of BUOWs or result in the mortality of individuals constitute a violation of state and federal laws and would be considered a significant impact under CEQA. Implementation of the following measures would reduce potential impacts to nesting or roosting BUOW to a less than significant level under CEQA and ensure compliance with state and federal laws protecting this avian species.

Mitigation Measure BIO-2a (*Pre-construction Take Avoidance Survey*): A "qualified biologist" (someone who is familiar with identifying the species, is familiar with the species' year-round habitat use, and can identify the species) will conduct a pre-construction take avoidance survey for BUOW and suitable burrows, in accordance with CDFW's Staff Report on Burrowing Owl Mitigation (2012), within seven (7) days prior to the start of construction activities. The survey shall include the proposed work area and surrounding lands up to 500 feet. If construction is halted for more than seven (7) consecutive days, another preconstruction survey shall be completed prior to the reinitiation of construction activities.

Mitigation Measure BIO-2b (*Avoidance*): If an active BUOW burrow is detected, the occurrence will be reported to the CNDDB, and avoidance buffers shall be implemented. 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 burrow(s), and the level of project disturbance. If necessary, avoidance buffers will be identified with flagging, fencing, or other easily visible means, and will be maintained until the biologist has determined that the nestlings have fledged and all BUOW have left the project area.

Mitigation Measure BIO-2c (*Formal Consultation*): If BUOW is detected during surveys and cannot be avoided, consultation with CDFW is warranted to discuss how to implement the project and avoid take. If take cannot be avoided, take authorization through the acquisition of an ITP pursuant to Fish and Game Code section 2081, subdivision (b) is necessary to comply with CESA.

3.3.3 PROJECT-RELATED IMPACTS TO MONARCH BUTTERFLIES

Both ruderal fields, the ditch, and creek habitats had species of flowering plants that could be used as a food source for migrating/breeding monarch butterflies. However, if any individual(s) are on-site during project activities, they would be expected to leave the site if disturbed. Additionally, larval host plants were absent from the project site at the time of the field survey.

3.3.4 PROJECT-RELATED IMPACTS TO WILDLIFE MOVEMENT CORRIDORS

Cottonwood Creek could function as a wildlife movement corridor for native wildlife that may normally avoid passing through areas within the project site due to activities or from the level of disturbed habitat within the project site.

Implementation of the following measures would reduce potential impacts to wildlife movement corridors to a less than significant level under CEQA and ensure compliance with state and federal laws protecting this avian species.

> **Mitigation Measure BIO-4a (Operational Hours):** Construction activities should be limited to a half hour after sunrise through a half hour before sunset to reduce potential impacts to wildlife movement corridors.
>
> **Mitigation Measure BIO-4b (Wildlife Access):** Access should not be blocked outside of construction hours or during overnight hours or weekends. If construction must block both sides of a wildlife access route, an alternative route through the construction area should be identified by a "qualified biologist" and maintained throughout the construction schedule timeframe.
>
> **Mitigation Measure BIO-4c (Cover Excavations):** Pipeline/culvert/siphon excavations and vertical pipes should be covered each night to prevent wildlife from falling in and becoming trapped or injured during migratory or dispersal movements.

3.4 LESS THAN SIGNIFICANT PROJECT-RELATED IMPACTS

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

Of the 19 regionally occurring special status plant species, 19 are considered absent from or unlikely to occur within the project site due to past or ongoing disturbance and/or the absence of suitable habitat. These species include alkali-sink goldfields, calico monkeyflower, California alkali grass, California satintail, Coulter's goldfields, Earlimart orache, Greene's tuctoria, Hoover's spurge, Kaweah brodiaea, lesser saltscale, recurved larkspur, San Joaquin adobe sunburst, San Joaquin Valley Orcutt grass, Sanford's arrowhead, spiny-sepaled button-celery, striped adobe-lily, vernal pool smallscale, Winter's sunflower. Since it is unlikely that these species would occur onsite, implementation of the project should have no impact on these 19 special status species through construction mortality, disturbance, or loss of habitat. Mitigation measures are not warranted.

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

Of the 22 regionally occurring special status animal species, 19 are considered absent from or unlikely to occur within the project site due to past or ongoing disturbance and/or the absence of suitable habitat. These species include: American badger, California condor, California tiger salamander, Conservancy fairy shrimp, Crotch's bumble bee, foothill yellow-legged frog, northern California legless lizard, northern leopard frog, northwestern pond turtle, pallid bat, San Joaquin kit fox, Tipton kangaroo rat, valley elderberry longhorn beetle, vernal pool fairy shrimp, vernal pool tadpole shrimp, western mastiff bat, western yellow-billed cuckoo, western spadefoot, and willow-flycatcher.

Since it is unlikely that these species would occur onsite, implementation of the project should have no impact on these 19 special status species through construction mortality, disturbance, or loss of habitat. Mitigation measures are not warranted.

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

No trees adjacent to Cottonwood Creek will be disturbed during project activities. There are no CNDDB-designated "natural communities of special concern" recorded within the project site or surrounding lands. Mitigation is not warranted.

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

An ARD was conducted on July 7 and November 22, 2024, to evaluate the site for potential waters of the United States and delineate potential jurisdictional boundaries of these features. The investigation and delineation were conducted in accordance with the 1987 *Corps of Engineers Wetland Delineation Manual*, and the *Arid West Regional Supplement* (United States Army Corps of Engineers 1987).

The Cottonwood Creek within the project area, below the ordinary high-water mark, could most likely fall under the jurisdiction of USACE as a waters of the United States and construction activities in this area could be subject to USACE permit requirements pursuant to Section 404 of the CWA. This project may be authorized under a Nationwide Permit but could require an individual permit if Nationwide Permit limits are exceeded. In addition, a Section 401 of the CWA Water Quality Certification from the RWQCB is required for dredge and fill of waters of the State and activities must meet State water quality standards. These permits and certifications are typically issued on the condition that the applicant agrees to provide mitigation that result in no net loss of wetland functions, jurisdictional waters or beneficial uses.

If the project's construction work could result in impacts to waters of the United States, the project proponent will be required to secure permits from USACE and RWQCB. Compliance with each permit requires avoidance, minimization, and mitigation measures to ensure that project-related impacts to these potentially jurisdictional waters are less-than-significant in nature or are fully mitigated.

Project activities with potential to alter the Creek including the bed, bank, floodplain and associated riparian habitat, and would be within CDFWs jurisdiction, pursuant to Section 1602 of the California Fish and Game Code. The project proponent would be required to notify CDFW if the project's activities have potential to impact rivers, streams, or the riparian corridor of any aquatic features onsite that may be beneficial to fish or wildlife resources. If CDFW determines that the project could potentially adversely affect fish and wildlife resources and/or riparian habitat, a Lake or Streambed Alteration (LSA) Agreement would be issued prior to construction. LSA Agreements are typically issued with mandatory avoidance and minimization measures, protective measures for special status species, and required compensatory mitigation for removal of riparian trees, shrubs, and herbaceous cover along the banks. Compliance with measures of the LSA Agreement would ensure that the project's impacts to aquatic features and riparian habitat within CDFW's jurisdiction remain less-than-significant or are fully mitigated.

There are no designated wild and scenic rivers within the project area; therefore, the project would not result in direct impacts to wild and scenic rivers. Compliance with USACE, RWQCB, and CDFW permits, certifications, and agreements would ensure there are no indirect downstream effects to jurisdictional waters.

Since construction would involve ground disturbance over an area greater than one acre, the project would also be required to obtain a Construction General Permit under the Construction Storm Water Program administered by the RWQCB. A prerequisite for this permit is the development of a SWPPP to ensure construction activities do not adversely affect water quality.

3.4.5 PROJECT-RELATED IMPACTS TO CRITICAL HABITAT

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

3.4.6 LOCAL POLICIES OR HABITAT CONSERVATION PLANS

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

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APPENDIX A: REPRESENTATIVE PHOTOS OF THE PROJECT SITE

Photograph 1

Overview of Cottonwood Creek within the project site.

Photograph 2

Overview of a side channel in Cottonwood Creek adjacent to the project site.

Photograph 3

Overview of the vegetation in Cottonwood Creek within the project site.

Photograph 4

Overview of a ruderal field west of Cottonwood Creek.

Photograph 5

Overview a dirt road between Cottonwood Creek and the surround fields.

Photograph 6

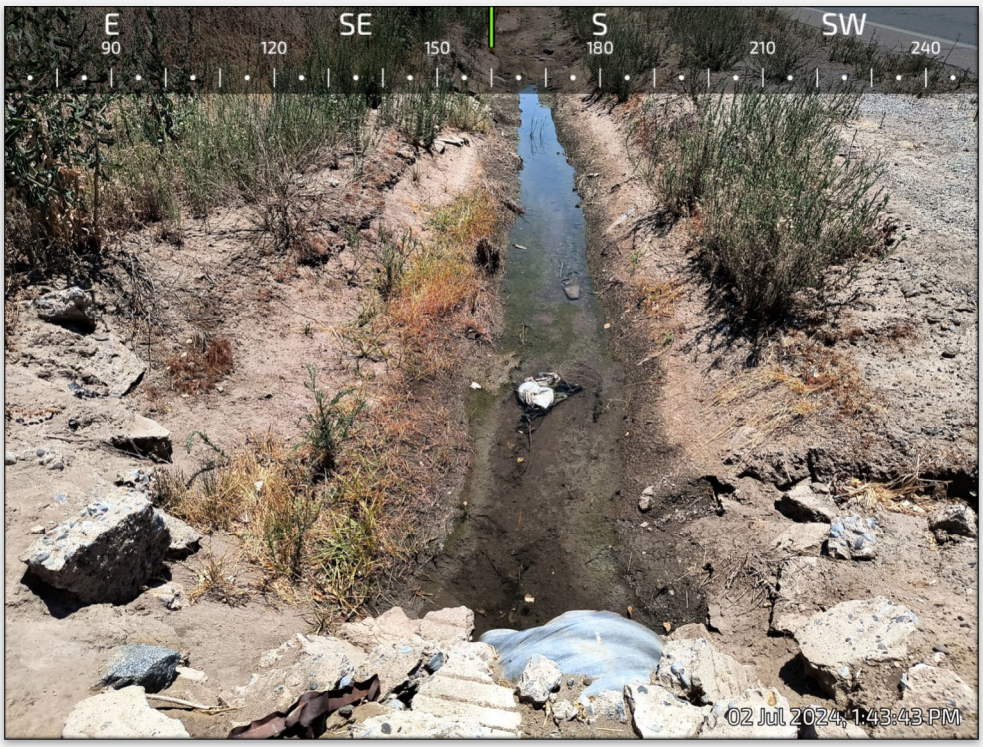
Overview of the second ruderal field south of Cottonwood Creek.

Photograph 7

Vegetation in the field south of the project site.

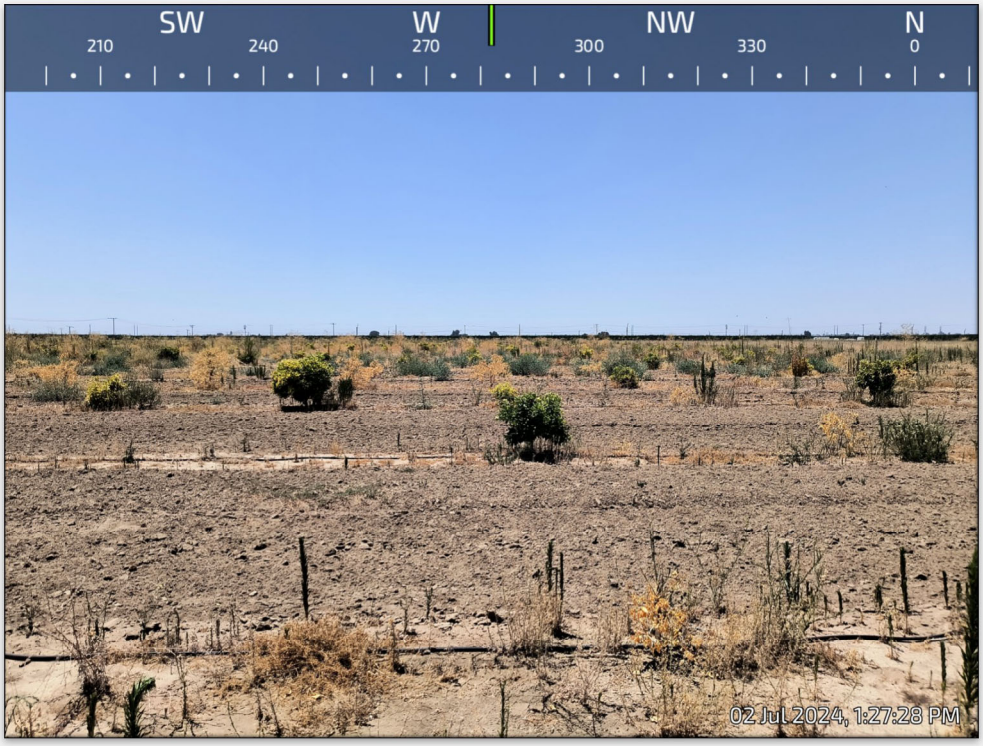
Photograph 8

Orchard and dirt road south of the project site.



Photograph 9

Overview of ditch that ran the length of the project site going north to south.



Photograph 10

Overview of the second orchard with irrigation lines observed within the project site.

Photograph 11

Two redtail hawks and an inactive nest observed adjacent to the project site.

Photograph 12

Black phoebe nest's observed within the project site.

Photograph 13

Small mammal burrow observed within the project site.

Photograph 14

Western king bird chick in nest observed along Cottonwood Creek within the project site.

APPENDIX B: CNDDB 9-QUAD SPECIES LIST

Selected Elements by Element Code

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Ivanhoe (3611942) OR Monson (3611943) OR Woodlake (3611941) OR Orange Cove South (3611953) OR Stokes Mtn. (3611952) OR Auckland (3611951) OR Rocky Hill (3611931) OR Exeter (3611932) OR Visalia (3611933))

Element Code	Species	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
AAAAA01181	***Ambystoma californiense pop. 1*** California tiger salamander - central California DPS	Threatened	Threatened	G2G3T3	S3	WL
AAABF02020	***Spea hammondii*** western spadefoot	Proposed Threatened	None	G2G3	S3S4	SSC
AAABH01055	***Rana boylii pop. 5*** foothill yellow-legged frog - south Sierra DPS	Endangered	Endangered	G3T2	S2	
AAABH01170	***Lithobates pipiens*** northern leopard frog	None	None	G5	S2	SSC
ABNGA04010	***Ardea herodias*** great blue heron	None	None	G5	S4	
ABNRB02022	***Coccyzus americanus occidentalis*** western yellow-billed cuckoo	Threatened	Endangered	G5T2T3	S1	
ABNSB10010	***Athene cunicularia*** burrowing owl	None	None	G4	S2	SSC
ABPAE33040	***Empidonax traillii*** willow flycatcher	None	Endangered	G5	S3	
ABPBXB0020	***Agelaius tricolor*** tricolored blackbird	None	Threatened	G1G2	S2	SSC
AMACC05032	***Lasiurus cinereus*** hoary bat	None	None	G3G4	S4	
AMACC10010	***Antrozous pallidus*** pallid bat	None	None	G4	S3	SSC
AMACD02011	***Eumops perotis californicus*** western mastiff bat	None	None	G4G5T4	S3S4	SSC
AMAJA03041	***Vulpes macrotis mutica*** San Joaquin kit fox	Endangered	Threatened	G4T2	S3	
AMAJF04010	***Taxidea taxus*** American badger	None	None	G5	S3	SSC
ARAAD02030	***Emys marmorata*** western pond turtle	Proposed Threatened	None	G3G4	S3	SSC
ARACC01020	***Anniella pulchra*** Northern California legless lizard	None	None	G3	S2S3	SSC
CTT42120CA	***Valley Sacaton Grassland*** Valley Sacaton Grassland	None	None	G1	S1.1	
CTT44110CA	***Northern Hardpan Vernal Pool*** Northern Hardpan Vernal Pool	None	None	G3	S3.1	
CTT44120CA	***Northern Claypan Vernal Pool*** Northern Claypan Vernal Pool	None	None	G1	S1.1	

Element Code	Species	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
CTT61430CA	***Great Valley Valley Oak Riparian Forest*** Great Valley Valley Oak Riparian Forest	None	None	G1	S1.1	
CTT62100CA	***Sycamore Alluvial Woodland*** Sycamore Alluvial Woodland	None	None	G1	S1.1	
ICBRA03030	***Branchinecta lynchi*** vernal pool fairy shrimp	Threatened	None	G3	S3	
ICBRA06010	***Linderiella occidentalis*** California linderiella	None	None	G2G3	S2S3	
ICBRA10010	***Lepidurus packardi*** vernal pool tadpole shrimp	Endangered	None	G3	S3	
IICOL48011	***Desmocerus californicus dimorphus*** valley elderberry longhorn beetle	Threatened	None	G3T3	S3	
IICOL4C010	***Lytta hoppingi*** Hopping's blister beetle	None	None	G1G2	S2	
IICOL4C030	***Lytta molesta*** molestan blister beetle	None	None	G2	S2	
IIHYM24260	***Bombus pensylvanicus*** American bumble bee	None	None	G3G4	S2	
IIHYM24460	***Bombus morrisoni*** Morrison bumble bee	None	None	G3	S1S2	
IIHYM24480	***Bombus crotchii*** Crotch's bumble bee	None	Candidate Endangered	G2	S2	
IIHYM72010	***Chrysis tularensis*** Tulare cuckoo wasp	None	None	G1G2	S2	
ILARA98020	***Talanites moodyae*** Moody's gnaphosid spider	None	None	G2G3	S2S3	
PDAPI0Z0Y0	***Eryngium spinosepalum*** spiny-sepaled button-celery	None	None	G2	S2	1B.2
PDAST4N260	***Helianthus winteri*** Winter's sunflower	None	None	G2?	S2?	1B.2
PDAST5L030	***Lasthenia chrysantha*** alkali-sink goldfields	None	None	G2	S2	1B.1
PDAST5L0A1	***Lasthenia glabrata ssp. coulteri*** Coulter's goldfields	None	None	G4T2	S2	1B.1
PDAST7P030	***Pseudobahia peirsonii*** San Joaquin adobe sunburst	Threatened	Endangered	G1	S1	1B.1
PDCHE042L0	***Atriplex depressa*** brittlescale	None	None	G2	S2	1B.2
PDCHE042M0	***Atriplex minuscula*** lesser saltscale	None	None	G2	S2	1B.1
PDCHE042P0	***Atriplex persistens*** vernal pool smallscale	None	None	G2	S2	1B.2

Selected Elements by Element Code

California Department of Fish and Wildlife

California Natural Diversity Database

Element Code	Species	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
PDCHE042V0	***Atriplex cordulata var. erecticaulis*** Earlimart orache	None	None	G3T1	S1	1B.2
PDEUP0D150	***Euphorbia hooveri*** Hoover's spurge	Threatened	None	G1	S1	1B.2
PDRAN0B1J0	***Delphinium recurvatum*** recurved larkspur	None	None	G2?	S2	1B.2
PDSCR1B240	***Diplacus pictus*** calico monkeyflower	None	None	G2	S2	1B.2
PMALI040Q0	***Sagittaria sanfordii*** Sanford's arrowhead	None	None	G3	S3	1B.2
PMLIL0C060	***Brodiaea insignis*** Kaweah brodiaea	None	Endangered	G1	S1	1B.2
PMLIL0V0K0	***Fritillaria striata*** striped adobe-lily	None	Threatened	G1	S1	1B.1
PMPOA3D020	***Imperata brevifolia*** California satintail	None	None	G3	S3	2B.1
PMPOA4G060	***Orcuttia inaequalis*** San Joaquin Valley Orcutt grass	Threatened	Endangered	G1	S1	1B.1
PMPOA53110	***Puccinellia simplex*** California alkali grass	None	None	G2	S2	1B.2
PMPOA6N010	***Tuctoria greenei*** Greene's tuctoria	Endangered	Rare	G1	S1	1B.1

Record Count: 51

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: 12/03/2024 00:07:51 UTC
Project Code: 2025-0006038
Project Name: East Kaweah MLRP

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, intentional or unintentional, 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.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. 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: 2025-0006038
Project Name: East Kaweah MLRP
Project Type: Water Supply Facility - New Constr
Project Description: The EKGSA is proposing a project located north of the community of Ivanhoe adjacent to Cottonwood Creek. The Project includes construction of a multi cell recharge basin facility on an approximately 60-acre site. The Project would assist the EKGSA in expanding its groundwater recharge efforts ultimately supporting SGMA. The Project would include a turnout and pump structure with capacity of approximately 30 cubic feet per second. The proposed turnout facility would allow the EKGSA to divert surface water from Cottonwood Creek into the proposed basin area to increase groundwater storage. Diverted water would consist of Central Valley Project water diverted into Cottonwood Creek upstream of the Project site. The proposed facility would consist of a cast-in-place concrete turnout structure, control gate(s), a trash rack, and related appurtenances located northeast of the proposed basin cells along the west bank of Cottonwood Creek. The turnout structure would connect to a pump box structure through approximately 250 linear feet (LF) of reinforced concrete piping (likely 36-inch diameter), equipped with a metered connection, lift pump(s) and would discharge into a distribution channel. The turnout and pump structure excavation depth would be up to 15 feet below ground surface. Approximately six (6) interbasin connection structures would also be constructed to connect the distribution channel to the proposed basin cells. Each connection would be equipped with two structures (in both delivery channel and basin cell), rip rap, and 90 LF of piping. The Project would also include a conservation space area that would be pedestrian accessible. Conservation space would be in the form of graded dirt walking paths around and between the basin cells. In addition, a dirt parking area would be constructed to accommodate vehicles traveling to the site. The dirt parking area is anticipated to be, at maximum, 90,000 square feet. The proposed facilities would be owned and operated by the EKGSA.

Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@36.4481227,-119.21759872067597,14z

Counties: Tulare County, California

ENDANGERED SPECIES ACT SPECIES

There is a total of 12 threatened, endangered, or candidate species on this species list.

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

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

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

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

MAMMALS

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

BIRDS

NAME	STATUS
California Condor *Gymnogyps californianus* Population: Wherever found, except where listed as an experimental population There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8193	Endangered

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

CRUSTACEANS

NAME	STATUS
Conservancy Fairy Shrimp *Branchinecta conservatio* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8246	Endangered
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
Hoover's Spurge *Chamaesyce hooveri* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/3019	Threatened
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: Jenny McCarthy
Address: 1518 Mill Rock Way, Suite 100
City: Bakersfield
State: CA
Zip: 93311
Email jmccarthy@ppeng.com
Phone: 7073842510

APPENDIX D: NRCS WEB SOIL SURVEY REPORT

United States Department of Agriculture

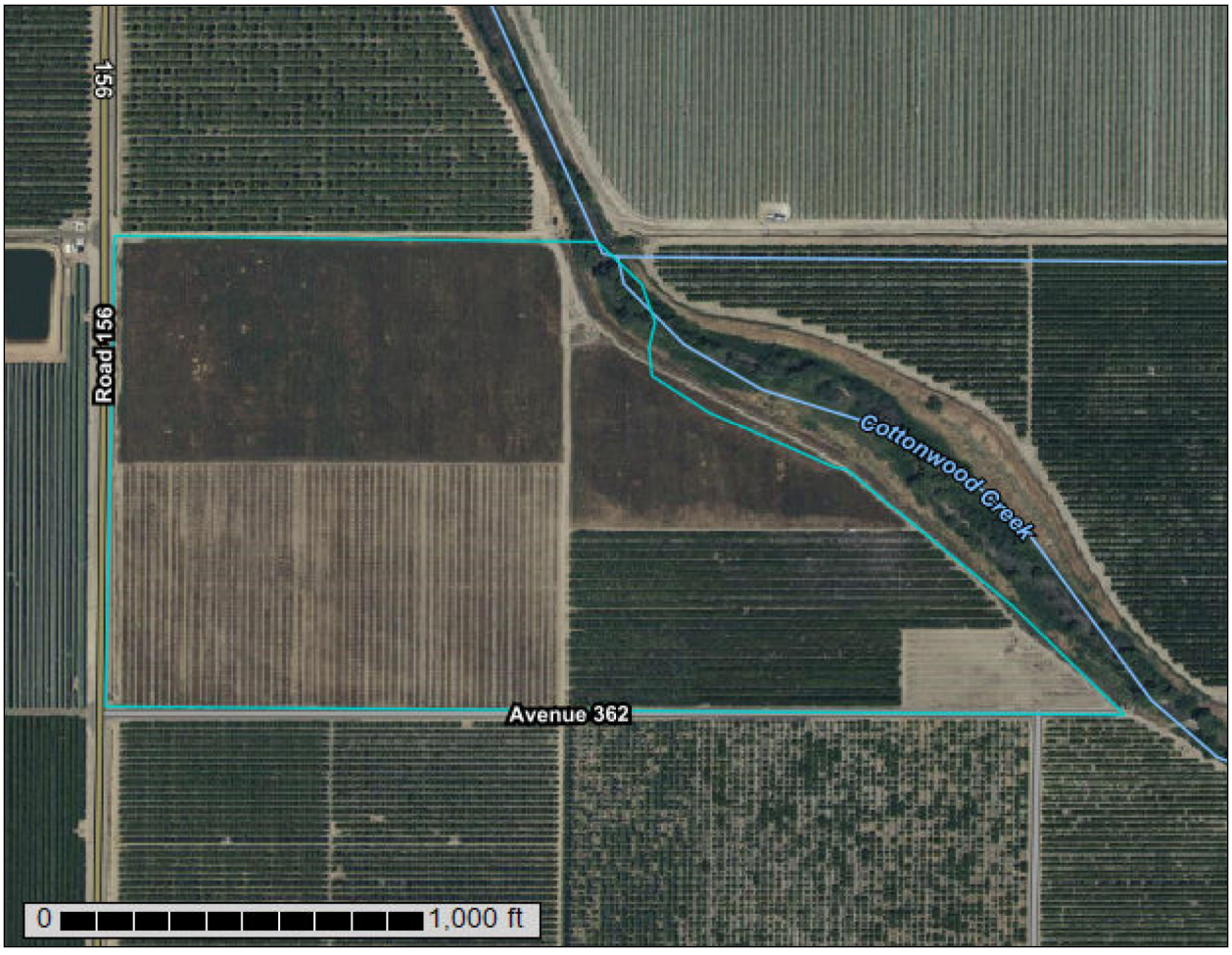
NRCS

Natural Resources Conservation Service

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

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

East Kaweah GSA-MLRP Basin



June 27, 2024

Preface

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

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

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

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

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

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

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

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

Contents

How Soil Surveys Are Made

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

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

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

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

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

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

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

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

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

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

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

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

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

Soil Map

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

Custom Soil Resource Report
Soil Map

Map Scale: 1:4,720 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 50 100 200 300

Feet
0 200 400 800 1200

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N 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: Tulare County, California, Central Part
Survey Area Data: Version 17, Aug 31, 2023

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

Date(s) aerial images were photographed: Mar 16, 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
164	Tujunga sand	14.0	23.2%
176	Yettem sandy loam, 0 to 2 percent slopes	46.2	76.8%
Totals for Area of Interest		**60.2**	**100.0%**

Map Unit Descriptions

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

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

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

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

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

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

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

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

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

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

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

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

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

Tulare County, California, Central Part

164—Tujunga sand

Map Unit Setting

National map unit symbol: hkfs
Elevation: 10 to 2,500 feet
Mean annual precipitation: 10 to 25 inches
Mean annual air temperature: 59 to 64 degrees F
Frost-free period: 280 to 350 days
Farmland classification: Not prime farmland

Map Unit Composition

Tujunga and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Tujunga

Setting

Landform: Alluvial fans
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from granitoid

Typical profile

A - 0 to 16 inches: sand
C - 16 to 60 inches: loamy sand

Properties and qualities

Slope: 0 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 4.2 inches)

Interpretive groups

Land capability classification (irrigated): 3s
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: A
Ecological site: R017XE080CA - SANDY
Hydric soil rating: No

Minor Components

Honcut

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

Unnamed, calcareous
Percent of map unit: 3 percent
Hydric soil rating: No

San emigdio
Percent of map unit: 3 percent
Hydric soil rating: No

176—Yettem sandy loam, 0 to 2 percent slopes

Map Unit Setting
National map unit symbol: hkg5
Elevation: 300 to 1,500 feet
Mean annual precipitation: 10 to 16 inches
Mean annual air temperature: 61 to 64 degrees F
Frost-free period: 250 to 300 days
Farmland classification: Prime farmland if irrigated

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

Description of Yettem

Setting
Landform: Alluvial fans
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from granitoid

Typical profile
A - 0 to 26 inches: sandy loam
C - 26 to 70 inches: sandy loam

Properties and qualities
Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 1 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Moderate (about 6.3 inches)

Interpretive groups

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

Minor Components

San emigdio

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

Havala

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

Grangeville

Percent of map unit: 3 percent
Landform: Alluvial fans
Hydric soil rating: Yes

Tujunga

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

Unnamed, clayey substratum

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

Unnamed

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

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APPENDIX E: ARD REPORT

MULTI-BENEFIT LAND REPURPOSING PROGRAM BASIN PROJECT AQUATIC RESOURCES DELINEATION REPORT

EAST KAWEAH GROUNDWATER SUSTAINABILITY AGENCY
TULARE COUNTY
NOVEMBER 2024

PREPARED FOR:
East Kaweah Groundwater Sustainability Agency
Tulare County

PREPARED BY:
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130 N. GARDEN STREET, VISALIA, CALIFORNIA 93291

Report Prepared for:

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QA/QC: Kira McCall, Associate Environmental Specialist
GIS Specialist: Phil Slater
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EXECUTIVE SUMMARY

Provost & Pritchard Consulting Group conducted a survey for aquatic resources that meet the technical criteria for wetlands and jurisdictional waterways within the East Kaweah Groundwater Sustainability Agency multi-benefit land repurposing program Basin Project site. This Aquatic Resources Delineation report summarizes the results of the survey and will be used to evaluate the jurisdictional determination of waters of the United States located on the Project site (or "site").

The Project site is located adjacent to Cottonwood Creek east of Road 156, north of the community of Ivanhoe in Tulare County. The Project proposes to construct a basin with multiple cells, a delivery facility from Cottonwood Creek to the basin area for recharge, and conservation space most likely in the form of some small walking space in one corner of the lot and in between some of the basin cells and a dirt parking lot in the southeast corner of the site. The Project site is approximately 62 acres and is comprised of a small section of Cottonwood Creek, an existing irrigation ditch, existing dirt access roads, and existing orchards.

P&P biologist, Shaylea Stark, surveyed the Project site for features exhibiting an ordinary high-water mark and/or wetland characteristics and identified and delineated the boundaries of aquatic resources. The survey was conducted in accordance with the most recent United States Army Corps of Engineers guidelines, and information collected was recorded on the *Interim Draft Rapid Ordinary High-Water Mark (OHWM) Field Identification Data Sheet*.

Aquatic resources were investigated and delineated within and adjacent to the site and fell into two aquatic categories: riverine and ditch. The riverine feature delineated totaled 0.3 acres and included Cottonwood Creek, which exhibited a bed, bank, and OHWM line. The ditch feature included approximately 0.14 acres of the unnamed irrigation ditch. Areas outside of these features, but within the Project site, consisted of existing ruderal dirt access roads and orchards.

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ACRONYMS AND ABBREVIATIONS

2023 Rule ..... Biden Administration's "Revised Definition of 'Waters of the United States'"
ARD ..... Aquatic Resources Delineation
CDFW ..... California Department of Fish and Wildlife
CFR ..... Code of Federal Regulations
Creek ..... Cottonwood Creek
CWA ..... Clean Water Act
EPA ..... United States Environmental Protection Agency
°F ..... degrees Fahrenheit
HUC ..... Hydrologic Unit Code
Jurisdictional Waters ..... waters of the United States
LF ..... Linear Feet
MLRP ..... Multi-benefit Land Repurposing Program
NRCS ..... Natural Resources Conservation Service
NWI ..... National Wetlands Inventory
NWPR ..... Navigable Waters Protection Rule
OHWM ..... Ordinary High-Water Mark
Project ..... East Kaweah Groundwater Sustainability Agency MLRP Basin Project
P&P ..... Provost & Pritchard Consulting Group
Sackett ..... *Sackett v. US EPA*
Supreme Court ..... United States Supreme Court
USACE ..... United States Army Corps of Engineers
USGS ..... United States Geographical Survey
Water Board ..... State Water Resources Control Board
WDR ..... waste discharge requirements
WOTUS ..... waters of the United States

1 INTRODUCTION

Provost & Pritchard Consulting Group (P&P) conducted an Aquatic Resources Delineation (ARD) of potential jurisdictional waters of the United States ("WOTUS" or "jurisdictional waters"), as defined by the United States Army Corps of Engineers (USACE; Title 33 Code of Federal Regulations Part 328.3), for the proposed East Kaweah Groundwater Sustainability Agency multi-benefit land repurposing program (MLRP) Basin Project (or "Project"). This ARD Report summarizes the results of the field survey of the 61.6-acre Project site (or "site"), which was conducted on July 2 and November 21, 2024.

The Project proposes to construct a basin with multiple cells, a delivery facility from Cottonwood Creek (Creek) to the basin area for recharge, and conservation space in the form of a small walking space and a dirt parking lot in the southeast corner of the site. The proposed turnout facility would allow the East Kaweah Groundwater Sustainability Agency to divert surface water from the Creek into the proposed basin to increase groundwater storage. The proposed facility would consist of cast in place concrete, a trash rack, and a slide gate located northeast of the proposed basin cells along the west bank of the Creek. The turnout structure would connect to a basin inlet structure through approximately 280 linear feet (LF) of piping, equipped with a metered connection. Interbasin connection structures would also be constructed to connect the distribution channel to the proposed cells. Each connection would be equipped with two structures, rip rap and as much as 90 LF of piping. The Project would also include a conservation space area that would be pedestrian accessible. Conservation space would be in the form of native plantings, graded dirt walking paths around and between basins, and the basin cells. In addition, a dirt parking area would be constructed to accommodate vehicles traveling to the site.

The purpose of the ARD was to identify and delineate aquatic resources within and adjacent to the site and collect information to evaluate the potential for WOTUS in this area. This resulting ARD report describes the Project location, regulatory definitions, survey methods, existing conditions, and survey results, and facilitates efforts to:

1) *Provide background information,*
2) *Document aquatic resource boundary determinations for review by regulatory authorities, and*
3) *Avoid or minimize impacts to aquatic resources during the Project design process.*

Ultimately, this report would be used in determining the extent of WOTUS within the Project site.

2 LOCATION

The 61.6-acre Project site is located adjacent to the Creek east of Road 156, approximately 3.5 miles north of the community of Ivanhoe, and approximately 7 miles northeast of the City if Visalia in Tulare County (see Figure 1). The Project site consists of a small section of the Creek, an existing manmade irrigation ditch, existing dirt access roads, and existing orchards. In all directions the Project site is bordered by ruderal habitat and active orchards. The Creek flows from southeast to northwest within the Project site. See Figure 2 for an aerial image of the Project site.

2.1 DRIVING DIRECTIONS

The Project site is accessible from the City of Visalia by driving north along Road 132. After approximately 7.5 miles, turn right on Avenue 352 and then after 3 miles turn left onto Road 156. After approximately one mile turn right onto Road 160 and the site is directly north of this road.

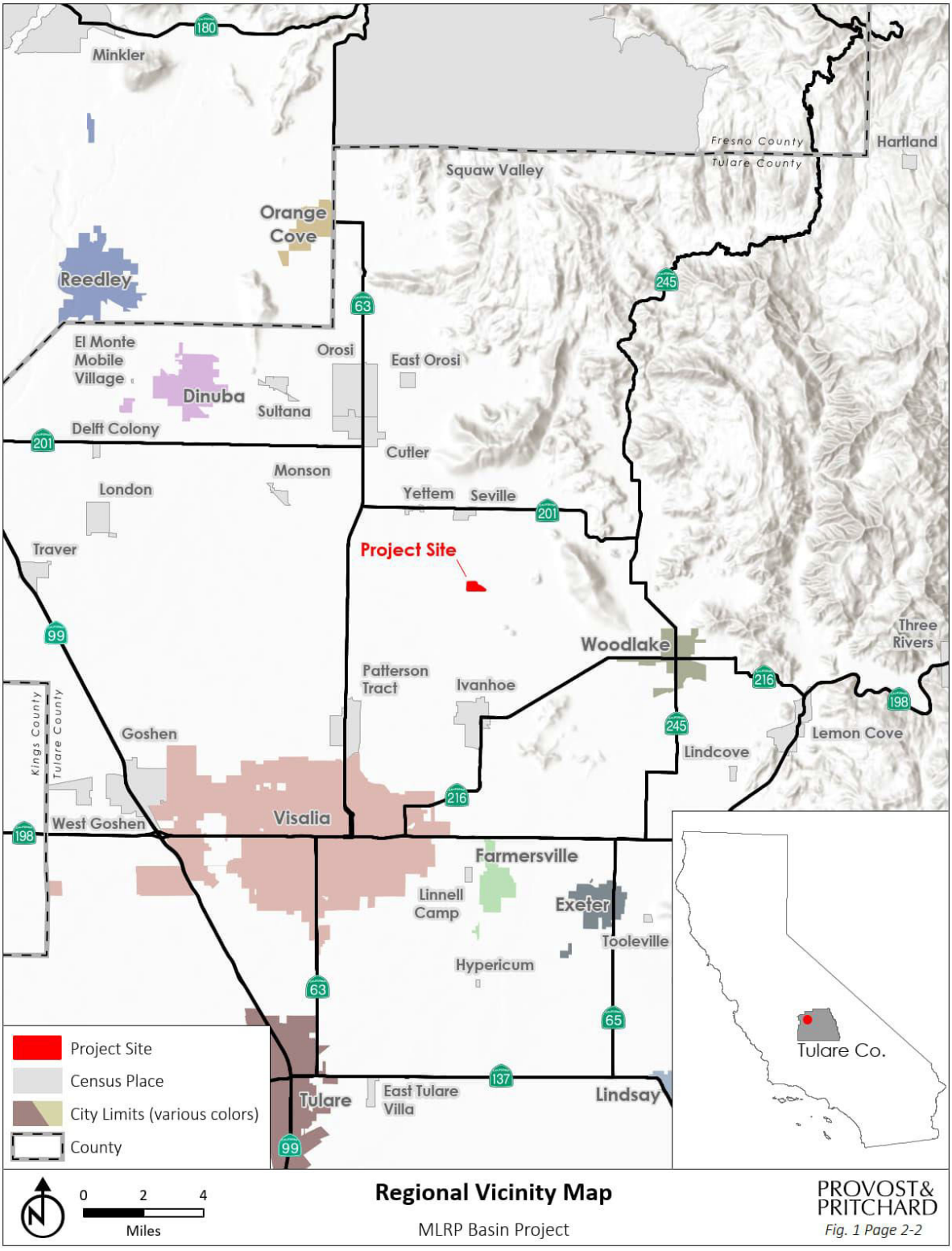

Figure 1: Regional Vicinity Map

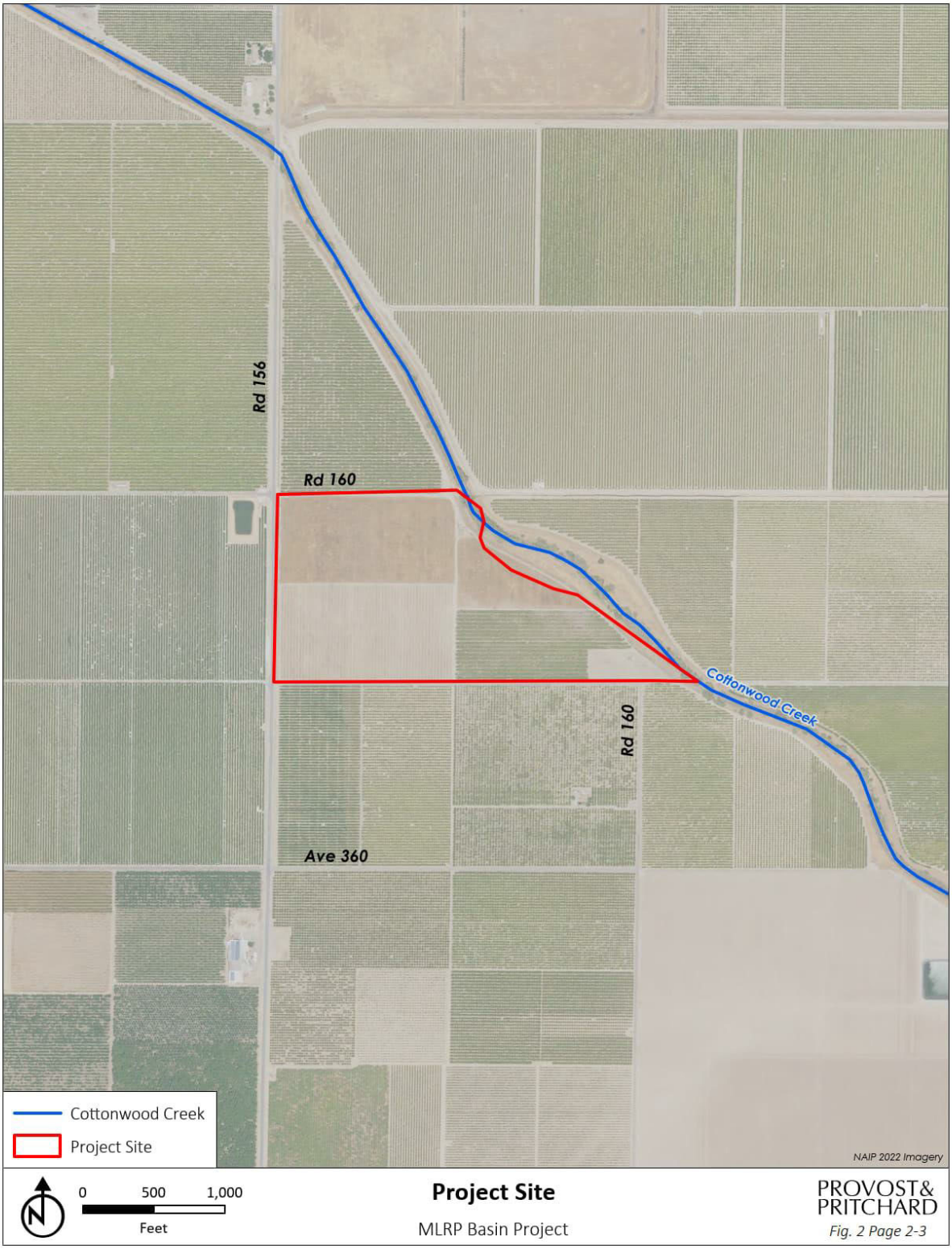

Figure 2: Project Site Map

3 REGULATORY BACKGROUND

3.1 DEVELOPMENT OF THE DEFINITION OF WATERS OF THE UNITED STATES

Section 404 of the Clean Water Act (CWA) establishes a set of guidelines to regulate activities that could result in the discharge of pollutants into "waters of the United States". 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 (EPA) jurisdiction over aquatic features has continually been subject to revision and is described in more detail below.

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, and the extent of jurisdiction is defined by an "ordinary high-water mark" (OHWM) on opposing channel banks.

3.1.1 1986 REGULATIONS

The CWA of 1972, and subsequent amendments, established federal jurisdiction over "navigable waters," or WOTUS. The objective of the CWA was to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters" by implementing standards for water quality and regulating the discharge of toxic materials and pollutants. The CWA gave the EPA and USACE the authority to define "waters of the United States." In 1986, the EPA and USACE adopted regulations (1986 Regulations) defining WOTUS to include traditional navigable waters, territorial seas, interstate waters, and intrastate waters whose use or degradation could affect interstate or foreign commerce. The definition also included tributaries of, and wetlands adjacent to, any of the enumerated categories of waters.

3.1.2 UNITED STATES V. RIVERSIDE BAYVIEW HOMES, INC.

In 1985, the inclusion of wetlands adjacent to WOTUS as federally jurisdictional was contested in *United States v. Riverside Bayview Homes, Inc*. The United States Supreme Court (Supreme Court) unanimously ruled that wetlands adjacent to WOTUS are "inseparably bound up" with the waters they are adjacent to, upholding and confirming the jurisdictional status of adjacent wetlands in the definition of WOTUS.

3.1.3 SOLID WASTE AGENCY OF NORTHERN COOK COUNTY V. UNITED STATES ARMY CORPS OF ENGINEERS

In January 2001, the Supreme Court ruled in *Solid Waste Agency of Northern Cook County v. United States Army Corps of Engineers* that "non-navigable, isolated, intrastate" waters could not be claimed as jurisdictional by the USACE on the basis of their use, hypothetical or observed, by migratory birds. Although the Court did not specifically address the meaning of the word "isolated," it upheld the jurisdictional status of "adjacent" wetlands (and other waters).

3.1.4 CONSOLIDATED CARABELL/RAPANOS DECISION

In June 2006, in the consolidated cases of *Carabell v. United States Army Corps of Engineers* and *Rapanos v. United States* (collectively "Rapanos"), the Supreme Court interpreted the definition of WOTUS to include "relatively permanent, standing or continuously flowing bodies of water" that are connected to traditional navigable waters, as well as wetlands with a "continuous surface connection" to relatively permanent water bodies. Further, WOTUS includes wetlands if they meet the "significant nexus standard," defined as a wetland that "either alone or in combination with similarly situated lands in the region, significantly affect the chemical, physical, and biological integrity of other covered waters more readily understood as

'navigable.'" "In contrast, when a wetland's effects on water quality are speculative or insubstantial, they fall outside the zone fairly encompassed by the statutory term 'navigable waters.'"

On June 5, 2007, the EPA and the USACE jointly issued guidance in interpreting *Rapanos* as it applies to the extent of federal jurisdiction. The agencies revised this guidance memorandum on December 2, 2008, determining that WOTUS included water bodies that satisfied the "relatively permanent" standard or the "significant nexus standard."

The key points of this guidance are that the EPA and the USACE:

1) *Will assert jurisdiction over traditional navigable waters and adjacent wetlands, relatively permanent non-navigable tributaries which typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months), and wetlands that directly abut such tributaries;*
2) *Will decide jurisdiction over relatively impermanent non-navigable tributaries of navigable waters and their adjacent wetlands, and wetlands adjacent to but not directly abutting a relatively permanent non-navigable tributary, based on a fact-specific analysis to determine whether they have a "significant nexus" with a traditional navigable water; and*
3) *Generally, will not assert jurisdiction over swales or erosional features or ditches excavated wholly in and draining only uplands and that do not carry a relatively permanent flow of water.*

In applying the "significant nexus standard," the EPA and USACE would "assess the flow characteristics and functions of the tributary itself and the functions performed by all wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical and biological integrity of downstream traditional navigable waters."

3.1.5 2015 CLEAN WATER RULE

In August 2015, under the Obama Administration, the 2008 *Rapanos* Guidance was replaced by the Clean Water Rule, redefining WOTUS to include four broad categories: (1) waters that are "jurisdictional by rule" with no further analysis, including traditional navigable waters, interstate waters, territorial seas, and impoundments of these waters, (2) tributaries to and waters adjacent to jurisdictional waters that meet the definitions provided by the 2015 Clean Water Rule, (3) waters that qualify under the "significant nexus" standard, following fact-based analysis, and (4) waters categorically excluded from jurisdiction. Many industry groups, states, and environmental groups promptly filed legal challenges to the 2015 Clean Water Rule, resulting in a stay of the rule in several states and the application of pre-2015 regulations.

3.1.6 2020 NAVIGABLE WATERS PROTECTION RULE

On April 21, 2020, under the Trump Administration, the EPA and USACE published the Navigable Waters Protection Rule (NWPR) to clarify the definition of WOTUS and provide a clear distinction between federal waters and waters controlled by states, local governments, and tribes. The NWPR replaced the 2015 Clean Water Rule, redefining the four categories of WOTUS: (1) Traditional navigable waters and the territorial seas, (2) Tributaries of traditional navigable waters and the territorial seas, (3) Lakes, ponds, and impoundments of the first two categories of waters, and (4) Wetlands adjacent to the first three categories of waters.

On August 30, 2021, the United States District Court of the District of Arizona vacated the NWPR in *Pascua Yaqui Tribe v. USEPA*, finding "fundamental, substantive flaws that cannot be cured without revising or replacing the NWPR's definition."

3.1.7 2023 WOTUS RULE

On January 20, 2021, President Biden's Executive Order 13990 directed federal agencies to review regulations issued by the Trump Administration, including the NWPR. On June 9, 2021, EPA and USACE announced their intention to revise the NWPR's definition of WOTUS and restore the pre-2015 regime with

amendments to ensure consistency with Supreme Court decisions. The Biden Administration's "Revised Definition of 'Waters of the United States'" rule (2023 Rule) became effective on March 20, 2023, defining WOTUS to include:

1. Traditional navigable waters, the territorial seas, and interstate waters;
2. Impoundments of other jurisdictional WOTUS, except for those that qualify under category 5, below;
3. Tributaries to either of the above waters and tributaries that meet the "relatively permanent" standard or the "significant nexus" standard, (collectively, "jurisdictional tributaries");
4. Wetlands adjacent to traditional waters, wetlands adjacent and with a continuous surface connection to relatively permanent tributaries and impoundments, and wetlands adjacent to other jurisdictional tributaries when those wetlands meet the "significant nexus" standard; and
5. Intrastate lakes and ponds, streams, or wetlands that are not identified in categories 1–4 above that meet either the "relatively permanent" standard or the "significant nexus" standard.

Adjacent wetlands that are bordering, contiguous or neighboring a jurisdictional water may be considered WOTUS, including wetlands separated from other WOTUS by man-made dikes or barriers, natural river berms, beach dunes, and similarly situated wetlands. However, to be considered jurisdictional, all wetlands must satisfy either the "relatively permanent" or "significant nexus" standards.

Following this decision, district courts in 26 states filed legal challenges to the implementation and application of the rule. The federal agencies announced that, pending resolution of the litigation, they will apply the pre-2015 regulatory regime in the 26 states subject to injunctions and the 2023 Rule in the remaining 24 states, including California.

3.1.8 SACKETT VS. UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

On May 25, 2023, the Supreme Court issued a ruling on *Sackett v. US EPA* (*Sackett*), removing the "significant nexus standard" and clarifying and revising the definition of "adjacent" as it relates to wetlands. The court held that adjacent wetlands would be protected under the CWA only if they maintained a relatively permanent and continuous surface water connection with a traditional navigable water or other jurisdictional waterway. This decision has limited protection for networks of wetlands connected to navigable waters through subsurface flow.

3.1.9 CURRENT ADMINISTRATIVE DEFINITION OF WOTUS

The Biden Administration revised the 2023 WOTUS Rule in September 2023 to incorporate the Supreme Court's May 25, 2023, decision in *Sackett,* resulting in current definition of WOTUS, or "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 under section 328.3, subdivision (b) of title 33 of the CFR have been unchanged and 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 EPA;.

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 court rulings, litigation, and subsequent guidance provided by the EPA and USACE discussed above are presently the basis for determining the jurisdictional status of delineated water resources.

3.2 STATE OF CALIFORNIA JURISDICTION OVER AQUATIC FEATURES

The State of California also asserts jurisdiction over drainages, wetlands, and other aquatic features, and the limits of State jurisdiction differ from those of the EPA and USACE, with jurisdiction often being more inclusive. The California Department of Fish and Wildlife (CDFW) and the State Water Resources Control Board (Water Board) are the two state regulatory agencies responsible for implementing state regulations that identify and protect waters of the state.

3.2.1 CALIFORNIA FISH AND GAME CODE SECTION 1602

CDFW has jurisdiction over the bed and bank of rivers, natural drainages, streams, and lakes pursuant to the provisions of Section 1601 and 1602 of the California Fish and Game Code. A “stream” subject to the jurisdiction of the CDFW has been defined as “a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life” (California Code of Regulations, Title 14). Jurisdiction can include intermittent and ephemeral bodies of water that

may be dry for a period of time. CDFW regulates activities that may substantially modify such waters through diversion or obstruction of natural flow, change or use any material from the bed or bank, or deposit or dispose of any debris within a river, stream, or lake through a Lake or Streambed Alteration Agreement.

3.2.2 PORTER-COLOGNE WATER QUALITY CONTROL ACT

Under the Porter-Cologne Water Quality Control Act of 1969 (Porter-Cologne), the Water Board holds regulatory authority over activities affecting water quality of all surface water and groundwater in California, collectively known as "waters of the state". The Water Board oversees nine regional water boards that implement water quality regulations at the local and regional level. The Water Board and regional water boards adopted the *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State* on April 2, 2019, effective on May 28, 2020, and revised on April 6, 2021, to outline categories of and criteria for waters of the state.

The regional water boards regulate discharges of fill or pollutants into waters of the state through the issuance of various permits and orders. Discharges into waters of the state that are also 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 regional board pursuant to Porter-Cologne.

4 METHODS

Prior to completing the field survey and delineation, several online resources were consulted, including the U.S. Fish and Wildlife Service's National Wetlands Inventory (NWI) Wetland Mapper (United States Fish and Wildlife Service, 2024), EPA Waters GeoViewer (United States Environmental Protection Agency, 2024), the United States Geographical Survey (USGS) National Hydrography Dataset (United States Geological Survey, 2024), the California Aquatic Resources Inventory online dataset (San Francisco Estuary Institute, 2022), historical aerial imagery, and USGS topographic maps. The databases were used to generate a map of potential aquatic resources within the Project site, which assisted in guiding the field delineation (see Appendix B for the NWI Database Aquatic Resources Map).

On July 2 and November 21, 2024, a walking survey and field delineation of the 61.6-acre Project site was conducted by P&P biologist, Shaylea Stark. The Project site was visually inspected to investigate the presence, location, and extent of aquatic resources based on hydrologic, vegetative, and hydric soil indicators, and observations for each aquatic resource were documented. The survey and delineation was conducted in accordance with the guidelines of the *Corps of Engineers Wetland Delineation Manual* (Environmental Laboratory, 1987), the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (United States Army Corps of Engineers, 2008), *A Field Guide to the Identification of the Ordinary High Water Mark in the Arid West Region of the Western United States* (Lichvar & McColley, 2008), and *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State* (State Water Resources Control Board, 2021). Aquatic resource data from the NWI database was also confirmed during the survey to ensure that all potential aquatic resources were investigated.

Plant species throughout the Project site were observed and recorded during the field survey and identified using Jepson eFlora (Jepson Flora Project (eds.), 2024), CalFlora (CalFlora: Information on California plants for education, research and conservation, 2024), the United States Department of Agriculture National Resources Conservation Service (NRCS) Plants Database (United States Department of Agriculture, 2021), and various field guides. Jepson nomenclature was used except where it conflicted with nomenclature in the National Wetland Plant List (NWPL) (United States Army Corps of Engineers, 2023), which was given priority on the data forms. The wetland indicator status of each species was obtained online from the NRCS Plants Database. Table 1 below describes the designated wetland indicator status of plant species according to their frequency of occurrence in wetlands.

Table 1: Wetland Indicator Plant Species Status Ratings

Abbreviation	Indicator Status	Percent Occurrence in Wetlands
OBL	Obligate. Occur almost always under natural conditions in wetlands.	>99
FACW	Facultative Wetland. Usually occur in wetlands but occasionally found in non-wetlands.	67-99
FAC	Facultative. Equally likely to occur in wetlands and non-wetlands.	33-67
FACU	Facultative Upland. Usually occur in non-wetlands but occasionally found in wetlands.	1-33
UPL	Upland. Occur in wetlands in another region but occur almost always under natural conditions in non-wetlands in the region specified.	<1
NL	Not Listed. The species is not listed in the National Wetland Plant List and is likely to have an UPL indicator.	

Information involving soils, hydrology, OHWM, and vegetation was entered onto USACE's *Interim Draft Rapid Ordinary High-Water Mark Field Identification Data Sheet* (Appendix D). A list of vascular plant species observed on the site and the wetland indicator status was summarized and is provided in Appendix F. The boundaries of potential jurisdictional waters were delineated with an Eos Arrow 100 Global Positioning System unit with Sub-meter Global Navigation Satellite System receiver and an Apple iPad with ArcGIS's *Collector* application in the field.

4.1 AREAS MEETING THE TECHNICAL CRITERIA OF WATERS OF THE UNITED STATES

The USACE uses field indicators to determine the boundaries of jurisdictional resources including wetlands, lakes, streams, and rivers.

USACE jurisdiction, based on the current definition of WOTUS, extends to wetlands that are directly adjacent and connected to another jurisdictional waterways. The USACE defines an aquatic resource as a wetland using three characteristics: wetland hydrology, hydrophytic vegetation, and hydric soils, signaling that water is present at least part of the year. All three of these field indicators must be present and are used when determining the delineated boundary.

Wetland hydrology is considered present when either one or more primary indicators is present, or two or more secondary indicators are present. Primary indicators include, but are not limited to, the presence of surface water and saturation. Secondary indicators of wetland hydrology include, but are not limited to, drainage patterns, water marks, drift deposits, saturation observed on historical aerial imagery, and a dry season water table. Hydrophytic vegetation is considered present when more than 50% of the dominant species within the sampling area are composed of obligate, facultative wetland, and facultative species. Soils are classified as hydric if there is evidence of saturation or inundation long enough to develop anaerobic conditions and support the growth of hydrophytic vegetation. The *Field Indicators of Hydric Soils* guide details specific soil color, texture, and stratification criteria that must be present in order to fit one of the hydric soil categories (United States Department of Agriculture, Natural Resources Conservation Service, 2018).

United States Army Corps of Engineers jurisdiction over rivers, streams, and other waters described in Section 3.1 extends to the OHWM, which refers to the "line on the shore established by the fluctuation of water and indicated by physical characteristics such as a clear natural line impressed on the bank, shelving, changes in the character of the soil, destruction of terrestrial vegetation, the presence of litter and debris" 33 Code of Federal Regulations 328.3(e). The OHWM is the defining feature for identifying the lateral limits of non-wetland waters, and the boundary is determined by observing geomorphic indicators listed above. The determination of the OHWM location in the field does not require the presence of any specific indicator but is delineated by identifying and connecting a combination of indicators. Field indicators for the OHWM can also include undercutting and erosion of banks, water staining, bent vegetation in the orientation of water flow, and changes in the vertical distribution of soil particle size.

5 EXISTING CONDITIONS

5.1 LANDSCAPE SETTING

5.1.1 TOPOGRAPHY

The site is located within the *Ivanhoe* U.S. Geological Survey 7.5-minute quadrangle in the western portion of Section 13, Township 17 South, Range 25 East (see Appendix B for Topographic Map). The topography of the site is relatively flat with the Creek approximately 10 feet lower than the rest of the site. Elevations are approximately 355 feet above mean sea level.

5.1.2 CLIMATE

Like most of California, the Project site experiences a Mediterranean climate. Warm, dry summers are followed by cool, moist winters. In the summer, average high temperatures range between 88- and 96-degrees Fahrenheit (°F), but often exceed 96 °F, and the humidity is generally low. Winter temperatures are often below 60 °F during the day and rarely exceed 65 °F. On average, the City of Visalia receives approximately 10.9 inches of precipitation in the form of rain yearly, most of which occurs between October and May, (Weatherspark.com) and the Project site would be expected to receive similar amounts of precipitation.

5.1.3 HYDROLOGY

A watershed is the topographic region that drains into a stream, river, lake, or ocean. Watersheds are made up of many smaller subwatersheds that drain into a particular stream, river, or lake, or infiltrate the ground before reaching a particular water body. The Project site lies within the Lower Cottonwood Creek watershed; Hydrologic Unit Code (HUC): 1803000710 and one subwatershed: Stone Corral Canyon-Cottonwood Creek; HUC: 180300071001. The nearest surface waters to the Project, according to the NWI database, are Cottonwood Creek, which flows from southeast to northwest through the Project site, and the unnamed irrigation ditch along the west boundary of the site.

The nearest surface water to the Project is the Creek which is within the site. The Creek is fed by stormwater or snowmelt runoff from upland areas. The Creek flows into the valley where it eventually connects to Cross Creek which flows into Middle Branch Cross Creek Canal. This Canal connects with the Tule River which terminates in the Tulare Lakebed (USGS.gov).

5.1.4 SOILS

Two soil mapping units, representing two soil types were identified within the Project site using the NRCS Web Soil Survey mapping service and are listed in Table 2 (see Appendix E for the Web Soil Survey Report). The soils are displayed with their core properties in the table below, according to the Major Land Resource Area of California. Both soils are primarily used for crops, grazing, and wildlife habitat.

Table 2: List of Soils Located on the Site and Their Basic Properties

Soil Series	Soil Map Unit	Percent of Site	Hydric Soil Category	Drainage	Permeability	Runoff
Tujunga	Sand	23.8%	Nonhydric	Somewhat excessively drained	High saturated hydraulic	Negligible to low
Yettem	Sandy loam, 0 to 2 percent slopes	76.2%	Predominantly nonhydric	Well drained	Moderately rapid	Negligible or very low

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. None of the major soil mapping units were identified as hydric and one minor soil mapping unit from the Yettem soil series making up 3% of the site was identified as hydric.

Tujunga sand corresponds to the east portion of the site containing the Creek and the adjacent areas to the Creek. Yettem sandy loam corresponds to the remainder of the site.

6 RESULTS

Aquatic resources and upland habitats were found within the Project site and are described in detail below. Delineated aquatic resources are shown in the USACE ARD map located in Appendix A.

6.1 AQUATIC RESOURCES

According to the review of online resources, the Project site had the potential to include aquatic resources such as riverine channels (see Appendix B). The results of the survey ultimately yielded two types of aquatic resources: riverine and ditch.

6.1.1 RIVERINE

Resources classified as riverine within the Project site included the Creek. Several indicators were observed during the field survey that led to the determination of the OHWM of the Creek. Because the channel within the Project site is downstream of a canal that spills into the Creek the natural flow patterns have been slightly altered (see Appendix C, Photo 6). Clear indicators of the OHWM were observed during the survey including a break in slope with a change in vegetation density and type at the OHWM. Mature, deciduous riparian trees occur along the edge of the OHWM while herbaceous marsh species and few tree saplings grew below the OHWM. The areas below the OHWM exhibited evidence of pooling and scour holes downstream of vegetative obstructions (see Appendix C, Photo 1). Silt deposits and muddy point bars lined the channel, and there was evidence of silt deposits on the stand of cattails within the Creek. Matted down vegetation in the direction of water flow and water-stained leaves occurred below the OHWM (see Appendix C, Photo 2). At the southeast corner of the Project site, there was a noticeable break in slope and shelving in some areas, indicating the location of the OHWM. Some indicators were given more weight than others, particularly the vegetative indicators and break in slope (see Appendix C, Photo 3, 4, and 5), as parts of the Creek's flow patterns have been altered by manmade inputs.

Vegetation observed in the riverine habitat below the OHWM within the Project site included Fremont cottonwood (*Populus fremontii*; FACW), mistletoe (*Viscum album*; NL), hardstem bulrush (*Schoenoplectus acutus*; OBL), Himalayan blackberry (*Rubus armeniacus*; FAC), white sweet clover (*Melilotus albus*; NL), floating primrose-willow (*Ludwigia peploides*; OBL), beardless rabbit's-foot grass (*Polypogon viridis*; NL), California cocklebur (*Xanthium orientale*; NL), tall flat sedge (*Cyperus eragrostis*; FACW), and barnyard grass (*Echinochloa crus-galli*; FACW). Vegetation observed in the riverine habitat above the OHWM included prickly lettuce (*Lactuca serriola*, FACU), rough hedge nettle (*Stachys rigida*; FACW), milk thistle (*Silybum marianum*; NL), poison hemlock (*Conium maculatum*; FACW), annual rabbitsfoot grass (*Polypogon monspeliensis*; FACW), and dock-leaf smartweed (*Persicaria lapathifolia*; FACW).

6.1.2 DITCH

An unnamed irrigation ditch on the west side of the site was delineated. According to online databases this ditch transports water to agricultural fields and terminates along the road shoulder. The earthen ditch was primarily bare along the bed of the Creek but was vegetated with FACU species along the banks. The transition area between vegetated and bare areas provided a clear indicator of the OHWM. This indicator coincided with a slight break in slope along the banks. Silt deposition occurred on the rock headwalls where two culverts were constructed within the channel, indicating the location of the OHWM (see Appendix C, Photo 8 and 9). Vegetative community and density transition, coupled with the observed erosional features within the ditch provided the strongest indication of the location of the OHWM (see Appendix C, 7, 8, and 10).

Vegetation observed in the ditch habitat within the Project site included prickly lettuce, flax-leaf fleabane (*Conyza bonariensis*; NL), brown beetle-grass (*Leptochloa fusca*; NL), horseweed (*Erigeron canadensis*; FACU), Johnson grass (*Sorghum halepense*; FACU), tall flatsedge, and jungle rice (*Echinochloa colona*; FAC).

Table 3: Aquatic Resources Within the Project Site

Aquatic Resource	Cowardin Code	Area (acres)	Linear feet	Water Type	Coordinates
Cottonwood Creek	PEM1Cx	0.30	153	Emergent Wetland	36.4496387, -119.2187535
Unnamed ditch*	N/A	0.14	1,220	Ditch	36.4466392, -119.2234581

Cowardin Code: PEM1Cx – Palustrine, Emergent, Persistent, Seasonally Flooded, Excavated
*Not located within the NWI

6.2 UPLAND

Two upland habitat types were observed within the Project site and included ruderal and orchard habitat, which are described in more detail below.

6.2.1 RUDERAL

The Project site contained ruderal habitat which consisted of hard-packed dirt access roads. It has been heavily disturbed by agricultural activities related to the orchards on site. Vegetation observed within the ruderal habitat included sacred thorn-apple (*Datura wrightii*; UPL), tree tobacco (*Nicotiana glauca*; FAC), giant wildrye (*Leymus condensatus*; FACU), giant reed (*Arundo donax*; FACW), great mullein (*Verbascum thapsus*; FACU), yellow star-thistle (*Centaurea solstitialis*; NL), lamb's quarters (*Chenopodium album*; FACU), fiddle neck (*Amsinckia sp.*; NL), horseweed, poison hemlock, milk thistle, shortpod mustard (*Hirschfeldia incana*; NL), asthma weed (*Erigeron bonariensis*; FACU), pomegranate (*Punica granatum*; NL), common myrtle (*Myrtus communis*; NL), and flatspine bur ragweed (*Ambrosia acanthicarpa*; NL).

While one facultative-wetland plant species was established in this habitat, wetland plant species were neither dominant, nor prevalent, leading to the conclusion that hydric soils are absent from this habitat. Indicators of wetland hydrology and wetland soils were also absent within the ruderal habitat, which suggests that these areas would not meet the current definition of a wetland.

6.2.2 ORCHARD

The Project site contained two orchards within the Project site at different stages of production. This habitat has been heavily disturbed by agriculture activities related to the orchards. Vegetation observed in this habitat included mandarin orange (*Citrus* x *aurantium*; NL), tree tobacco, poison hemlock, horseweed, and Douglas' wormwood (*Artemisia douglasiana*; FAC).

Ultimately, areas classified as upland habitat exhibited no wetland hydrology features, hydric soil indicators, or predominantly hydrophytic vegetation species.

A list of vascular plant species observed on the site was documented and is provided in Appendix E.

7 DISCUSSION

The Creek and the unnamed ditch were the only aquatic resources observed within the Project site. The Creek exhibited a bed, bank, and several indicators determining the location of the OHWM including a break in slope with a transition in vegetation density and composition, erosional features observed in the channel leading to pooling, and silt deposits. The Creek connects downstream to a system of irrigation canals and eventually flows into the Tule River, a known WOTUS. Therefore, it could be considered an a(3) tributary under the definition of WOTUS.

The unnamed ditch exhibited a bed, bank, and several indicators determining the location of the OHWM including a transition in vegetation density and composition, and a break in slope. According to online databases, this ditch transports water to agricultural fields and terminates along the road shoulder. Therefore, it could be considered a drainage or irrigation ditch and activities impacting this ditch would be outside of USACE regulation.

The USACE has the sole authority to determine the federal jurisdictional status of waters on any given project site. If the USACE disclaims jurisdiction over the waters within the Project site, Regional Water Quality Control Board under the Porter-Cologne Water Quality Control Act and the CDFW under Section 1602 of the California Fish and Game Code may still take jurisdiction and regulate activities within the waters.

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Appendix A: Aquatic Resources Delineation Maps

Delineation of Wetlands and Other Waters of the U.S. for East Kaweah GSA, MLRP Basin Project

Legend

- Map Reference Point
- Survey Area Boundary (61.60 ac)
- Ordinary High Water Mark (0.30 ac)

N

0 75 150 300

Feet

Coordinate System: NAD83 State Plane, Zone 4
Projection: Lambert Conformal
Datum: NAD 1983
1 inch = 150 feet

Created on 8/5/2024
Updated on 11/25/2024

Made in accordance with the Updated Map and Drawing Standards for the South Pacific Division Regulatory Program, as amended on February 10, 2016, by:

Benjamin Toews, Associate GIS Specialist
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Clovis. CA. 93611

Delineation of Wetlands and Other Waters of the U.S. for East Kaweah GSA, MLRP Basin Project

Legend

- Map Reference Point
- Culvert
- Survey Area Boundary (61.60 ac)
- Ordinary High Water Mark (0.14 ac)

N

0 75 150 300

Feet

Coordinate System: NAD83 State Plane, Zone 4
Projection: Lambert Conformal
Datum: NAD 1983
1 inch = 150 feet

Created on 8/5/2024
Updated on 11/25/2024

Made in accordance with the
Updated Map and Drawing Standards
for the South Pacific Division Regulatory
Program, as amended on February 10, 2016, by:
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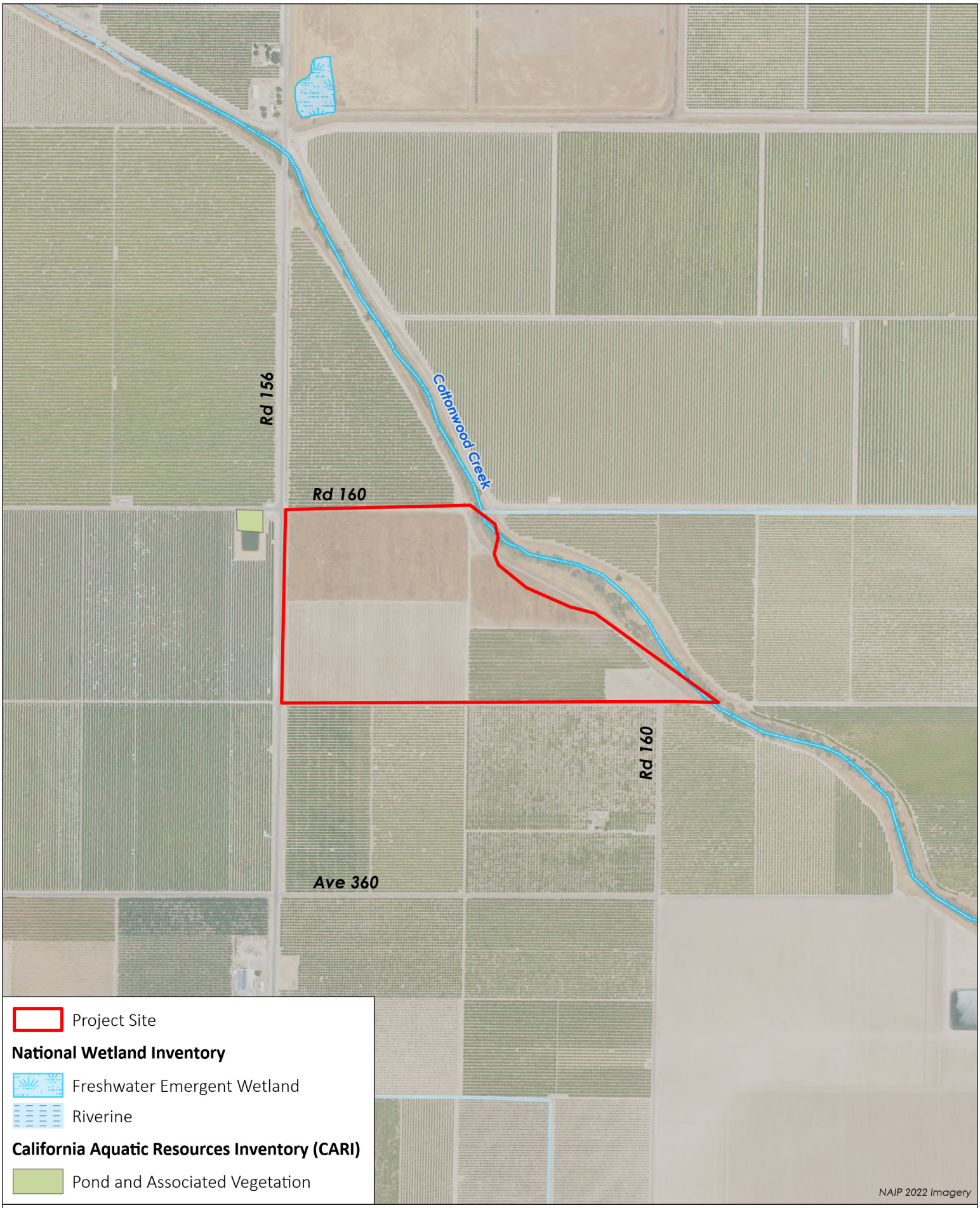
Clovis. CA. 93611

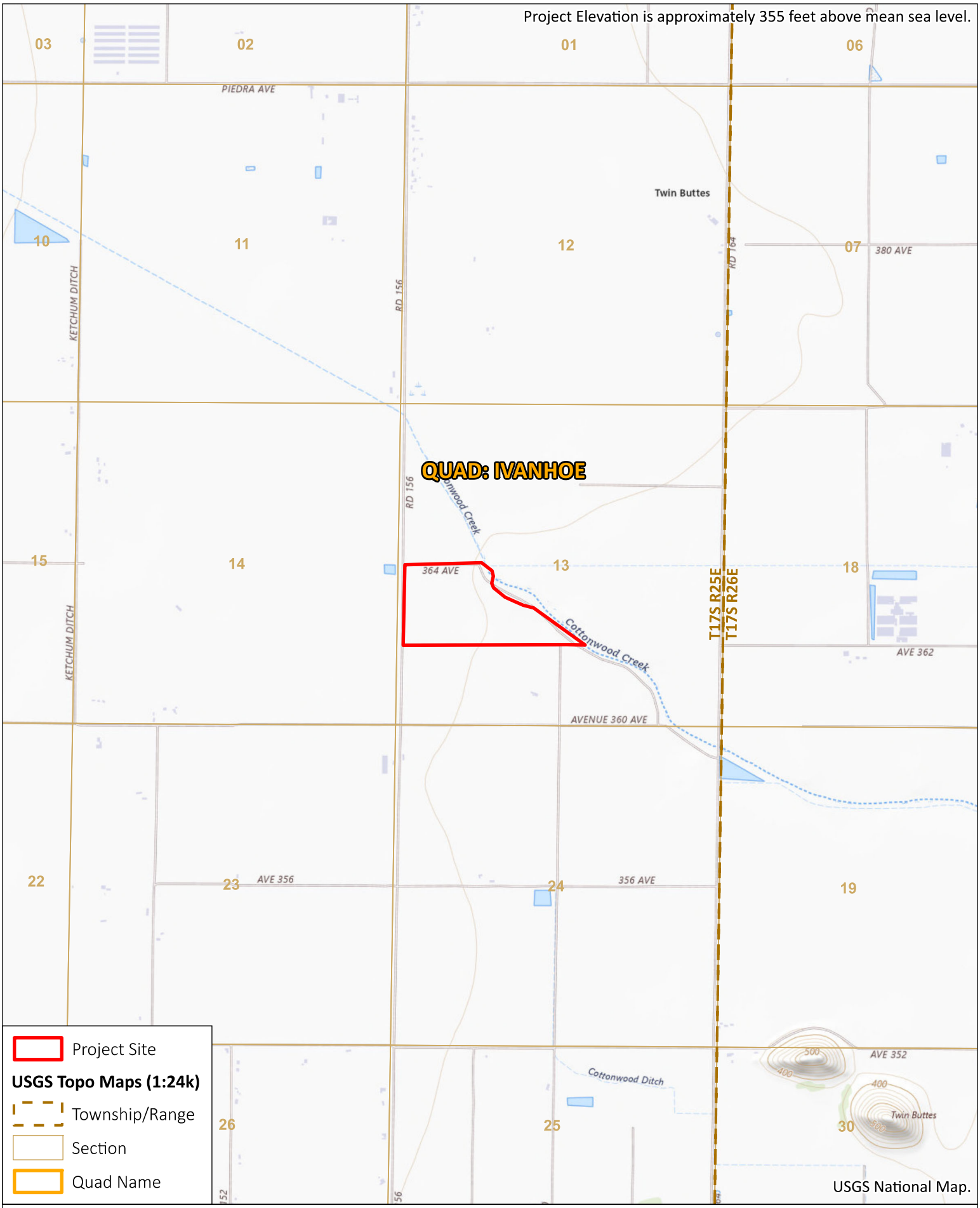
Appendix B: Supporting Maps



Aquatic Resources Map

MLRP Basin Project

PROVOST& PRITCHARD



Topographic Map

MLRP Basin Project

PROVOST& PRITCHARD

Appendix C: Photo Pages

Photograph 1

View of Cottonwood Creek at the southeast corner of the Project site. Evidence of riffles are seen in the sandy bed and herbaceous vegetation begins to grow at the endges of the creek boundary. Photo taken 11/21/2024.

Photograph 2

View of Cottonwood Creek. Matted down vegetation and water stained leaves can be seen. Photo taken 07/02/2024.

Photograph 3

View of Cottonwood Creek. Aquatic vegetation can be seen within the channel. Photo taken 07/02/2024.

Photograph 4

View of Cottonwood Creek. There is a clear OHWM as seen by a change in soils and the change in vegetation coverage and composition. Photo taken 07/02/2024.

Photograph 5

View of Cottonwood Creek. There is a clear OHWM as seen by a change in soils and the change in vegetation coverage and composition. Photo taken 07/02/2024.

Photograph 6

View of the canal outside of Cottonwood Creek. This canal spills water into the section of the creek within the site. Photo taken 07/02/2024.

Photograph 7

View of the unnamed ditch. There is a clear OHWM as seen by the change in vegetation coverage and composition. Photo taken 07/02/2024.

Photograph 8

Another view of the unnamed ditch. There is a clear OHWM as seen by the change in vegetation coverage and composition. Photo taken 07/02/2024.

Photograph 9

View of the unnamed ditch with a culvert. Photo taken 07/02/2024.

Photograph 10

View of the unnamed ditch with a culvert. There is a clear OHWM as seen by the change in vegetation coverage and composition. Photo taken 07/02/2024.

Appendix D: OHWM Data Sheets

U.S. Army Corps of Engineers (USACE)

INTERIM DRAFT RAPID ORDINARY HIGH WATER MARK (OHWM) FIELD IDENTIFICATION DATA SHEET

The proponent agency is Headquarters USACE CECW-CO-R.

Form Approved -
OMB No. 0710-0025
Expires: 01-31-2025

AGENCY DISCLOSURE NOTICE

The public reporting burden for this collection of information, 0710-OHWM, is estimated to average 30 **minutes** per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or burden reduction suggestions to the Department of Defense, Washington Headquarters Services, at whs.mc-alex.esd.mbx.dd-dod-information-collections@mail.mil. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.

Project ID #:	Site Name: Cottonwood Creek West Bank	Date and Time: 07/02/2024 9:15am
Location (lat/long): 36.4497625, -119.2188602	Investigator(s): S. Stark	

Step 1 Site overview from remote and online resources
Check boxes for online resources used to evaluate site:

- [ ] gage data
- [ ] LiDAR
- [ ] geologic maps
- [ ] climatic data
- [x] satellite imagery
- [ ] land use maps
- [x] aerial photos
- [ ] topographic maps
- [ ] Other: _____

Describe land use and flow conditions from online resources. Were there any recent extreme events (floods or drought)?

Winter 2020-2022 were years of significant drought. Winter 2023 experienced very heavy precipitation.

Step 2 Site conditions during field assessment. First look for changes in channel shape, depositional and erosional features, and changes in vegetation and sediment type, size, density, and distribution. Make note of natural or man-made disturbances that would affect flow and channel form, such as bridges, riprap, landslides, rockfalls etc.

A canal to the east of Cottonwood Creek spills into the creek adjacent to the site. This led to water pooling within the site.

Step 3 Check the boxes next to the indicators used to identify the location of the OHWM.
OHWM is at a transition point, therefore some indicators that are used to determine location may be just below and above the OHWM. From the drop-down menu next to each indicator, select the appropriate location of the indicator by selecting either just below `b', at `x', or just above `a' the OHWM.
Go to page 2 to describe overall rationale for location of OHWM, write any additional observations, and to attach a photo log.

Geomorphic indicators

- [x] **Break in slope:**
  - [x] *on the bank:* x
  - [x] *undercut bank:* b
  - [ ] *valley bottom:*
  - [ ] Other: _____
- [ ] **Shelving:**
  - [ ] *shelf at top of bank:*
  - [ ] *natural levee:*
  - [ ] *man-made berms or levees:*
  - [ ] *other berms:* _____
- [ ] **Channel bar:**
  - [ ] *shelving (berms) on bar:*
  - [ ] *unvegetated:*
  - [ ] *vegetation transition (go to veg. indicators)*
  - [ ] *sediment transition (go to sed. indicators)*
  - [ ] *upper limit of deposition on bar:*
- [ ] **Instream bedforms and other bedload transport evidence:**
  - [ ] *deposition bedload indicators (e.g., imbricated clasts, gravel sheets, etc.)*
  - [x] *bedforms (e.g., pools, riffles, steps, etc.):* b
- [x] *erosional bedload indicators (e.g., obstacle marks, scour, smoothing, etc.)* b
- [ ] **Secondary channels:**

Sediment indicators

- [ ] **Soil development:**
- [ ] **Changes in character of soil:**
- [ ] **Mudcracks:**
- [ ] **Changes in particle-sized distribution:**
  - [ ] *transition from* _____ to _____
  - [ ] *upper limit of sand-sized particles*
  - [x] *silt deposits:*

Vegetation Indicators

- [x] **Change in vegetation type and/or density:** x

  Check the appropriate boxes and select the general vegetation change *(e.g., graminoids to woody shrubs).* ***Describe the vegetation transition looking from the middle of the channel, up the banks, and into the floodplain.***

  - [ ] *vegetation absent to:*
  - [ ] *moss to:*
  - [ ] *forbs to:*
  - [x] *graminoids to:* woody shrubs
  - [x] *woody shrubs to:* deciduous trees
  - [x] *deciduous trees to:*
  - [ ] *coniferous trees to:*
- [x] **Vegetation matted down and/or bent:** b

- [ ] **Exposed roots below intact soil layer:**

Ancillary indicators

- [ ] **Wracking/presence of organic litter:**
- [ ] **Presence of large wood:**
- [x] **Leaf litter disturbed or washed away:** b
- [x] **Water staining:** b
- [ ] **Weathered clasts or bedrock:**

Other observed indicators? Describe:

Some areas within the site contained pools. Silt was observed in the channel.

Project ID #: _____

Step 4 Is additional information needed to support this determination? ☐ Yes ☒ No If yes, describe and attach information to datasheet:

Step 5 Describe rationale for location of OHWM

The OHWM is located along a break in slope with a change in vegetation density and type below and above the OHWM. Deciduous riparian trees occur along the edge of the OHWM. Silt deposits line the channel and matted down vegetation with water stained leaves occurred below the OHWM.

Additional observations or notes

Attach a photo log of the site. Use the table below, or attach separately.

Photo log attached? ☒ Yes ☐ No If no, explain why not: _____

List photographs and include descriptions in the table below.

Number photographs in the order that they are taken. Attach photographs and include annotations of features.

Photo Number	Photograph description
1	Visible locations of pooling can be seen and trees along the edge of the OWHM.
2	Matted down vegetation and water-stained leaves can be seen.
3	Aquatic vegetation can be seen within the channel.
4	There is a clear OHWM as seen by a change in soils and the change in vegetation coverage and composition.

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Project ID #:	Site Name: Ditch West Bank	Date and Time: 07/02/2024 7:30am
Location (lat/long): 36.4466537, -119.2234839	Investigator(s): S. Stark	

Step 1 Site overview from remote and online resources
Check boxes for online resources used to evaluate site:

- ☐ gage data
- ☐ climatic data
- ☒ aerial photos
- ☐ LiDAR
- ☒ satellite imagery
- ☐ topographic maps
- ☐ geologic maps
- ☐ land use maps
- ☐ Other: _____

Describe land use and flow conditions from online resources. Were there any recent extreme events (floods or drought)?

None. This is an artificial ditch.

Step 2 Site conditions during field assessment. First look for changes in channel shape, depositional and erosional features, and changes in vegetation and sediment type, size, density, and distribution. Make note of natural or man-made disturbances that would affect flow and channel form, such as bridges, riprap, landslides, rockfalls etc.

Artificial ditch.

Step 3 Check the boxes next to the indicators used to identify the location of the OHWM.
OHWM is at a transition point, therefore some indicators that are used to determine location may be just below and above the OHWM. From the drop-down menu next to each indicator, select the appropriate location of the indicator by selecting either just below `b', at `x', or just above `a' the OHWM.
Go to page 2 to describe overall rationale for location of OHWM, write any additional observations, and to attach a photo log.

Geomorphic indicators

- ☐ **Break in slope:**
  - ☐ *on the bank:*
  - ☐ *undercut bank:*
  - ☐ *valley bottom:*
  - ☐ Other: _____
- ☐ **Shelving:**
  - ☐ *shelf at top of bank:*
  - ☐ *natural levee:*
  - ☐ *man-made berms or levees:*
  - ☐ *other berms:* _____
- ☐ **Channel bar:**
  - ☐ *shelving (berms) on bar:*
  - ☐ *unvegetated:*
  - ☐ *vegetation transition (go to veg. indicators)*
  - ☐ *sediment transition (go to sed. indicators)*
  - ☐ *upper limit of deposition on bar:*
- ☐ **Instream bedforms and other bedload transport evidence:**
  - ☐ *deposition bedload indicators (e.g., imbricated clasts, gravel sheets, etc.)*
  - ☐ *bedforms (e.g., pools, riffles, steps, etc.):*
- ☐ *erosional bedload indicators (e.g., obstacle marks, scour, smoothing, etc.)*
- ☐ **Secondary channels:**

Sediment indicators

- ☐ **Soil development:**
- ☐ **Changes in character of soil:**
- ☐ **Mudcracks:**
- ☐ **Changes in particle-sized distribution:**
  - ☐ *transition from* _____ to _____
  - ☐ *upper limit of sand-sized particles*
  - ☒ *silt deposits:*

Vegetation Indicators

- ☒ **Change in vegetation type and/or density:** x

  Check the appropriate boxes and select the general vegetation change *(e.g., graminoids to woody shrubs).* ***Describe the vegetation transition looking from the middle of the channel, up the banks, and into the floodplain.***

  - ☒ *vegetation absent to:* absent
  - ☐ *moss to:*
  - ☐ *forbs to:*
  - ☐ *graminoids to:*
  - ☐ *woody shrubs to:*
  - ☒ *deciduous trees to:*
  - ☐ *coniferous trees to:*
- ☐ **Vegetation matted down and/or bent:**
- ☐ **Exposed roots below intact soil layer:**

Ancillary indicators

- ☐ **Wracking/presence of organic litter:**
- ☐ **Presence of large wood:**
- ☐ **Leaf litter disturbed or washed away:**
- ☐ **Water staining:**
- ☐ **Weathered clasts or bedrock:**

Other observed indicators? Describe:

Vegetation absent to OHWM.

Project ID #: _____

Step 4 Is additional information needed to support this determination? ☐ Yes ☒ No If yes, describe and attach information to datasheet:

Step 5 Describe rationale for location of OHWM

This artificial ditch receives regular flows to irrigate agricultural fields and orchards in the surrounding areas.Silt can be seen along the bottom of the channel and can be seen on the rocks near the culverts. The OHWM is located along a the slope with a change in vegetation density and type above the OHWM.

Additional observations or notes

Attach a photo log of the site. Use the table below, or attach separately.

Photo log attached? ☒ Yes ☐ No If no, explain why not: _____

List photographs and include descriptions in the table below.

Number photographs in the order that they are taken. Attach photographs and include annotations of features.

Photo Number	Photograph description
7	There is a clear OHWM as seen by a change in soils and the change in vegetation coverage and composition.
8	There is a clear OHWM as seen by a change in soils and the change in vegetation coverage and composition.
9	Overview of a culvert within the ditch.
10	There is a clear OHWM as seen by a change in soils and the change in vegetation coverage and composition as well as visible water.

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Project ID #:	Site Name: Ditch East Bank	Date and Time: 07/02/2024 8:00am
Location (lat/long): 36.4466464, -119.2234357	Investigator(s): S. Stark	

Step 1 Site overview from remote and online resources
Check boxes for online resources used to evaluate site:

- ☐ gage data
- ☐ climatic data
- ☒ aerial photos
- ☐ LiDAR
- ☒ satellite imagery
- ☐ topographic maps
- ☐ geologic maps
- ☐ land use maps
- ☐ Other: _____

Describe land use and flow conditions from online resources. Were there any recent extreme events (floods or drought)?

None. This is an artificial ditch.

Step 2 Site conditions during field assessment. First look for changes in channel shape, depositional and erosional features, and changes in vegetation and sediment type, size, density, and distribution. Make note of natural or man-made disturbances that would affect flow and channel form, such as bridges, riprap, landslides, rockfalls etc.

Artificial ditch.

Step 3 Check the boxes next to the indicators used to identify the location of the OHWM.
OHWM is at a transition point, therefore some indicators that are used to determine location may be just below and above the OHWM. From the drop-down menu next to each indicator, select the appropriate location of the indicator by selecting either just below `b', at `x', or just above `a' the OHWM.
Go to page 2 to describe overall rationale for location of OHWM, write any additional observations, and to attach a photo log.

Geomorphic indicators

- ☐ **Break in slope:**
  - ☐ *on the bank:*
  - ☐ *undercut bank:*
  - ☐ *valley bottom:*
  - ☐ Other: _____
- ☐ **Shelving:**
  - ☐ *shelf at top of bank:*
  - ☐ *natural levee:*
  - ☐ *man-made berms or levees:*
  - ☐ *other berms:* _____
- ☐ **Channel bar:**
  - ☐ *shelving (berms) on bar:*
  - ☐ *unvegetated:*
  - ☐ *vegetation transition (go to veg. indicators)*
  - ☐ *sediment transition (go to sed. indicators)*
  - ☐ *upper limit of deposition on bar:*
- ☐ **Instream bedforms and other bedload transport evidence:**
  - ☐ *deposition bedload indicators (e.g., imbricated clasts, gravel sheets, etc.)*
  - ☐ *bedforms (e.g., pools, riffles, steps, etc.):*
- ☐ *erosional bedload indicators (e.g., obstacle marks, scour, smoothing, etc.)*
- ☐ **Secondary channels:**

Sediment indicators

- ☐ **Soil development:**
- ☐ **Changes in character of soil:**
- ☐ **Mudcracks:**
- ☐ **Changes in particle-sized distribution:**
  - ☐ *transition from* _____ to _____
  - ☐ *upper limit of sand-sized particles*
  - ☒ *silt deposits:*

Vegetation Indicators

- ☒ **Change in vegetation type and/or density:** x

  Check the appropriate boxes and select the general vegetation change *(e.g., graminoids to woody shrubs).* ***Describe the vegetation transition looking from the middle of the channel, up the banks, and into the floodplain.***

  - ☒ *vegetation absent to:* absent
  - ☐ *moss to:*
  - ☐ *forbs to:*
  - ☐ *graminoids to:*
  - ☐ *woody shrubs to:*
  - ☒ *deciduous trees to:*
  - ☐ *coniferous trees to:*
- ☐ **Vegetation matted down and/or bent:**
- ☐ **Exposed roots below intact soil layer:**

Ancillary indicators

- ☐ **Wracking/presence of organic litter:**
- ☐ **Presence of large wood:**
- ☐ **Leaf litter disturbed or washed away:**
- ☐ **Water staining:**
- ☐ **Weathered clasts or bedrock:**

Other observed indicators? Describe:

Vegetation absent below OHWM.

Project ID #: _____

Step 4 Is additional information needed to support this determination? ☐ Yes ☒ No If yes, describe and attach information to datasheet:

Step 5 Describe rationale for location of OHWM

This artificial ditch receives regular flows to irrigate agricultural fields and orchards in the surrounding areas.Silt can be seen along the bottom of the channel and can be seen on the rocks near the culverts. The OHWM is located along a the slope with a change in vegetation density and type above the OHWM.

Additional observations or notes

Attach a photo log of the site. Use the table below, or attach separately.

Photo log attached? ☒ Yes ☐ No If no, explain why not: _____

List photographs and include descriptions in the table below.

Number photographs in the order that they are taken. Attach photographs and include annotations of features.

Photo Number	Photograph description
7	There is a clear OHWM as seen by a change in soils and the change in vegetation coverage and composition.
8	There is a clear OHWM as seen by a change in soils and the change in vegetation coverage and composition.
9	Overview of a culvert within the ditch.
10	There is a clear OHWM as seen by a change in soils and the change in vegetation coverage and composition as well as visible water.

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Project ID #:	Site Name: Cottonwood Creek East Bank	Date and Time: 07/02/2024 10:10am
Location (lat/long): 36.4497495, -119.2187649	Investigator(s): S. Stark	

Step 1 Site overview from remote and online resources
Check boxes for online resources used to evaluate site:

- [ ] gage data
- [ ] LiDAR
- [ ] geologic maps
- [ ] climatic data
- [x] satellite imagery
- [ ] land use maps
- [x] aerial photos
- [ ] topographic maps
- [ ] Other: _____

Describe land use and flow conditions from online resources. Were there any recent extreme events (floods or drought)?

Winter 2020-2022 were years of significant drought. Winter 2023 experienced very heavy precipitation.

Step 2 Site conditions during field assessment. First look for changes in channel shape, depositional and erosional features, and changes in vegetation and sediment type, size, density, and distribution. Make note of natural or man-made disturbances that would affect flow and channel form, such as bridges, riprap, landslides, rockfalls etc.

A canal to the east of Cottonwood Creek spills into the creek adjacent to the site. This led to water pooling within the site.

Step 3 Check the boxes next to the indicators used to identify the location of the OHWM.
OHWM is at a transition point, therefore some indicators that are used to determine location may be just below and above the OHWM. From the drop-down menu next to each indicator, select the appropriate location of the indicator by selecting either just below `b', at `x', or just above `a' the OHWM.
Go to page 2 to describe overall rationale for location of OHWM, write any additional observations, and to attach a photo log.

Geomorphic indicators

- [x] **Break in slope:**
  - [x] *on the bank:* x
  - [ ] *undercut bank:*
  - [x] *valley bottom:* b
  - [ ] Other: _____
- [ ] **Shelving:**
  - [ ] *shelf at top of bank:*
  - [ ] *natural levee:*
  - [ ] *man-made berms or levees:*
  - [ ] *other berms:* _____
- [ ] **Channel bar:**
  - [ ] *shelving (berms) on bar:*
  - [ ] *unvegetated:*
  - [ ] *vegetation transition (go to veg. indicators)*
  - [ ] *sediment transition (go to sed. indicators)*
  - [ ] *upper limit of deposition on bar:*
- [ ] **Instream bedforms and other bedload transport evidence:**
  - [ ] *deposition bedload indicators (e.g., imbricated clasts, gravel sheets, etc.)*
  - [x] *bedforms (e.g., pools, riffles, steps, etc.):* b
- [ ] *erosional bedload indicators (e.g., obstacle marks, scour, smoothing, etc.)* b
- [x] **Secondary channels:** a

Sediment indicators

- [ ] **Soil development:**
- [ ] **Changes in character of soil:**
- [x] **Mudcracks:** b
- [ ] **Changes in particle-sized distribution:**
  - [ ] *transition from* _____ to _____
  - [ ] *upper limit of sand-sized particles*
  - [x] *silt deposits:*

Vegetation Indicators

- [x] **Change in vegetation type and/or density:** x

  Check the appropriate boxes and select the general vegetation change *(e.g., graminoids to woody shrubs).* ***Describe the vegetation transition looking from the middle of the channel, up the banks, and into the floodplain.***

  - [ ] *vegetation absent to:*
  - [ ] *moss to:*
  - [ ] *forbs to:*
  - [x] *graminoids to:* woody shrubs
  - [x] *woody shrubs to:* deciduous trees
  - [x] *deciduous trees to:*
  - [ ] *coniferous trees to:*
- [x] **Vegetation matted down and/or bent:** b

- [ ] **Exposed roots below intact soil layer:**

Ancillary indicators

- [ ] **Wracking/presence of organic litter:**
- [ ] **Presence of large wood:**
- [x] **Leaf litter disturbed or washed away:** b
- [x] **Water staining:** b
- [ ] **Weathered clasts or bedrock:**

Other observed indicators? Describe:

Some areas within the site contained pools. Silt was observed in the channel.A secondary side channel is located to the east.

Project ID #: _____

Step 4 Is additional information needed to support this determination? ☐ Yes ☒ No If yes, describe and attach information to datasheet:

Step 5 Describe rationale for location of OHWM

The OHWM is located along a break in slope with a change in vegetation density and type below and above the OHWM. A secondary side channel is located to the east. Deciduous riparian trees occur along the edge of the OHWM and form an island between the main channel and side channel. The two channels reconnect to form the main channel within the site. Silt deposits line the channel and matted down vegetation with water stained leaves occurred below the OHWM.

Additional observations or notes

Attach a photo log of the site. Use the table below, or attach separately.

Photo log attached? ☒ Yes ☐ No If no, explain why not: _____

List photographs and include descriptions in the table below.

Number photographs in the order that they are taken. Attach photographs and include annotations of features.

Photo Number	Photograph description
2	Matted down vegetation and water-stained leaves can be seen.
3	Aquatic vegetation can be seen within the channel.
5	There is a clear OHWM as seen by a change in soils and the change in vegetation coverage and composition.
6	The canal outside of the site spills water into Cottonwood Creek.

Appendix E: NRCS Web Soil Survey Report

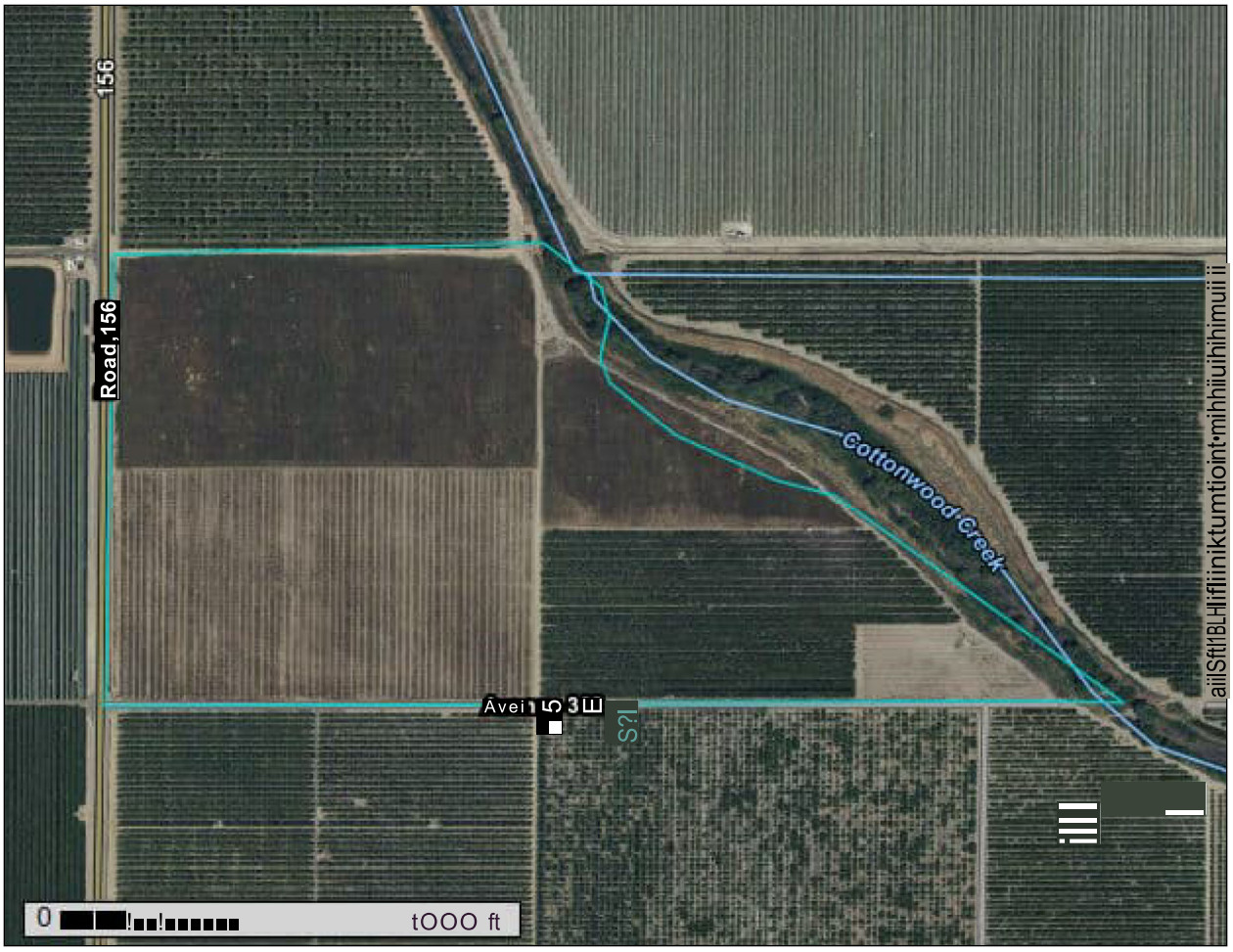
United States Department of Agriculture

NRCS

Natural Resources Conservation Service

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

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



November 20, 2024

Preface

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

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

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

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

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

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

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Contents

How Soil Surveys Are Made

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

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

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

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

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

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

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

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

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

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

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

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

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

Soil Map

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

Custom Soil Resource Report
Soil Map

Map Scale: 1:4,990 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 50 100 200 300

Feet
0 200 400 800 1200

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N 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: Tulare County, California, Central Part
Survey Area Data: Version 18, Aug 30, 2024

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

Date(s) aerial images were photographed: Mar 16, 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
164	Tujunga sand	14.6	23.8%
176	Yettem sandy loam, 0 to 2 percent slopes	47.0	76.2%
Totals for Area of Interest		**61.6**	**100.0%**

Map Unit Descriptions

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

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

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

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

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

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

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

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

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

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

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

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

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

Tulare County, California, Central Part

164—Tujunga sand

Map Unit Setting

National map unit symbol: hkfs
Elevation: 10 to 2,500 feet
Mean annual precipitation: 10 to 25 inches
Mean annual air temperature: 59 to 64 degrees F
Frost-free period: 280 to 350 days
Farmland classification: Not prime farmland

Map Unit Composition

Tujunga and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Tujunga

Setting

Landform: Alluvial fans
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from granitoid

Typical profile

A - 0 to 16 inches: sand
C - 16 to 60 inches: loamy sand

Properties and qualities

Slope: 0 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 4.2 inches)

Interpretive groups

Land capability classification (irrigated): 3s
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: A
Ecological site: R017XE080CA - SANDY
Hydric soil rating: No

Minor Components

Honcut

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

San emigdio
Percent of map unit: 3 percent
Hydric soil rating: No

Unnamed, calcareous
Percent of map unit: 3 percent
Hydric soil rating: No

176—Yettem sandy loam, 0 to 2 percent slopes

Map Unit Setting
National map unit symbol: hkg5
Elevation: 300 to 1,500 feet
Mean annual precipitation: 10 to 16 inches
Mean annual air temperature: 61 to 64 degrees F
Frost-free period: 250 to 300 days
Farmland classification: Prime farmland if irrigated

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

Description of Yettem

Setting
Landform: Alluvial fans
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from granitoid

Typical profile
A - 0 to 26 inches: sandy loam
C - 26 to 70 inches: sandy loam

Properties and qualities
Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 1 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Moderate (about 6.3 inches)

Interpretive groups

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

Minor Components

Grangeville

Percent of map unit: 3 percent
Landform: Alluvial fans
Hydric soil rating: Yes

Havala

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

San emigdio

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

Tujunga

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

Unnamed

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

Unnamed, clayey substratum

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

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Appendix F: Vascular Plant List

Common Name	Scientific Name	Wetland Indicator Status
Fremont cottonwood	*Populus fremontii*	FACW
Mistletoe	*Viscum album*	Not Listed
Hardstem bulrush	*Schoenoplectus acutus*	OBL
Himalayan blackberry	*Rubus armeniacus*	FAC
White sweet clover	*Melilotus albus*	Not Listed
Floating primrose-willow	*Ludwigia peploides*	OBL
Beardless rabbit's-foot grass	*Poloypogon viridis*	Not Listed
California cocklebur	*Xanthium orientale*	Not Listed
Tall flatesedge	*Cyperus eragrostis*	FACW
Barnyard grass	*Echinochloa crus-galli*	FACW
Prickly lettuce	*Lactuca serriola*	FACU
Rough hedgenettle	*Stachys rigida*	FACW
Milk thistle	*Silybum marianum*	Not Listed
Poison hemlock	*Conium maculatum*	FACW
Annual rabbitsfoot grass	*Polypogon monspeliensis*	FACW
Dock-leaf smartweed	*Persicaria lapathifolia*	FACW
Flax-leaf fleabane	*Conyza bonariensis*	Not Listed
Brown beetle-grass	*Leptochloa fusca*	Not Listed
Horseweed	*Erigeron canadensis*	FACU
Johnson grass	*Sorghum halepense*	FACU
Jungle rice	*Echinochloa colona*	FAC
Sacred thorn-apple	*Datura wrightii*	UPL
Tree tobacco	*Nicotiana glauca*	FAC
Giant wildrye	*Leymus condensatus*	FACU
Giant reed	*Arundo donax*	FACW
Great mullein	*Verbascum thapsus*	FACU
Yellow star-thistle	*Centaurea solstitalis*	Not Listed
Lamb’s quarters	*Chenopodium album*	FACU
Fiddle neck	*Amsinckia sp.*	-
Shortpod mustard	*Hirschfeldia incana*	Not Listed
Asthmaweed	*Erigeron bonariensis*	FACU
Pomegranate	*Punica granatum*	Not Listed
Common myrtle	*Myrtus communis*	Not Listed
Flatspine bur ragweed	*Ambrosia acanthicarpa*	Not Listed
Mandarin orange	*Citrus* x *aurantium*	Not Listed
Douglas' wormwood	*Artemisia douglasiana*	FAC

Appendix C: Phase I Cultural Resources Assessment

Phase I Cultural Resources Assessment for the East Kaweah GSA-MLRP Basin Project, Tulare County, California

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August 2024
(Revised November 2024)

USGS Ivanhoe 7.5' topographic quadrangle
62-acre APE; intensive pedestrian survey
Keywords: Cottonwood Creek Levee

EXECUTIVE SUMMARY

Taylored Archaeology completed a Phase I Cultural Resources Assessment Report for the East Kaweah GSA-MLRP Basin Project (Project) in Tulare County, California. The Project involves developing a recharge basin with two diversion structures to pump water from Cottonwood Creek. The project requires a permit from the U.S. Army Corps of Engineers. The Project thus requires compliance with Section 106 of the National Historic Preservation Act (NHPA). The Project is also subject to the California Environmental Quality Act (CEQA), with the East Kaweah Groundwater Sustainability Agency serving as the CEQA lead agency.

To meet federal and state standards, Taylored Archaeology completed a cultural resources assessment under contract to Provost & Pritchard Consulting Group to identify potential historic properties within the 62-acre Area of Potential Effects (APE). The investigation consisted of (1) a records search from the Southern San Joaquin Valley Information Center (SSJVIC) of the California Historical Resources Information System (CHRIS), (2) archival research, (3) a search of the Native American Heritage Commission's (NAHC) Sacred Lands File, a request for Native American local contact information, and nongovernmental Native American outreach; (4) an archaeological pedestrian survey of the APE; and (5) preparation of the California Department of Parks and Recreation (DPR) 523 series cultural resource record forms.

The SSJVIC records search reported no prior cultural resources studies conducted within the APE. Additionally, one cultural resource, P-54-004856 (Cottonwood Creek Levee), was recorded within the APE. The resource was recorded in 2007 but not evaluated for eligibility in the California Register of Historical Resources (CRHR) nor the National Register of Historic Places (NRHP). Further review of the DPR forms for the Cottonwood Creek Levee reveals no information is available regarding the builder or architect of this resource. The date of construction is also unknown. When originally recorded in 2007, the DPR form speculated the levee may have been built in the late 19th century, but the levee only first appears on USGS topographic maps starting in 1950 (USGS 1950). As discussed in Section 4.2 of this report, the levee also does not appear on Cottonwood Creek in a 1946 aerial map of the APE, therefore lending evidence to a potential construction date between 1946 and 1950.

The SSJVIC also identified two previous cultural resources studies conducted, and two historical resources recorded within a 1-mile radius of the APE. The first resource, P-54-002513, is a historic labor camp site called the Yamaguchi Labor Camp - J.D. Martin Ranch. The second resource, P-54-004832, is the Big Creek Hydroelectric System, East and West Transmission Line. Neither of these resources will be impacted by the proposed Project.

The NAHC's Sacred Lands File search did not result in the identification of sacred places within the APE. Outreach to the Native American representatives resulted in three comments. Chairman Curtis Lee of the Cold Springs Rancheria responded stating the APE was outside the Cold Springs Rancheria geographical area and the tribe had no interest in the Project. Chairperson Elizabeth Kipp of the Big Sandy Rancheria of Western Mono Indians responded by email that the tribe has

no comments or concerns with the Project and that anytime anything of cultural significance is discovered, they request to be notified. Kenneth Woodrow of the Wuksache Indian Tribe/Eshom Valley Band requested archaeological monitoring of all trenching activity in the APE due to the cultural sensitivity of the area. No additional responses were received to the letters or emails.

Taylored Archaeology did not observe evidence of prehistoric cultural resources on the ground surface within the APE. The absence of cultural material on the ground surface does not, however, preclude the possibility of Project construction unearthing buried archaeological deposits. As discussed in Section 4.4.1, there is a moderate possibility of encountering buried cultural resources within the APE during Project ground disturbing activities, which supports the Wuksache Indian Tribe/Eshom Valley Band's request for archaeological monitoring during of all ground disturbing activities during construction.

The archaeological pedestrian survey did reveal that one previously recorded cultural resource, Cottonwood Creek Levee, was within the APE. A segment of this levee was previously recorded 0.75 miles northwest of the APE. The levee was not previously evaluated for eligibility in the CRHR nor the NRHP. With no information regarding the architect or builder, and with only a limited amount of information regarding a potential construction date between 1946 and 1950, an eligibility determination of this resource cannot be made at this point in time. Thus, Taylored Archaeology's study concludes that no historic properties will be affected by the proposed undertaking.

Based on the results of this investigation, including the moderate sensitivity for buried sites within the APE and the request of the Wuksache Indian Tribe/Eshom Valley Band for an archaeological monitor, Taylored Archaeology therefore recommends the following:

- An archaeological monitor shall be present on the Project site during ground disturbing activities within the APE. In the event of accidental discovery of unidentified archaeological remains during development or ground disturbing activities within any portion of the APE, all work shall be halted in the immediate vicinity (within a 100-foot radius) until a qualified archaeologist can identify the discovery and assess its significance.

- In the event that previously unidentified archaeological remains are encountered during development or ground-moving activities in the APE, all work should be halted until a qualified archaeologist can identify the discovery and assess its significance. In the event of accidental discovery of unidentified archaeological remains during development or ground-moving activities in the APE, all work shall be halted in the immediate vicinity until a qualified archaeologist can identify the discovery and assess its significance.

- If human remains are uncovered during construction, the Tulare County Coroner is to be notified to investigate the remains and arrange proper treatment and disposition. If the remains are identified on the basis of archaeological context, age, cultural associations, or biological traits to be those of a Native American, California Health and Safety Code 7050.5 and PRC 5097.98 require that the coroner notify the NAHC within 24 hours of

discovery. The NAHC will then identify the Most Likely Descendent who will be afforded an opportunity to make recommendations regarding the treatment and disposition of the remains.

A copy of this report will be submitted to the SSJVIC for entry into the CHRIS database.

CONTENTS

APPENDICIES

FIGURES

1
INTRODUCTION

Taylored Archaeology conducted a Phase I Cultural Resources Assessment for the East Kaweah GSA-MLRP Basin Project (Project) in Tulare County, California under contract to Provost & Pritchard Consulting Group. As part of the development approval process, this report has been prepared in compliance with the California Environmental Quality Act (CEQA) and documents the results of the cultural resources survey.

As part of the development approval process, the East Kaweah Groundwater Sustainability Agency as the local lead agency must comply with the California Environmental Quality Act (CEQA). Public Resources Code [PRC] 21000 [g] mandates that government agencies consider the impacts of a project on the environment, including cultural resources. The Project would also affect Waters of the United States; therefore, the Project proponent must meet requirements of Section 404 of the Clean Water Act. The proponent is therefore seeking authorization from the U.S. Army Corps of Engineers. Thus, the Project must also comply with Section 106 of the National Historic Preservation Act (NHPA). The U.S. Army Corps of Engineers is the lead federal agency for compliance with Section 106 of the NHPA.

1.1 PROJECT LOCATION AND DESCRIPTION

The Project is on the northeast corner of Road 156 and Road 160, adjacent to Cottonwood Creek, just approximately 3.6 miles north of the community Ivanhoe and 7 miles northeast of the city of Visalia in Tulare County (Figure 1-1). The Project site is on the U.S. Geological Survey (USGS) 7.5-minute Ivanhoe, California, topographic quadrangle in Section 13 of Township 17 South, Range 25 East, Mount Diablo Base and Meridian (Figure 1-2). The Project proposes to construct a basin with multiple cells, two delivery facilities from Cottonwood Creek to the basin area for recharge, and conservation space most likely in the form of some small walking space in one corner of the lot and in between some of the basin cells. The Project will also develop a dirt/gravel parking lot in the conservation area.

The Area of Potential Effects (APE) of an undertaking is defined in 36 CFR 800.16 (d) as the "geographic area or areas within an undertaking may directly or indirectly cause changes dimensional (depth, length, width) and includes all areas directly and indirectly affected by the proposed construction." The total horizontal APE is estimated to be 62 acres (Figure 1-3) and encompasses the footprint of the basin, the turnout/pump structures, and associated construction footprint. The vertical APE is anticipated to be up to 15 feet below ground surface for the water diversion/pump structures, and 8 feet below ground surface for the recharge basin.

1.2 REGULATORY SETTING

In this report "cultural resources" are defined as prehistoric or historical archaeological sites as well as historical objects, buildings, or structures. In accordance with 30 Code of Federal Regulations (CFR) §60.4, "historical" in this report applies to cultural resources which are at least 50 years old. The significance or importance of a cultural resource is dependent upon whether the resource qualifies for inclusion at the local or state level in the California Register of Historical Resources (CRHR), or at the federal level in the National Register of Historic Places (NRHP). Cultural resources that are determined to be eligible for inclusion in the CRHR are called "historical resources" (California Code of Regulations [CCR] 15064.5[a]). Under this statue the determination of eligibility is partially based on the consideration of the criteria of significance as defined in 14 CCR 15064.5(a)(3). Cultural resources eligible for inclusion in the NRHP are deemed "historic properties".

1.2.1 NATIONAL HISTORIC PRESERVATION ACT OF 1966

The National Historic Preservation Act (NHPA) (16 U.S.C. 470 ET SEQ.) was enacted in 1966 and created a national policy of historic preservation. The law established several programs, administered by the Secretary of the Interior, to encourage the achievement of preservation goals at local, state, and federal levels. The NHPA authorized the creation and expansion of the National Register of Historic Places (NRHP), formed the position of State Historic Preservation Officer (SHPO), allowed for the creation of State Review Boards to set up methods for local governments to enact the NHPA at a local level, assisted Native American tribes with preserving their heritage, and established the Advisory Council on Historic Preservation (ACHP).

The NHPA established criteria for determining if a historic property is eligible for inclusion in the NRHP. These criteria are set forth in 36 CFR 60.4 as follows:

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

1.2.2 SECTION 106 NHPA

Section 106 of the NHPA states that any federal agency with direct or indirect jurisdiction over federally assisted or proposed federal action will take into account the effect the action will have on any historic property that is on, or eligible to be included in, the NRHP. The NHPA provides the Advisory Council on Historic Preservation and the relevant SHPO the opportunity to provide comments on the federal action in regard to potential impacts to historic properties.

1.2.3 CALIFORNIA ENVIRONMENTAL QUALITY ACT

Pursuant to CEQA, a historical resource is a resource listed in, or determined to be eligible for listing in, the CRHR. Historical resources may include, but are not limited to, "any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically or archaeologically significant" (PRC §5020.1[j]). In addition, a resource included in a local register of historical resources or identified as significant in a local survey conducted in accordance with the state guidelines are also considered historic resources under California Public Resources Code (PRC) Section 5020.1.

CEQA details appropriate measures for the evaluation and protection of cultural resources in §15064.5 of the CEQA Guidelines. According to CEQA guidelines §15064.5 (a)(3), criteria for listing on the CRHR includes the following:

> *(A) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.*
> *(B) Is associated with the lives of persons important in our past.*
> *(C) 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.*
> *(D) Has yielded, or may be likely to yield, information important in prehistory or history.*

According to CEQA guidelines §21074 (a)(1), criteria for tribal cultural resources includes the following:

> *(1) Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:*
> *(A) included or determined to be eligible for inclusion in the California Register of Historical Resources.*
> *(B) included in a local register of historical resources as defined in subdivision (k) of Section 5020.1.*

Protection of cultural resources within California is additionally regulated by PRC §5097.5, which prohibits destruction, defacing, or removal of any historic or prehistoric cultural features on land under the jurisdiction of State or local authorities.

1.3 PROFESSIONAL QUALIFICATIONS

Archaeologist Consuelo Y. Sauls (M.A.), a Registered Professional Archaeologist (RPA 41591505), managed the assessment and compiled this report for the Project. Ms. Sauls also conducted the records search, literature review, requested Sacred Lands File and performed the pedestrian field survey of the APE. Ms. Sauls meets the Secretary of the Interior's Standards for Professional Qualifications in Archaeology. Statement of Qualifications for key personnel is provided in Appendix A.

Figure 1-1 Project vicinity in Tulare County, California.

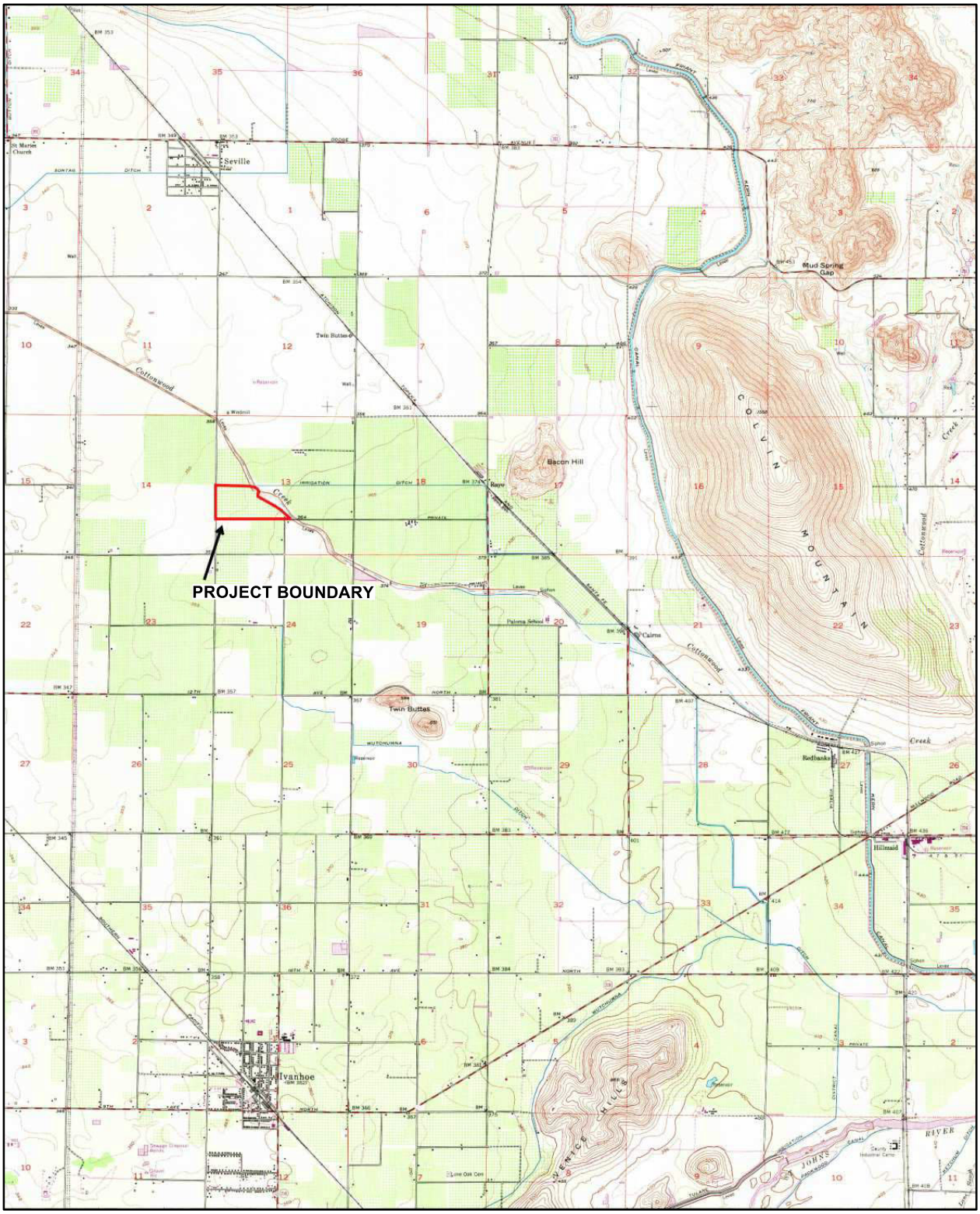

Figure 1-2 Project location on the USGS Ivanhoe, CA 7.5-minute quadrangle.

Figure 1-3 Aerial view of the APE.

1.4 REPORT STRUCTURE

This report documents the results of a cultural resource assessment of the proposed Project area. In order to comply with California regulations for CEQA, the following specific tasks were completed: (1) requesting a records search from the Southern San Joaquin Information Center (SSJVIC) of the California Historical Resources Information System (CHRIS), at California State University, Bakersfield; (2) requesting a Sacred Lands File Search and list of interested parties from the Native American Heritage Commission (NAHC) and initiating outreach to local Native American individuals and tribal representatives; (3) conducting an archaeological pedestrian survey, and (4) preparing this technical report.

Taylored Archaeology prepared this report following the California Office of Historic Preservation standards in the 1990 Archaeological Resources Management Report Recommended Contents and Format. Chapter 1 describes the introduction of the Project and its location, and identifies the key personnel involved in this report. Chapter 2 summarizes the Project setting, including the natural, prehistoric ethnography, and historic background for the Project area and surrounding area. Chapters 3 details the methods used for cultural records searches, local Native American outreach, and archaeological pedestrian survey. Chapter 4 summarizes the results of the cultural resource investigation. Chapter 5 discusses the Project findings and offers management recommendations. Chapter 6 is a bibliography of references cited within this report. The report also contains the following appendices: qualifications of key personnel (Appendix A), the CHRIS records search results (Appendix B), Taylored Archaeology's nongovernmental Native American outreach (Appendix C), and DPR 523 series cultural record forms (Appendix D).

2
PROJECT SETTING

2.1 NATURAL ENVIRONMENT

The Project area lies in the Central Valley of California, which is approximately 450 miles from north to south, and ranges in width east to west from 40 to 60 miles (Prothero 2017). The Central Valley is divided into two subunits, the Sacramento Valley in the north and the San Joaquin Valley in the south, which are each named after the primary rivers within each valley (Madden 2020). The Project is located approximately 360 feet above sea level on the open flat plains of the Southern San Joaquin Valley. Climate within the San Joaquin valley is classified as a 'hot Mediterranean climate', with hot and dry summers, and cool damp winters characterized by periods of dense fog known as 'tule fog' (Prothero 2017).

The San Joaquin Valley is comprised of a structural trough created approximately 65 million years ago and is filled with nearly six miles of sediment (Bull 1964). The San Joaquin Valley ranges from Stockton and the San Joaquin-Sacramento River Delta in the north to Wheeler Ridge to the south, ranging nearly 60 miles wide at its widest (Zack 2017). It is split by late Pleistocene alluvial fans between the San Joaquin River hydrologic area in the north and the Tulare Lake Drainage Basin in the south (Rosenthal et al 2007). The Project site is located within the latter of the two hydrologic units. The Kaweah, Tule, Kern, and Kings rivers flowed into large inland lakes with no outflow except in high flood events, in which the lakes would flow through the Fresno Slough into the San Joaquin River. The largest of these inland lakes was Tulare Lake, which occupied a vast area of Tulare and Kings Counties and was the largest freshwater lake west of the Mississippi. These four rivers in the Tulare Lake Drainage Basin accounted for more than 95 percent of water discharged into Tulare Lake, with the remaining five percent sourced from small drainages originating in the Coast Ranges to the west (Adams et al. 2015).

The Project is in central western Tulare County on the valley floor of the San Joaquin Valley within the greater Kaweah River Delta alluvial fan. Specifically, the Project is located on the southern bank of Cottonwood Creek.

Before the appearance of agriculture in the nineteenth century, the general Project location would have been comprised of prairie grasslands with scattered oak tree savannas near the foothills, and riparian forest along the various streams and drainages (Preston 1981).

Riparian environments would also have been present along various waterways, including drainages and marshes. Riparian forest vegetation would have been comprised of multiple layers of dense undergrowth. The upper canopy species would have consisted of Western sycamore (*Platanus racemosa*), willow (*Salix* spp.), valley oak (*Quercus lobata*), and Fremont cottonwood (*Populus fremonti*) (Katibah 1984). Intermediate layers were likely dominated by Oregon ash (*Fraxinus latifolia*), willow (*Salix* spp.), and California box elder (*Acernegundo* subsp. *californicum*), while riparian forest undergrowth would have included California wild grape (*Vitis californica*), poison oak (*Rhus diversiloba*), California mugwort (*Artemisia douglasiana*), California wild rose (*Rosa californica*), and blackberry (*Rubus* spp.) Drier portions of the southern end of the

San Joaquin Valley would have been dominated by saltbrush (*Atriplex* spp.) desert. (Katibah 1984).

The region around the Project site was largely dominated by annual grasslands in drier upland habitat, and riparian forest, rivers and marshland near creeks and rivers. Historically, these habitats provided a lush environment for a variety of animals, including rodents, insects, reptiles, birds and other waterfowl, California grizzly bear (*Ursus arctos californicus*), tule elk (*Cervus canadensis nannodes*), pronghorn (*Antilocapra americana*), mule deer (*Odocoileus hemionus*), American black bear (*Ursus americanus*), and mountain lion (*Puma concolor*) (Preston 1981). Native trees and plants observed in the Project vicinity include various blue, live, and white oaks (*Quercus* spp.), cottonwood (*Populus spp.*), and willow (*Salix* spp.). The introduction of agriculture to the region resulted in large animals being forced out of their habitat. Common land mammals now include coyote (*Canis latrans*), bobcat (*Lynx rufus*), gray fox (*Urocyon cinereoargenteus*), kit fox (*Vulpes macrotis*), and rabbits (*Leporidae* spp.).

Rivers and lakes throughout the valley provide habitat for freshwater fish, including rainbow trout (*Oncorhynchus mykiss*), Sacramento sucker (*Catostomus occidentalis*), and Sacramento perch (*Archoplites interruptus*) (Preston 1981). Chinook salmon (*Oncorhynchus tshawytscha*) were also found throughout the valley, including as far south as the San Joaquin River, and occasionally the Kings River, though it is estimated that chinook salmon have lost as much as 72 percent of their original habitat throughout the Central Valley (Yoshiyama et al. 2001).

2.2 PREHISTORIC SETTING

Research into San Joaquin Valley prehistory began in the early 1900s with several archaeological investigations (Rosenthal et al. 2007). The Southern San Joaquin Valley is of one of the least understood areas within California due to a lack of well-grounded chronologies for large segments of the valley (Rosenthal et al. 2007). This is largely due to the valley floor being filled with thick alluvial deposits, and from human activity largely disturbing much of the valley floor due to a century and a half of agricultural use (Dillon 2002; Siefken 1999). Mound sites may have occurred as frequently as one every two or three miles along major waterways but studying such mounded occupations sites is difficult as most surface sites have been destroyed (Schenck and Dawson 1929). Much of the early to middle Holocene archaeological sites may be buried as deep as 10 meters due to millennia of erosion and alluvial deposits from the western Sierras (Moratto 1984).

Mass agricultural development has heavily disturbed and changed the landscape of the Southern San Joaquin Valley, from the draining of marshes and the vanishing of the extensive Tulare Lake, known as “Pa’ashi” meaning “Big Water” in the Yokut language, to grading nearly the entire valley for agricultural operations (Garone 2011). These activities have impacted or scattered much of the shallow surface deposits and mounds throughout the valley (Rosenthal et al 2007). Some researchers have suggested that potentially as much as 90 percent of all Central California archaeological sites have been destroyed from these activities (Riddell 2002).

The cultural traits and chronologies which are summarized below are largely based upon information discussed in multiple sources, including Fredrickson (1973, 1974), Garfinkel (2015), McGuire and Garfinkel (1980), Moratto (1984), and Rosenthal et al. (2007). The most recent comprehensive approach to compiling a chronology of the Southern San Joaquin Valley prehistory is by Garfinkel in 2015, which builds off Rosenthal's 2007 previous work. Both Garfinkel's and Rosenthal's chronologies are calculated in years B.C. In the interest of maintaining cohesiveness with modern anthropological research, the dates of these chronologies have been adapted into years before present (B.P.).

The Paleo-Indian Period (13,500-10,600 cal B.P.) was largely represented by ephemeral lake sites which were characterized by atlatl and spear projectile points. Around 14,000 years ago, California was largely a cooler and wetter place, but with the retreat of continental Pleistocene glaciers, California largely experienced a warming and drying period. Lakes filled with glacial meltwater were located in the valley floor and used by populations of now extinct large game animals. A few prehistoric sites were discovered near the southwestern shore of Tulare Lake (Garfinkel 2015). Foragers appear to have operated in small groups which migrated on a regular basis.

During the Lower Archaic Period (10,500-7450 cal B.P.), climate change created a largely different environment which led to the creation of larger alluvial fans and flood plains. Most of the archaeological records of the prior period wound up being buried by geological processes. During this time, cultural patterns appear to have emerged between the foothill and valley populations of the local people. The foothill sites were often categorized by dense flaked and ground stone assemblages, while the valley sites were instead characterized by a predominance of crescents and stemmed projectile points. Occupation within the area is represented mostly by isolated discoveries and along the former shoreline of Tulare Lake. Archaeological finds are typically characterized by chipped stone crescents, stemmed points, and other distinctive flakes stone artifacts (Rosenthal et al. 2007). Variations in consumption patterns emerged as well, with the valley sites more marked by consumption of waterfowl, mussels, and freshwater fish, while the foothills sites saw an increase in nuts, seeds, and a more narrowly focused diet than the valley sites.

The Middle Archaic (7450-2500 cal B.P.) saw an increase in semi-permanent villages along river and creek settings, with more permanent sites located along lakes with a more stable supply of water and wildlife. Due to the warmer and drier weather of this period, many lakes within the valley dramatically reduced in size, while some vanished completely (Garone 2011). Cultural patterns during this time saw an increase in stone tools, while a growth in shell beads, ornaments, and obsidian evidence an extensive and ever-growing long-distance trade network. Little is known of cultural patterns in the valley during the Upper Archaic (2500-850 B.P.), but large village structures appeared to be more common around local rivers. An overall reduction of projectile point size suggests changing bow and arrow technologies. Finally, the Emergent Period (850 cal B.P. - Historic Era) was generally marked by an ever-increasing specialization in tools, and the bow and arrow generally replaced the dominance of the dart and atlatl. Cultural traditions ancestral to those recorded during ethnographic research in the early 1900s are identifiable.

2.3 ETHNOGRAPHY

The Project's APE is in the Southern Valley Yokuts ethnographic territory of the San Joaquin Valley. Within California, the Yokuts were generally divided into three major groups, the Northern Valley Yokuts, the Southern Valley Yokuts, and the Foothill Yokuts. Linguistically, the Yokuts are a sub-group of the Penutian language that covers much of coastal and central California and Oregon (Callaghan 1958). The Yokuts language contained multiple dialects spoken throughout the region, though many of them were mutually understandable (Merriam 1904).

For the past 150 years Yokuts have been extensively researched and recorded by ethnographers, including Powers (1877), Kroeber (1925), Gifford and Schenck (1926, 1929), Gayton (1930, 1945), Driver (1937), Harrington (1957), Latta (1977), and Wallace (1978). Much of the research from these ethnographers focuses on the central Yokuts tribes due to the northernmost tribes being impacted by Euro-Americans during the California Gold Rush of the mid 1800s, and by the southernmost tribes often being removed and relocated by the Spanish to various Bay Area or coastal missions. The central Yokuts tribes, and especially the western Sierra Nevada foothill tribes, were the most intact at the time of ethnographic study.

The most detailed ethnographic information gathered regarding Native American group territories in Central California is located within maps prepared by Kroeber. The information presented in Kroeber's map of Southern and Central Yokuts shows the proposed Project APE is within the Telamni Yokuts territory (1925: Plate 47). The main ethnographic village for this area was *Waitatahulul*, which was approximately 9 miles to the south of the APE along Packwood Creek (Kroeber 1925). Primary Yokuts villages were typically located along lakeshores and major stream courses, with scattered secondary or temporary camps and settlements located near gathering areas in the foothills. Yokuts were organized into local tribes, with one or more linked villages and smaller settlements within a territory (Kroeber 1925).

Each local tribe was a land-owning group that was organized around a central village and shared common territory and ancestry. Most local tribe populations ranged from 150 to 500 people (Kroeber 1925). These local tribes were often led by a chief, who was often advised by a variety of assistants including the winatum, who served as a messenger and assistant chief (Gayton 1930). Early studies by Kroeber (1925), Gifford and Schenck (1926), and Gayton (1930) concluded that social and political authority within local tribes was derived from male lineage and patriarchy. However, more recent reexaminations (Dick-Bissonnette 1998) argue that this assumption of patriarchal organization was based on male bias by early 20th century researchers, and instead Yokuts sociopolitical authority was matriarchal in nature and centered around matrilineal use-rights and women's work groups.

Prior to Euro-American contact, there was abundance of natural resources within the greater Tulare Lake area. Due to these resources, Yokuts maintained some of the largest populations in North America west of the continental divide (Cook 1955a).

2.4 HISTORIC SETTING

2.4.1 California History

European contact in modern-day California first occurred in 1542 with the arrival of a Spanish expedition lead by Juan Rodríguez Cabrillo into San Diego Bay (Engstrand 1997). Expeditions along the California coast continued throughout the sixteenth century and primarily focused on finding favorable harbors for further expansion and trade across the Pacific. However, rocky shorelines, unfavorable currents, and wind conditions made traveling north from New Spain to the upper California coast a difficult and time-consuming journey (Eifler 2017). The topography of California, with high mountains, large deserts, and few natural harbors lead to European expansion into California only starting in the 1760s. As British and Russian expansion through fur trading encroached on California from the north, Spain established a system of presidios, pueblos, and missions along the California coast to defend its claim, starting with Mission San Diego de Alcalá in 1769 (Engstrand 1997).

2.4.2 Central California History

The San Joaquin Valley did not experience contact with Europeans until the late 1700s (Starr 2007). Life at the California missions was hard and brutal for Native Americans, with many dying of disease, poor conditions, and many fleeing to areas not under direct Spanish control (Jackson and Castillo 1995). The earliest exploration of the San Joaquin Valley by Europeans was likely by the Spaniards when in the fall of 1772 a group known as the Catalonian Volunteers entered the valley through Tejon Pass in search of deserters from the Southern California Missions (Zack 2017). However, the group only made it as far north as Buena Vista Lake in modern day Kern County before turning around due to the extensive swamps. Additional excursions to the valley were for exploration such as those led by Lieutenant Bariel Moraga in 1806, but also to find sites for suitable mission sites and to track down Native Americans fleeing the coastal missions (Cook 1958).

Subsequent expeditions were also sent to pursue outlaws from the coast who would often flee to the valley for safety. One of the subsequent explorations was an expedition in 1814 to 1815 with Sargent Juan Ortega and Father Juan Cabot, who left the Mission San Miguel with a company of approximately 30 Spanish soldiers and explored the San Joaquin Valley (Smith 2004). This expedition passed through the Kaweah Delta and modern-day Visalia and made a recommendation to establish a mission near modern-day Visalia. However, with European contact also came European disease. Malaria and other new diseases were brought by Europeans, and in 1833 an epidemic of unknown origin traveled throughout the Central Valley. Some estimates place the Native American mortality of the epidemic as high as 75 percent (Cook 1955b). Combined with the rapid expansion of Americans into California in 1848 during the Gold Rush, Native American populations within the valley never fully recovered (Eifler 2017).

Initial settlement within the valley by Europeans in the 1830s was largely either by trappers or horse thieves (Clough and Secrest 1984). In fact, horse and other livestock theft was so rampant that ranching operations on the Rancho Laguna de Tache by the Kings River and Rancho del San

Joaquin Rancho along the San Joaquin River could not be properly established (Cook 1962). With the end of the Mexican American War and the beginning of the gold rush in 1848, the San Joaquin Valley became more populated with ranchers and prospectors. Most prospectors traveled by sea to San Francisco and used rivers ranging from the Sacramento River to the San Joaquin River to access the California interior (Eifler 2017). Most areas south of the San Joaquin River were less settled simply because those rivers did not connect to the San Francisco Bay area except in wet flood years. By 1850, California became a state and Tulare County was established in 1853.

2.4.3 Local History

The first county seat for Tulare County was Wood's Cabin but in 1852 the county seat relocated to the town of Visalia. In 1852 a group of settlers from Iowa and Texas located a few miles to the southwest of Woods Cabin. They erected a log fort on the north bank of Mill Creek and named it "Fort Visalia," probably after Visalia, Kentucky. Visalia was incorporated in 1874 and claims to be the oldest town in California between Stockton and Los Angeles (Hoover et al. 1990).

By the late 1850s the town of Visalia was a major station along the Butterfield Overland Mail stage route as it traveled north from Los Angeles to Stockton (Helmich 2008). During the first few decades, Visalia was a supply center for nearby gold rushes, served as the regional population center of Tulare County, and had an agricultural economy based on livestock and some agriculture (Dyett and Bhatia 2014). During the 1850s and 1860s roughly made earthen ditches and dams diverted stream water for irrigation, with the earliest ditches in the San Joaquin Valley being constructed in Visalia between 1852 to 1853 (Caltrans 2000).

The Southern Pacific Railroad was extended from Fresno into Tulare County in the early 1870s but bypassed the City of Visalia as it was located six miles to the east of the rail line (Small 1926). The construction of the rail line also brought an increase in agriculture and farms, which clashed with existing ranching operations in the local area. Escalating conflicts and livestock disputes between ranchers and farmers lead to the "No Fence Law" in 1874, which forced ranchers to pay for crop and property damage caused by their cattle (Ludeke 1980). With the passage of this law and the expansion of irrigation systems, predominant land use in the 1870s switched from grazing to farming (Mitchell 1974). This led to the beginning of the vast change of the San Joaquin Valley from native vegetation and grasslands to irrigated crops (Varner and Stuart 1975).

Water rights within California originally arose from the 'first come first serve' policy of the Gold Rush era. Diverting surface water to farms became big business but was a convoluted mess of customs, traditions, and conflicting claims (Zack 2017). Fed up with the situation, small farmers gathered behind Modesto lawyer C.C. Wright, who was elected to the California legislature in 1887 on the platform of taking water rights from large estates and putting it in the power of community-controlled irrigation districts (Hundley 1992). To solve this mess, the Wright Act of 1887 was passed that allowed residents to petition a local county board of supervisors to create irrigation districts that had the power to issues bonds, and tax land within the district boundaries to pay for the creation and maintenance of canals and ditches for irrigation purposes.

At the same time as the Wright Act, an important step forward was made in ditch-digging technology that allowed irrigation systems to be built at a faster pace. From the 1840s to 1890s, farm ditches and canals were largely constructed through the use of buckboards and slip-scoops, which involved the use of a board pulled by horses in an uprights position in order to level ground (Bulls 2010). Between 1883 and 1885, Scottish immigrant James Porteous had moved to Fresno and made significant improvements to the buckboard style scraper that allowed the new scraper to be pulled by two horses and scrape and move soil while dumping it at a controlled depth. This new design was patented and sold as the “Fresno Scraper”, which lead to an explosion of ditch digging efforts within the San Joaquin Valley (Zack 2017).

3
METHODS

3.1 RECORDS SEARCH

On July 3, 2024, Taylored Archaeology requested a cultural resource records search from the SSJVIC of the CHRIS at California State University in Bakersfield, California. The purpose of this request was to identify and review prior cultural resource studies and previously recorded cultural resources on or near the APE. The records search included prior cultural resources investigation reports conducted, previously recorded resources within the APE and the 1.0- mile radius around the APE (Appendix B). Also included in research were cultural resource records (DPR forms) as well as the Historic Properties Directory of the Office of Historic Preservation list, General Land Office Maps, Archaeological Determinations of Eligibility list, and the California Inventory of Historic Resources list.

3.2 ARCHIVAL RESEARCH

As part of the cultural resources assessment, Taylored Archaeology examined historical aerial photographs, historical USGS topographic maps, Google Street View photos, books, scholarly articles, and other records to obtain information on the history of land use and to identify potential historical structures or buildings within the Project boundary. Research data was used from California State University, Fresno's database (http://malt.lib.csufresno.edu/MALT/), Google Earth and historicaerials.com. The results of this research are presented in Chapter 4.

3.3 NATIVE AMERICAN OUTREACH

Taylored Archaeology requested a Sacred Lands File (SLF) search from the NAHC on July 3, 2024. The SLF search was requested to identify whether there are sensitive or sacred tribal cultural resources in the vicinity of the APE that could be affected by the proposed Project. The NAHC also included contact information of local Native American representatives who may have knowledge or interest in sharing information of resources of sacred significance present in or near the APE. Each individual listed was sent a nongovernmental outreach letter and a map were sent via certified mail through U.S. Postal Service notifying them of the Project and asking if they had any knowledge of the Project area or surrounding vicinity. Follow-up communication was performed via email and phone calls, as appropriate. The SLF results are in Chapter 4.

3.4 ARCHAEOLOGICAL PEDESTRIAN SURVEY

On July 20, 2024, Archaeologist Consuelo Sauls conducted an archaeological pedestrian survey of the entire Project's APE. The survey method varied based on the specific conditions within the APE. The survey began in the southwest corner of the APE and was completed from west to east along transects oriented north to south using parallel transects spaced 15 meters apart in most of the APE. In the southeast portion, the transects oriented west to east in areas that were accessible in the orchard. All areas of the APE were accessible and surveyed. The archaeologist

carefully inspected all exposed ground surface and rodent burrow back-dirt piles and other areas of bare earth for soil discoloration that could indicate the presence of artifacts (e.g., lithics and ceramic sherds), soil depressions, and features indicating of the former presence of buildings or structures (e.g., postholes and foundations).

The APE was checked for both prehistoric deposits and historic-age features, structures, and artifacts more than 50 years old that may be present on the ground surface. The archaeologists photographed portions of the APE using digital cameras. A survey plan map of the site boundary was used to see vegetation, structures, map out transects and surveyed, and recorded observations on field notes, and collected locational data on a Gaia Global Positioning System application.

4
RESULTS

4.1 RECORDS SEARCH

The SSJVIC provided the records search results in a letter dated July 15, 2024 (Appendix B). According to the search results, no prior cultural resource studies were conducted within the APE. Two previous cultural resources studies were within a 1.0-mile radius of the APE as shown in Table 4-1. Neither of these two studies intersected the APE.

The SSJVIC reported one historic-era resource within the APE, the Cottonwood Creek Levee (P-54-004856) (Table 4-2). Further review of the DPR forms for the Cottonwood Creek Levee reveals limited information is available regarding the builder or architect of this resource. The date of construction is also unknown. When originally recorded in 2007, the DPR form speculated the levee may have been built in the late 19th century, but the levee only first appears on USGS topographic maps starting in 1950 (USGS 1950). As discussed in Section 4.2 of this report, the levee does not appear on Cottonwood Creek in a 1946 aerial map of the APE.

The SSJVIC search also reported two additional resources within 1.0 mile of the APE (Table 4-3). The report associated with P-54-004856 was not on file with the SSJVIC (Armstrong and Pesnichak 2007). The two resources within 1.0 mile of the APE were Westward Farms, formerly known as Yamaguchi Labor Camp - J.D. Martin Ranch (P-54-002513), and the SCE Big Creek Hydroelectric System, Big Creek East and West 220kV Transmission Line (P-54-004832). Neither of these two resources overlap the APE. The Yamaguchi Labor Camp – J.D. Martin Ranch was recorded in 1980, and based on aerial imagery appears to have been demolished sometime between 1994 and 2003 (Google Earth 2024).

Table 4-1 Previous Cultural Resources Studies within 1.0-mile of the Project APE

Report Number	Author(s)	Date	Report Title	Study
TU-01036	James J. Schmidt	2000	Sequoia 12kV Transmission Line, Tulare County	Archaeological Field Survey
TU-01424	James J. Schmidt	2010	Archaeological Letter Report: Twin Battle 12kV Deteriorated Pole Replacement Project, Tulare County, California	Archaeological Field Survey

Table 4-2 Previous Recorded Cultural Resources within the Project APE

Resource Number	Age Association	Resource Type	NRHP/CRHR Eligibility Status	Year Recorded	Distance from APE
P-54-004856	Historic	Object- levee	Not evaluated	2007 (Pacific Legacy)	0.51 miles northwest

Table 4-3 Previous Recorded Cultural Resources within 1.0-mile radius of the Project APE

Resource Number	Age Association	Resource Type	NRHP/CRHR Eligibility Status	Year Recorded	Distance from APE
P-54-002513	Historic	Site; a labor camp area with a few outbuildings, living quarters and barn	Not evaluated (now demolished)	1980 (Ethnic Minority Cultural Resources)	0.85 miles southeast
P-54-004832	Historic	Structure; Transmission Lines	Eligible for NRHP and CRHR	2019 (Urbana Preservation and Planning, LLC)	1 mile west

4.2 ARCHIVAL RESEARCH

Available topographic map coverage of the APE begins in 1926. The USGS topographic map of the APE depicts the APE bordered by Cottonwood Creek to the northeast, and an unnamed road to the west in the same configuration as present-day Road 156 respectively (NETROnline 2024). Additionally, a single structure is depicted at the southeast corner of the APE near Cottonwood Creek. A 1946 USGS topographic map depicts the APE similar to 1926. A 1950 USGS topographic map depicts a levee along the northeastern boundary of the APE on the southwest bank of Cottonwood Creek (NETROnline 2024).

Aerial photography of the APE begins in 1946 and depicts the APE as an orchard with Road 156 as a paved road on the western boundary of the APE and Road 160 as a dirt road on the southern boundary of the APE (USAAA). The 1946 aerial photograph also shows a cluster of buildings in the southeast portion of the APE, consisting of three primary buildings and two to three outbuildings. No levee on either the north or south bank of Cottonwood Creek is visible in the 1946 aerial photograph. 1956 aerial photography depicts the site in a similar manner, though Cottonwood Creek at the northeast end of the APE is largely denuded of trees present in the 1946 aerial photograph, and a levee is shown on the southwest bank of Cottonwood Creek bordering the APE (NETROnline 2024). In 1969 the buildings appear to have been demolished in the southeast corner of the APE. Between 1969 and present day the APE appears to have continued to be utilized for orchard and row crops with minimal changes (NETROnline 2024, Google Earth 2024).

4.3 NATIVE AMERICAN OUTREACH

The NAHC responded on July 22, 2024, via email with a letter regarding Taylored Archaeology's request. The SLF search did not identify the presence of tribal cultural resources in the proposed Project APE. The NAHC supplied a list of Native American representatives to contact for information or knowledge of cultural resources in the APE and the surrounding area (Appendix C).

The following Native American organizations/individuals were contacted from the list provided by NAHC below:

1. Tribal Administrator Tom Zizzo of Big Sandy Rancheria of Western Mono Indians
2. Chairperson Elizabeth Kipp of Big Sandy Rancheria of Western Mono Indians
3. Vice Chairperson Joel Marvin of Big Sandy Rancheria of Western Mono Indians
4. Tribal Administrator Desiree Lewis of Cold Springs Rancheria of Mono Indians of California
5. Chairperson Shane Ratchford of Cold Springs Rancheria of Mono Indians of California
6. Chairperson Robert Ledger of the Dumna Wo-Wah Tribal Government
7. Chairperson Delia Dominguez of Kitanemuk and Yowlumne Tejon Indians
8. Chairperson Charlotte Lange of Mono Lake Kutzadika Tribe
9. Chairperson Ron Goode of the North Fork Mono Tribe
10. Council Member - Archaeological Director Jesse Valdez of the North Fork Mono Tribe
11. Tribal Secretary Anna Phipps of the North Fork Mono Tribe
12. Cultural Specialist II Samantha McCarty of the Santa Rosa Rancheria Tachi Yokut Tribe
13. Tribal Historic Preservation Officer Shana Powers of the Santa Rosa Rancheria Tachi Yokut Tribe
14. Cultural Specialist I Nichole Escalon of the Santa Rosa Rancheria Tachi Yokut Tribe
15. Chairperson Michelle Heredia-Cordova of Table Mountain Rancheria
16. Cultural Resource Director Bob Pennell of Table Mountain Rancheria
17. Chairperson David Alvarez of Traditional Choinumni Tribe
18. Environmental Department Director Kerri Vera of the Tule River Tribe
19. Tribal Archaeologist Joey Garfield of the Tule River Indian Tribe
20. Chairperson Neil Peyron of the Tule River Indian Tribe
21. Chairperson Kenneth Woodrow of the Wuksache Indian Tribe/Eshom Valley Band

The outreach letters were sent via certified mail to each individual on the contact list on July 24, 2024 (Appendix C). The letters included a description of the proposed Project and a topographic map of the location. Follow-up by emails were sent on August 7, 2024. Chairperson Elizabeth Kipp of the Big Sandy Rancheria of Western Mono Indians responded by email that they have no comments or concerns with the project and that anytime anything of cultural significance is discovered, they request to be notified. Chairperson Kenneth Woodrow of the Wuksache Indian Tribe/Eshom Valley Band responded by telephone on August 13, 2024, stating the Project area is in a culturally sensitive area and requested archaeological monitoring of all ground disturbing activity in the APE. Chairman Curtis Lee of the Cold Springs Rancheria responded via email on August 15, 2024, stating the APE was outside the Cold Springs Rancheria geographical area and the tribe had no interest in the Project.

As of the date of this report, no other responses have been received. Responses received by Native American individuals at the time of writing may be found in Appendix C.

4.4 ARCHAEOLOGICAL PEDESTRIAN SURVEY RESULTS

The landscape in the APE consisted primarily of row crops and citrus orchard in an abandoned state with wild oat and other annual grasses with scattered wheat, corn, sunflower and other ruderal plants (Figure 4-1). The natural topography of the area has been altered by agricultural practices and much of the land was graded, plowed, planted and/or harvested over the past one hundred plus years, which caused additional disturbance to the soil. The ground visibility at the time of the survey was poor to good (10 to 68 percent) due to overgrown ruderal plants (Figure 4-2). Visibility in those areas was greater near rodent burrow back-dirt and in dirt patches. In addition, ground visibility was 100 percent in areas such as the dirt paths and in most parts of the orchard that were not overgrown (Figure 4-3). Surface sediments were observed to be grayish-brown sandy loam with abundant silt with many angular shaped pebbles and gravel (Figure 4-4). Soils observed in the APE consisted of a grayish brown sandy loam consistent with Yettem and Tujunga soil series as reported by the Natural Resources Conservation Service Web Soil Survey to be within the APE (NRCS 2024).

One previously recorded cultural resource was observed in the northeast corner within the APE, P-54-004856 (Cottonwood Creek Levee) (Figure 4-5). This levee was previously recorded approximately 0.50 miles northwest of the Project APE as discussed in Section 4.1 and 4.2. The levee within the APE consists of an earthen berm following Cottonwood Creek.

Taylored Archaeology's intensive pedestrian survey of the APE covered a total of 62 acres (Figure 4-6).

No other archaeological sites, isolated artifacts, buildings or features were encountered within the Project's APE during the survey. While past agricultural and development activities may have potentially destroyed or obscured ground surface evidence of archaeological resources within the APE, intact archaeological resources may potentially exist below the ground surface.

Figure 4-1 Northwestern portion of APE, view east.

Figure 4-2 Southwestern portion of APE, view north.

Figure 4-3 Eastern portion of APE in orchard, facing east.

Figure 4-4 Rodent burrow and soil in eastern portion of APE.

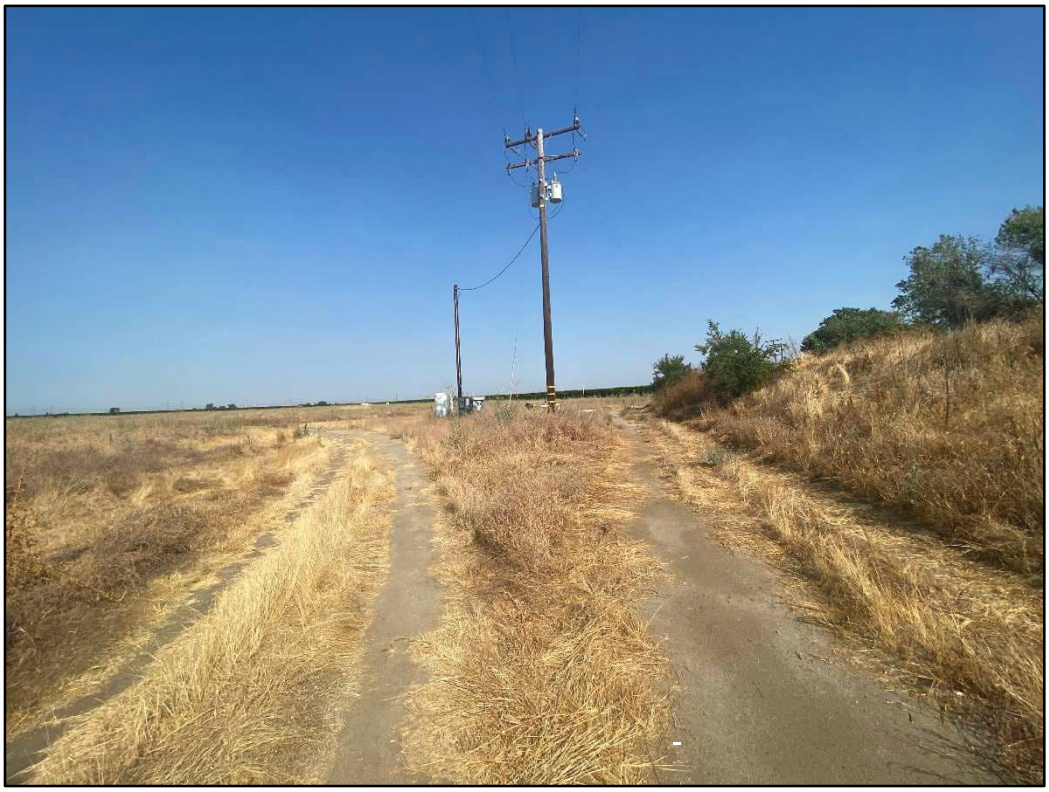

Figure 4-5 Cottonwood Creek levee on right, northeast portion of APE. View northeast.

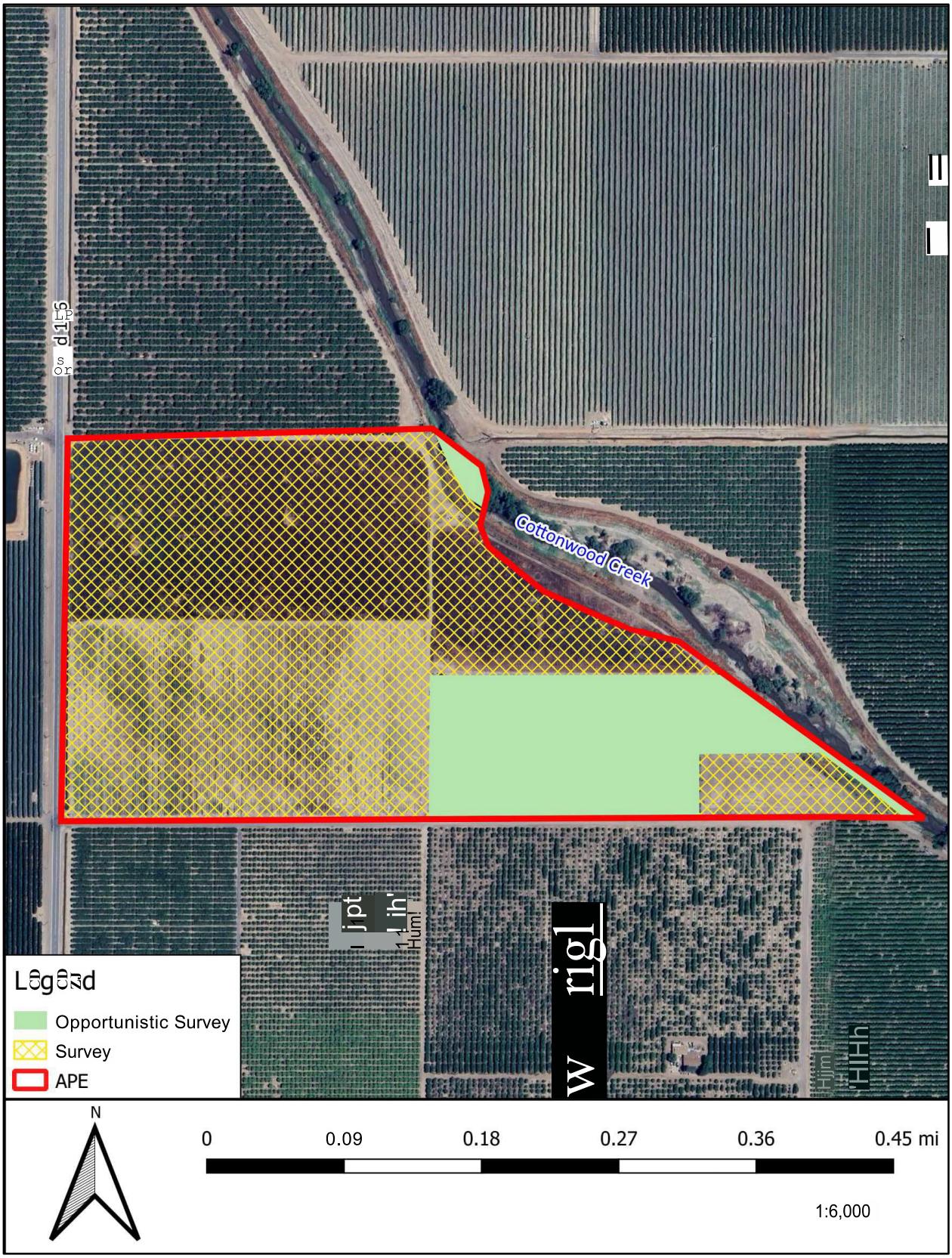

Figure 4-6 Survey coverage within the APE.

4.4.1 Potential for Buried Sites

As discussed in Section 2.1, Natural Environment, of this report, much of the archaeological record in the San Joaquin Valley is buried from floodplains, lake sediments, and alluvial fans and cultural resources are not always visible on the ground surface. Therefore, it is important that archaeological investigations consider the sensitivity of the vertical Project impact to contain potential intact buried cultural resources. By understanding changes in the history of the landscape and natural hydrology, as well as the age of the soil, depositional setting, and general environmental conditions, predictions regarding the potential for the Project to impact cultural resources lying below the ground surface can be made.

The Project site is located within the central portion of the southern San Joaquin Valley adjacent to the Kaweah River alluvial fan, which is part of a series of alluvial fans formed by erosion from the main hydrological systems originating in the Sierra Nevada mountains. The Kaweah River alluvial fan is a stream-dominated fan covering more than 400 square miles and lies within the general vicinity of Visalia, the City of Tulare, and Hanford (Weissmann et al. 2002; White 2016). The fan has a low gradient due to the flat valley topography, with stream flow trending towards the west and southwest. The lower Kaweah River fan surrounding the general Project area is comprised of Holocene era deposits as indicated by the presence of well-developed soils (Meyer and Brandy 2019). As discussed in Section 4.2, Archival Research, detailed USGS topographic maps from 1926 to 2021 depict the Project site as located within the lower Kaweah River alluvial fan adjacent to Cottonwood Creek (USGS 1926-2021).

A previous geoarchaeological sensitivity model for the San Joaquin Valley was conducted by Far Western Anthropological Research Group in 2019, which analyzed sensitivity based on various geographic factors such as water proximity, slope, soil type, and landform (Meyer and Brandy 2019). According to this model, the Project site and the adjacent Cottonwood Creek are located within an area of medium to low sensitivity for the potential presence of buried prehistoric archaeological deposits. Additionally, as discussed in Section 2.3, Ethnography, the closest documented village was approximately nine miles south of the APE (Kroeber 1925, Latta 1977).

Based upon ethnographic data, historical maps, and archaeological sensitivity models, the Project area was adjacent to a natural watercourse and potentially contained a moderate supply of natural resources for indigenous populations. Thus, there is a moderate possibility of encountering buried cultural resources during Project ground disturbing activities.

5
CONCLUSIONS AND RECOMMENDATION

Taylored Archaeology performed a Phase I Cultural Resources Assessment for the East Kaweah GSA-MLRP Basin Project. The Project involves developing a recharge basin with a diversion structure to pump water from Cottonwood Creek. Taylored Archaeology's assessment consisted of a records search from the SSJVIC, archival research to gather background information on the site, nongovernmental Native American outreach, and a pedestrian survey. Taylored Archaeology did not observe evidence of prehistoric and historic cultural resources on the ground surface within the APE. The absence of cultural material on the ground surface does not, however, preclude the possibility of Project construction unearthing buried archaeological deposits. As discussed in Section 4.4.1, there is a moderate possibility of encountering buried cultural resources within the APE during Project ground disturbing activities, which supports the Wuksache Indian Tribe/Eshom Valley Band's request for archaeological monitoring during of all ground disturbing activities during construction.

The SSJVIC reported no prior cultural resources studies conducted within the APE. Additionally, one cultural resource, P-54-004856 (Cottonwood Creek Levee), was recorded within the APE. The resource was recorded in 2007 but not evaluated for eligibility in the CRHR nor the NRHP. Further review of the DPR forms for the Cottonwood Creek Levee reveals no information is available regarding the builder or architect of this resource. The date of construction is also unknown. When originally recorded in 2007, the DPR form speculated the levee may have been built in the late 19th century, but the levee only first appears on USGS topographic maps starting in 1950 (USGS 1950). As discussed in Section 4.2 of this report, the levee also does not appear on Cottonwood Creek in a 1946 aerial map of the APE, therefore lending evidence to a potential construction date between 1946 and 1950.

The SSJVIC also reported that 2 previous cultural resources studies were conducted, and two historical resources were recorded, within a 1-mile radius of the APE. The first resource, P-54-002513, is a historic labor camp site called the Yamaguchi Labor Camp - J.D. Martin Ranch. The second resource, P-54-004832, is the Big Creek Hydroelectric System, East and West Transmission Line. Neither of these resources will be impacted by the proposed Project.

No archaeological sites or tribal cultural resources were identified in the APE as result of the NAHC's Sacred Lands File search. Outreach to the Native American representatives did not result in identification of sacred sites within the APE or surrounding area. Chairman Curtis Lee of the Cold Springs Rancheria responded stating the APE was outside the Cold Springs Rancheria geographical area and the tribe had no interest in the Project. Chairperson Elizabeth Kipp of the Big Sandy Rancheria of Western Mono Indians responded by email that the tribe has no comments or concerns with the Project and that anytime anything of cultural significance is discovered, they request to be notified. Kenneth Woodrow of the Wuksache Indian Tribe/Eshom Valley Band requested archaeological monitoring of all trenching activity in the APE due to the cultural sensitivity of the area. No additional responses were received to the letters or emails.

The archaeological pedestrian survey revealed that one cultural resource, Cottonwood Creek Levee, was within the APE. With no information regarding the architect or builder, and with only a limited amount of information regarding a potential construction date between 1946 and 1950, an eligibility determination of this resource cannot be made at this point in time. Thus, Taylored Archaeology's study concludes that no historic properties will be affected by the proposed undertaking.

Based on the results of this investigation, including the moderate sensitivity for buried sites within the APE and the request of the Wuksache Indian Tribe/Eshom Valley Band for an archaeological monitor, Taylored Archaeology therefore recommends the following:

- An archaeological monitor shall be present on the Project site during ground disturbing activities within the APE. In the event of accidental discovery of unidentified archaeological remains during development or ground disturbing activities within any portion of the APE, all work shall be halted in the immediate vicinity (within a 100-foot radius) until a qualified archaeologist can identify the discovery and assess its significance.

- In the event that previously unidentified archaeological remains are encountered during development or ground-moving activities in the APE, all work should be halted until a qualified archaeologist can identify the discovery and assess its significance. In the event of accidental discovery of unidentified archaeological remains during development or ground-moving activities in the APE, all work shall be halted in the immediate vicinity until a qualified archaeologist can identify the discovery and assess its significance.

- If human remains are uncovered during construction, the Tulare County Coroner is to be notified to investigate the remains and arrange proper treatment and disposition. If the remains are identified on the basis of archaeological context, age, cultural associations, or biological traits to be those of a Native American, California Health and Safety Code 7050.5 and PRC 5097.98 require that the coroner notify the NAHC within 24 hours of discovery. The NAHC will then identify the Most Likely Descendent who will be afforded an opportunity to make recommendations regarding the treatment and disposition of the remains.

6
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APPENDIX A

Personnel Qualifications

Consuelo Sauls, M.A., RPA 41591505
Archaeologist
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559.797.1572

Areas of Expertise

- Cultural Resource Management
- CEQA and Federal regulations
- Prehistoric Archaeology
- Laboratory Management
- Technical Writing
- Phase I Assessments

Years of Experience

- 16

Education

- M.A., Archaeology, University of Durham, 2014
- B.A., Anthropology, California State University, Fresno, 2009

Registrations/Certifications

- Registered Professional Archaeologist 41591505

Professional Affiliations

- Coalition for Diversity in California Archaeology
- Society for American Archaeology
- Society for California Archaeology
- Society of Black Archaeologists

Professional Experience

2019 –Present	Principal Investigator, Taylored Archaeology, Fresno, California
2018 – 2019	Staff Archaeologist, Applied EarthWorks, Inc., Fresno, California
2016 – 2018	Principal Investigator, Soar Environmental Consulting, Inc., Fresno, California
2015	Archivist/Database Technician, Development and Conservation Management, Inc., Laguna Beach, California
2013	Laboratory Research Assistant, Durham University Archaeology Department and Archaeology Museum, Durham, England, UK
2011 – 2012	Laboratory Technician, University of Pennsylvania Museum of Archaeology and Anthropology, Philadelphia, Pennsylvania
2008 – 2009	Laboratory Technician, California State University, Fresno
2008	Field School, California State University, Fresno

Technical Qualifications

Ms. Sauls meets the Secretary of the Interior's Professional Qualification Standards as an archaeologist. She has conducted pedestrian surveys, supervised Extended Phase I survey, authored technical reports, and completed the Section 106 process with the State Historic Preservation Officer and Tribal Historic Preservation Officer. Her experience includes data recovery excavation at Western Mono sites and processing recovered artifacts in the laboratory as well as conducting archival research about prehistory and ethnography of Central California. Ms. Sauls has authored and contributed to technical and letter reports in compliance with of the National Historical Preservation Act (NHPA) Section 106 and the California Environmental Quality Act (CEQA). She also has supported NHPA tribal consultation and responded to Assembly Bill 52 tribal comments. Ms. Sauls also has an extensive background supervising laboratory processing, cataloging, and conservation of prehistoric and historical archaeological collections. In addition, she worked with the Rock Art Heritage Group in the management, preservation, and presentation of rock art in museums throughout England, including a thorough analysis of the British Museum's rock art collections. At Durham University Archaeology Museum, Ms. Sauls processed the excavated skeletal remains of 30 individuals from the seventeenth century.