

Delano-Earlimart Irrigation District: Turnipseed Basin Phase IV Expansion Project



Draft Initial Study/Mitigated Negative Declaration

September 2019

Prepared for:
Eric R. Quinley
Delano-Earlimart Irrigation District

Prepared by:



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Acronyms & Abbreviations

AAM	Annual Arithmetic Mean
AB	Assembly Bill
APN	Assessor's Parcel Number(s)
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model
CARB	California Air Resources Board
CCAP	Climate Change Action Plan
CDFW	California Department of Fish and Wildlife
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CH ₄	Methane
CNDDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CO	Carbon Monoxide
CO _{2e}	Carbon Dioxide Equivalent
DEID	Delano-Earlimart Irrigation District
District	Delano-Earlimart Irrigation District
DOC	California Department of Conservation
DPM	Diesel Particulate Matter
DTSC	California Department of Toxic Substances Control
DWR	Department of Water Resources
EIR	Environmental Impact Report
EPA	Environmental Protection Agency
FEMA	Federal Emergency Agency
FMMP	Farmland Mapping and Monitoring Program
GHG	Greenhouse Gas
IS	Initial Study
MND	Mitigated Negative Declaration
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
ND	Negative Declaration
NO ₂	Nitrogen Dioxide

NOX	Nitrogen Oxide
O ₃	Ozone
PPB	parts per billion
PPM	parts per million
Project.....	Delano-Earlimart Irrigation District Turnipseed Expansion Phase IV Project
RWQCB	Regional Water Quality Control Board
SJVAB.....	San Joaquin Valley Air Basin
SJVAPCD.....	San Joaquin Valley Air Pollution Control District
SGMA.....	Sustainable Groundwater Management Act
TAC	Toxic Air Contaminants
TPY	Tons Per Year
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service

Chapter 1 Introduction

Provost & Pritchard Consulting Group (Provost & Pritchard) has prepared this Initial Study/Mitigated Negative Declaration (IS/MND) on behalf of Delano-Earlimart Irrigation District (DEID or District) to evaluate the potential environmental effects of constructing a recharge basin as part of the Turnipseed Basin Phase IV Expansion Project (Project or Proposed Project). This document has been prepared in accordance with the California Environmental Quality Act (CEQA), Public Resources Code Section 21000, *et seq.* The District is the CEQA lead agency for this Proposed Project.

The site and the Proposed Project are described in detail in the Project Description, [see Chapter 2](#).

1.1 Regulatory Information

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

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

1.2 Document Format

This IS/MND contains four chapters and four appendices. [Chapter 1 Introduction](#), provides an overview of the proposed Project and the CEQA process. [Chapter 2 Project Description](#), provides a detailed description of proposed Project components and objectives. [Chapter 3 Impact Analysis](#), presents the CEQA checklist and environmental analysis for all impact areas, mandatory findings of significance, and feasible mitigation measures. If the proposed Project does not have the potential to significantly impact a given issue area, the relevant section provides a brief discussion of the reasons why no impacts are expected. If the proposed Project could have a potentially significant impact on a resource, the issue area discussion provides a description of potential impacts, and appropriate mitigation measures and/or permit requirements

that would reduce those impacts to a less than significant level. **Chapter 3** concludes with the Lead Agency's determination based upon this initial evaluation. **Chapter 4 Mitigation Monitoring and Reporting Program** (MMRP), provides the proposed mitigation measures, implementation timelines, and the entity/agency responsible for ensuring implementation.

The CalEEMod Output Files, Biological Evaluation Report, and Cultural Resources Information 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 and Objectives

2.1.1 Project Title

Delano Earlimart Irrigation District – Turnipseed Basin Phase IV Expansion Project

2.1.2 Lead Agency Name and Address

Lead Agency Contact
Delano-Earlimart Irrigation District
14181 Avenue 24
Delano, CA 93215
Office: (661) 725-2526

2.1.3 Contact Person and Phone Number

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

2.1.4 Project Location

The Proposed Project is located in southwestern Tulare County within the Central San Joaquin Valley of California, approximately 4.1 miles east of State Route 99 (SR 99), approximately 5.6 miles southeast of Earlimart, and four miles northeast of Delano. The Project site is approximately 0.8 mile southeast of the Friant-Kern Canal and approximately 0.25 mile south of White River. **See Figure 2-1.** The site consists of Tulare County Assessor’s Parcel No. (APN) 338-140-001, situated at the northwest corner of Avenue 24 and Road 172, within the southeast quarter of Section 17, Township 24 South, Range 26 East, M.D.B&M. **See Figure 2-3.**

2.1.5 Latitude and Longitude

The Project centroid is at the following approximate coordinates: 35.837725, -119.183531

2.1.6 General Plan Designation

Table 2-1. General Plan Designation

Project Area	General Plan Designation
Entirety	Valley Agriculture

2.1.7 Zoning

Table 2-2. County Zone District

Project Area	Zone District
Entire Project	AE-20

2.1.8 Description of Project

2.1.8.1 Project Background and Purpose

Delano-Earlimart Irrigation District:

Irrigation in the Delano and Earlimart regions began in the late 1800s with artesian wells, but by the 1930s diminished groundwater supplies threatened the area's continued economic viability. By 1947 the mean depth to groundwater was dangerously low. The Delano-Earlimart Irrigation District (District) was formed in 1938 and signed its original water service contract for water delivery from the Friant Unit of the Central Valley Project with the United States Bureau of Reclamation (Reclamation) in 1951, after the average depth of groundwater had fallen every year since 1905.

The District is a Friant Division Central Valley Project (CVP) contractor with Reclamation and receives water diverted from the Friant-Kern Canal (FKC). The District's annual entitlement from its CVP contract is for 108,800 AF Class 1 and 74,500 AF Class 2 supplies. When 215 Water (surplus CVP water) is available, the District can receive deliveries through annual contracts with Reclamation. The District delivers surface water to approximately 400 landowners on roughly 56,500 acres of land through an entirely underground system consisting of approximately 172 miles of pipeline, 527 irrigation turnouts, and 79 smaller metered deliveries to municipal and industrial water users. Currently, the District provides more than 99% of its water supply for irrigation purposes and less than one percent (300 AF annually) for municipal and industrial uses. Farmers within the District pump groundwater from privately-owned wells when surface water supplies are insufficient to meet their irrigation needs.

Virtually all of the acreage in the District is being utilized for agricultural production. Over 90% of the District is planted in permanent crops, the most prevalent crop being grapes. Other permanent crops include pistachios, almonds, and various tree fruit. Overall, more than twenty different types of crops are grown within the District.¹

In 1993, the District purchased and developed an 80-acre parcel specifically for use as a groundwater recharge basin, known as the Turnipseed Recharge Basin, which could receive water from either the District's distribution system or from direct diversions from the White River. In 2008, the Turnipseed Recharge Basin was converted into a banking facility. In 2011 the District increased its capacity to bank and regulate surface water by developing an additional 80-acre parcel to the south of the existing Turnipseed Recharge Basin into recharge cells, referred to as the Turnipseed Southern Expansion Project. This groundwater banking facility consists of wells and associated pipelines. The basin fills seasonally; however, there are some years when it is dry and other years it operates continuously. The District owns and maintains approximately one half mile of the White River that bisects the existing 160-acre Turnipseed Recharge Basin Project site, north of the Proposed Project. In 2018 the District began construction on Turnipseed Basin Phase III on approximately 360 acres.

¹ <http://www.deid.org/>. Accessed 29 July 2019.

2.1.8.2 Project Description

The Proposed Project involves the construction of a groundwater recharge basin facility on identified property for use in the District's efforts to sustainably manage surface water and groundwater for the benefit of District lands. The District is in the process of acquiring a 160-acre parcel (APN #338-140-001) immediately south of the existing Turnipseed Basin, contingent on reviewing the suitability of utilizing the property for the Proposed Project project to provide for sustainable management of surface and groundwater. The proposed project property for the Proposed Project is located in southwest Tulare County, northeast of the City of Delano. The Proposed Project includes several phases of construction, including equipment mobilization, earthwork for excavation of recharge/regulation basins and construction of basin perimeter berms of no greater than six feet in external height. Project components could include ponds/cells within the basin separated by levees, performance testing, and demobilization.

The District will excavate approximately 55,000 cubic yards of material from the site to form the overall basin. The basin will be further divided into approximately eight (8) cells to increase storage over varying topography. The Project will include a settling channel on the east side and an overflow basin along its western edge. The Project may also construct a network of monitoring wells if needed to supplement existing monitoring wells associated with the existing banking operations that currently exist in proximity to the Project. The only pipelines contemplated in the Project would serve to introduce water for recharge/banking via connection to a tee in the existing Ave 24 mainline and pipeline at the southeast corner of the project and interconnections with the existing recharge cells just north of the Project site.

2.1.8.3 Construction, Operation and Maintenance

Construction will occur over approximately six months. All water delivered to the Project site for recharge purposes would be pursuant to existing District contracts or existing water rights, for which the Project site is within the existing identified place of use. Additional contractual or water rights supplies may be available in the future, but would be subject to all applicable contracting or permitting requirements, including future environmental review if applicable. Operation of the facility would be consistent with that of the District's other similar facilities in that groundwater conditions will be monitored to minimize negative impacts on the surrounding areas (such as nearby wells, crops, and septic systems). Water delivered to the Project Site under the Primary Phase Operations would be expressly intended by the District to be available for recovery only by District landowners within the original DEID services area, that area under jurisdiction of the District prior to the annexation of lands that occurred in 2016. The accounting of water delivered to the Project site, and the intended recovery by landowners will, occur through the water balance or other similar mechanisms under the Groundwater Sustainability Plan currently being developed by the Delano-Earlimart Irrigation District Groundwater Sustainability Agency. Monitoring wells will be utilized for the additional purpose of ensuring recovery pumping does not adversely affect landowner operations in proximity to the recovery wells.

2.1.9 Site and Surrounding Land Uses and Setting

Land uses in the vicinity of the Project site consist of active farmland, scattered rural residences, and vacant/fallow land typical of rural areas in the Central Valley. The Project site consists of and is surrounded entirely by land zoned as AE-20, Exclusive Agriculture, by Tulare County. Properties directly surrounding the Project site are actively farmed, and include vines and tree crops. The District is located on the Valley floor east of the Coast Ranges and west of the Sierra Nevada Mountain Range. The proposed basin expansion is located approximately 4.1 miles east of SR 99.

The Project area sits at an elevation of approximately 377 feet above mean sea level, approximately one mile west of the Friant Kern Canal and directly south of the existing Turnipseed Basin which is bisected by the White River. The Project is located within the Town of Richgrove watershed; Hydrologic Unit Code (HUC): 1803000050802 (EPA, 2019), which is part of the Upper Deer-Upper White watershed HUC: 180300005.

The Project lies entirely within the Tule Groundwater Subbasin of the San Joaquin Valley Groundwater Basin. (DWR, 2019). The Project area is located immediately south of the existing Turnipseed Basin and north of the Phase III Expansion of Turnipseed Basin, which is currently under construction. Additional uses in the vicinity include agricultural lands and associated irrigation basins. The site is accessible by paved roads (Avenue 24 and Road 176) in addition to existing compacted dirt access roads.

See **Figure 3-4** for the zone district designations.

2.1.10 Other Public Agencies Whose Approval May Be Required

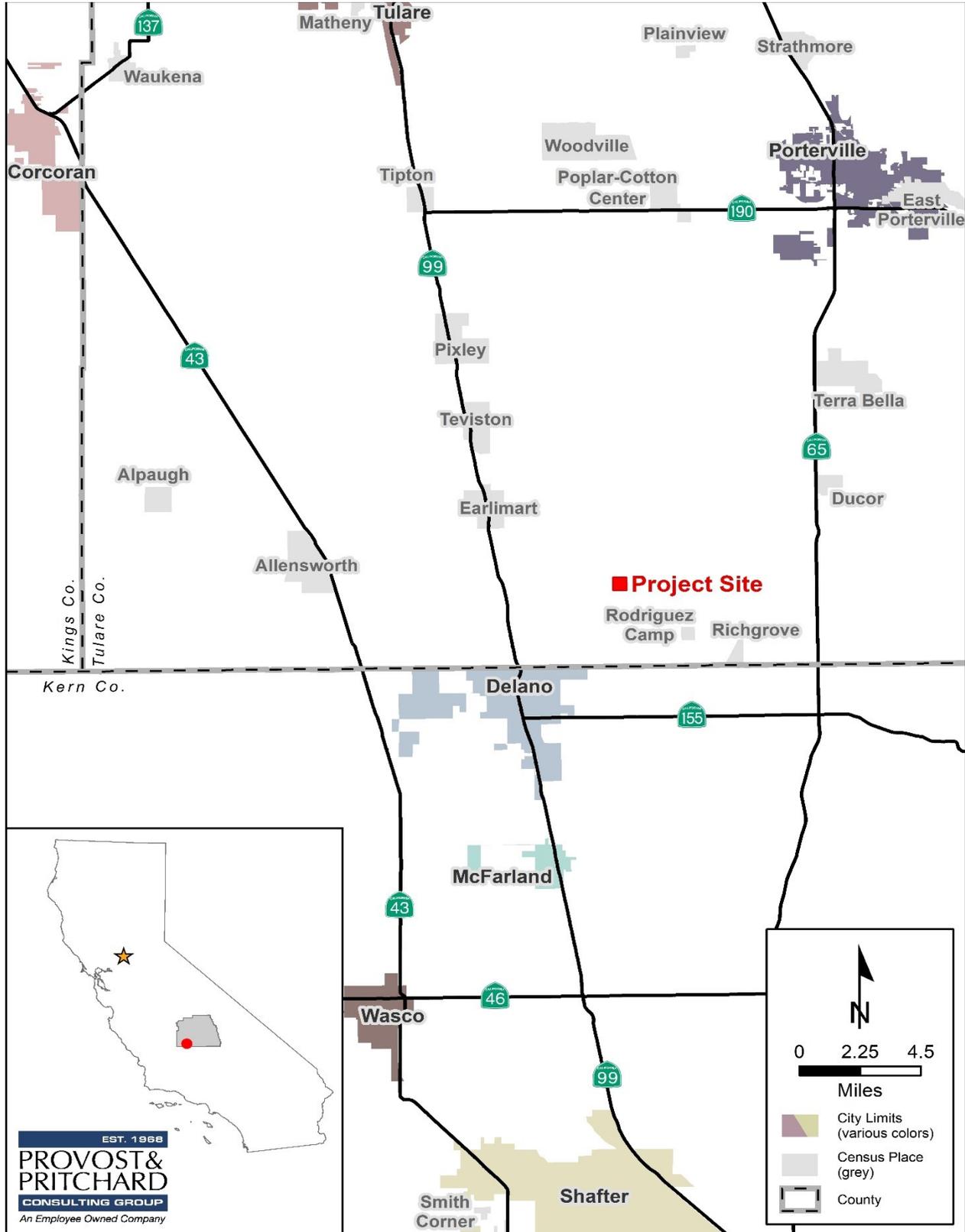
Approvals and permits that could be required:

- State Water Resources Control Board – NPDES Construction General Permit
- San Joaquin Valley Air Pollution Control District – Rules and Regulations (Regulation VIII, Rule 9510, Rule 4641)

2.1.11 Consultation with California Native American Tribes

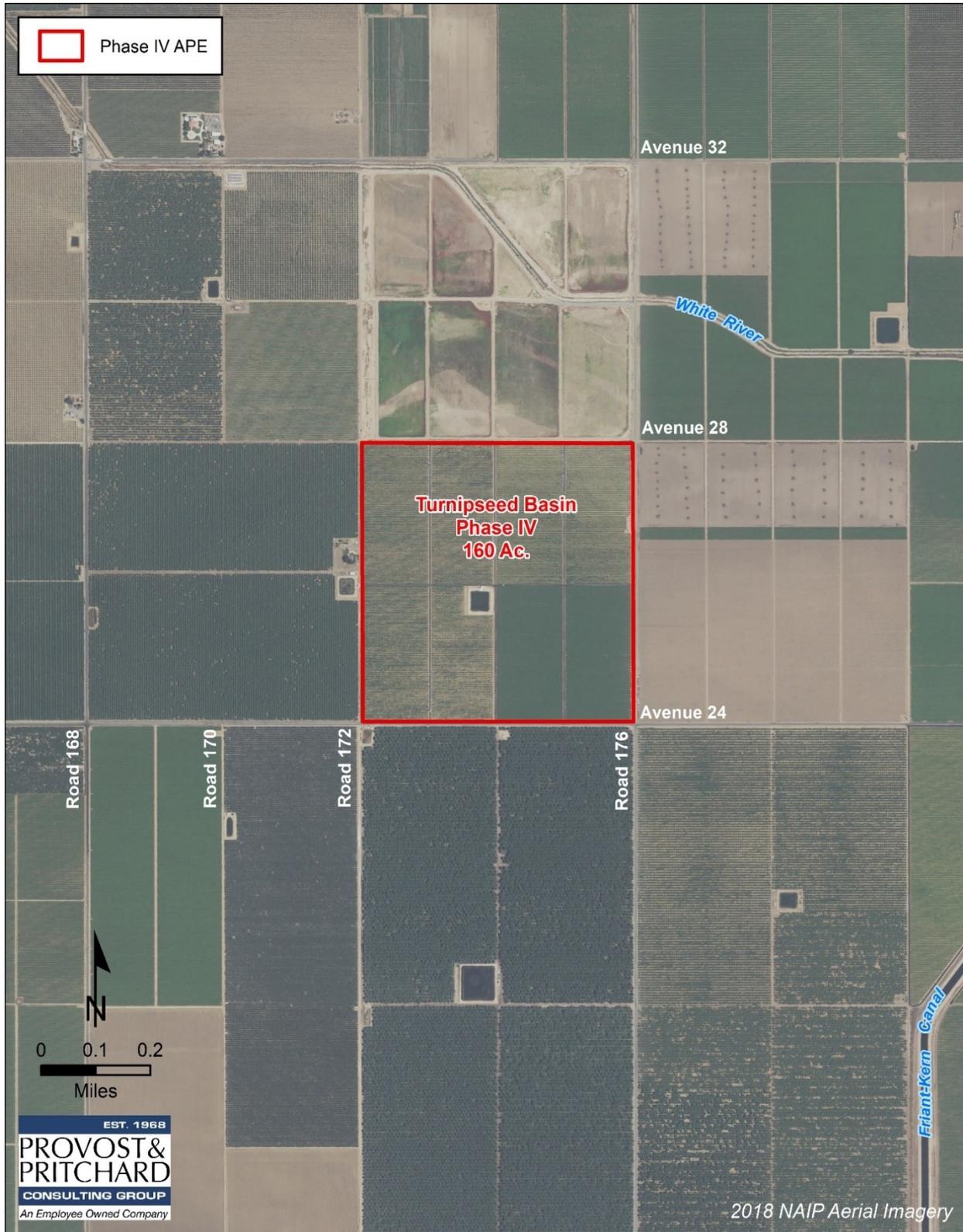
Public Resources Code Section 21080.3.1, *et seq.* (codification of AB 52, 2013-14) requires that a lead agency, within 14 days of determining that it will undertake a project, must notify in writing any California Native American Tribe traditionally and culturally affiliated with the geographic area 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 District has not received any letters from tribes requesting consultation regarding AB 52.



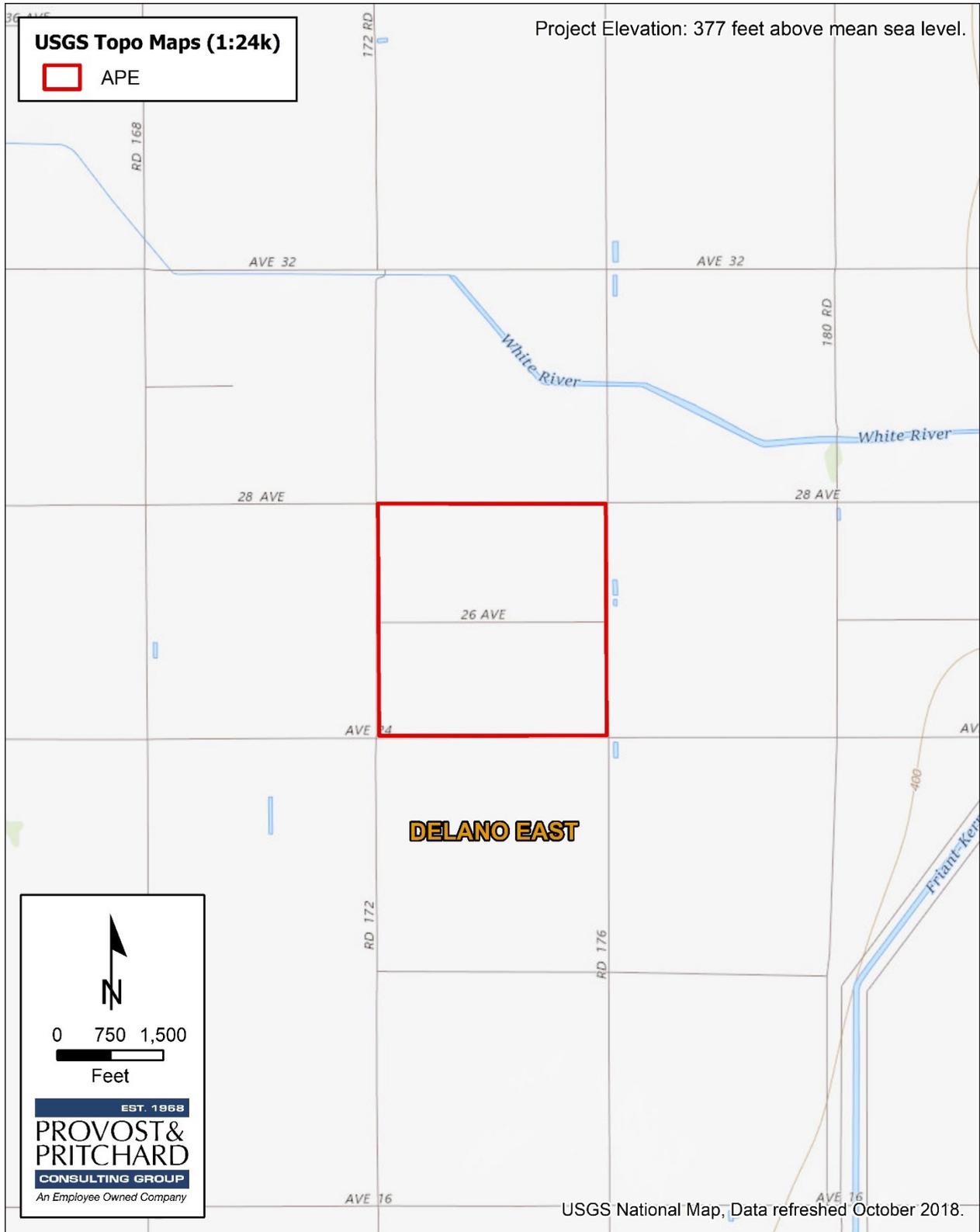
7/31/2019: G:\Delano-Earlimart ID-1326\132619002 - Turnipseed GW Bank Phase 4 Expansion\GIS\Map\CEQA\Vicinity.mxd

Figure 2-1. Regional Vicinity



7/31/2019 : G:\Delano-Earlimart ID-1326\132619002 - Turnipseed GW Bank Phase 4 Expansion\GIS\Map\CEQA\APE.mxd

Figure 2-2. Area of Potential Effect



8/1/2019 : G:\Delano-Earlimart ID-1326\132619002 - Turnipseed GW Bank Phase 4 Expansion\GIS\Map\CEQA\Topo.mxd

Figure 2-3. Topographic Quadrangle Map

Environmental Factors Potentially Affected

The environmental factors checked below would be potentially affected by this project, as indicated by the checklist and related impact analyses on the following pages.

- | | | |
|--|---|---|
| <input type="checkbox"/> Aesthetics | <input checked="" type="checkbox"/> Agriculture Resources | <input checked="" type="checkbox"/> Air Quality |
| <input checked="" type="checkbox"/> Biological Resources | <input checked="" type="checkbox"/> Cultural Resources | <input checked="" type="checkbox"/> Geology/Soils |
| <input checked="" type="checkbox"/> Greenhouse Gas Emissions | <input type="checkbox"/> Hazards & Hazardous Materials | <input checked="" type="checkbox"/> Hydrology/Water Quality |
| <input type="checkbox"/> Land Use/Planning | <input type="checkbox"/> Mineral Resources | <input checked="" type="checkbox"/> Noise |
| <input type="checkbox"/> Population/Housing | <input type="checkbox"/> Public Services | <input type="checkbox"/> Recreation |
| <input type="checkbox"/> Transportation/Traffic | <input checked="" type="checkbox"/> Tribal Cultural Resources | <input type="checkbox"/> Utilities/Service Systems |
| <input checked="" type="checkbox"/> Mandatory Findings of significance | | |

DETERMINATION: (To be completed by the Lead Agency)

On the basis of this initial evaluation:

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



Signature

September 3, 2019

Date

Eric Quinley, General Manager

Printed Name & Title

Chapter 3 Impact Analysis

3.1 Aesthetics

Table 3-1. Aesthetics Impacts

Aesthetics				
Except as provided in Public Resources Code Section 21099, would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3.1.1 Environmental Setting and Baseline Conditions

The Proposed Project is located in the southwestern part of Tulare County in the Central San Joaquin Valley. Land in the vicinity consist of relatively flat irrigated farmland and retired farmland. Agricultural practices in the vicinity consist of row crop, field crop, and orchard cultivation in the form of vineyards and almonds. In Tulare County, approximately 4.5 miles of State Route 180 (SR 180) have been officially identified by Caltrans as a “designated State Scenic Highway;” however, that segment is approximately 65 miles northeast of the site. See Figure 3-1 Figure 3-1. Scenic Highways below. Rural roadways, the Friant-Kern Canal, local water distribution canals, water retention basins, and other infrastructure typical of rural agricultural areas in the San Joaquin Valley are also in the immediate vicinity. The Proposed Project is consistent with the aesthetics of the area.

3.1.2 Impact Assessment

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

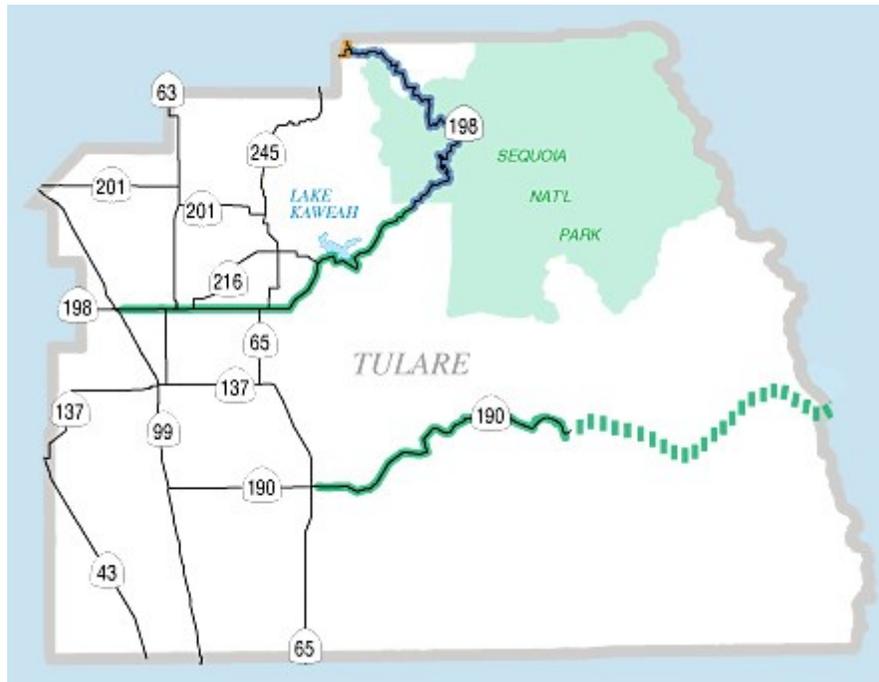
a) **Less Than Significant Impact.** Scenic features in the area may include the Friant-Kern Canal and even the vast expanse of agricultural uses. The Project site is not within the viewshed of these features and the site does not stand out from its surroundings in any remarkable fashion. Impacts are less than significant.

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

b) **Less Than Significant Impact.** An approximately 24-mile segment of SR 180 located in southeastern Fresno County and north-central Tulare County is designated as a State Scenic Highway. A 4.5-mile portion

of that segment crosses into Tulare County, and is the only Officially Designated State Scenic Highway in Tulare County, as depicted in **Figure 3-1**. Project activities would occur approximately 65 miles southwest and do not have the potential to affect the highway. There are no scenic resources or scenic vistas located on or in the vicinity of the Project site.

Figure 3-1. Scenic Highways



A segment of State Route 180 is an Officially Designated State Scenic Highway

Legend



Table 3-2. SR 180 Attributes

State Route 180 - Scenic Highway					
Highway Name	Description	County	Location	Length of Scenic Portion of Highway	Special Notes
State Route 180	This route traverses foothills from the San Joaquin Valley into Kings Canyon National Park	Tulare	From Squaw Valley to Kings Canyon National Park.	A 4.5-mile portion of the 24-mile segment of State Route 180 lies within Tulare County	The route provides drivers with views of the foothills and Sierra Nevada mountains.

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

c) *Less Than Significant Impact.* The Project site contains agriculture and rural infrastructure and is zoned and located amid lands zoned for agriculture. The new facility will blend in with existing uses and the Proposed Project will not substantially degrade the visual character of the area. The impact will be less than significant.

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

d) *Less Than Significant Impact.* The Project area is primarily agriculture and other rural uses. No artificial lighting is proposed to be on-site. Additional vehicular traffic to the site after construction will be limited to once-weekly daytime maintenance trips. Therefore, the Project will 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.

3.2 Agriculture and Forestry Resources

Table 3-3. Agriculture and Forest Resources Impacts

Agriculture and Forest Resources				
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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))?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.2.1 Environmental Setting and Baseline Conditions

Tulare County is located in California's agricultural heartland. The county's total gross production value for 2016 was \$6,370,121,600. There were forty-five commodities valued at over \$1 million, with milk being number one at over \$1.6 billion. A wide range of commodities are grown in the county, with major production of milk, poultry, livestock, and other animal commodities; row crops, nuts, and fruit tree crops; and vegetables. Rich soil, irrigation water, Mediterranean climate, and steady access to local, national, and global markets make this possible.

The District is composed of approximately 56,500 acres, over 90% of which are irrigated permanent crops. The major crops grown in the district include grapes, pistachios, almonds, and other fruit and nut trees, with a total of more than two dozen different crops grown. Irrigation methods include drip, micro, gravity, and sprinkler. The Project area is currently planted in walnuts and is surrounded vineyards and almond orchards. The lands surrounding the Project area are zoned for agricultural use, with the majority being designated as prime agricultural lands.

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

The California DOC's 2012 FMMP is a non-regulatory program that produces "Important Farmland" maps and statistical data used for analyzing impacts on California's agricultural resources. The Important Farmland maps identify eight land use categories, five of which are agriculture related: prime farmland, farmland of statewide importance, unique farmland, farmland of local importance, and grazing land – rated according to soil quality and irrigation status. Each is summarized below²:

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

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

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

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

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

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

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

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

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

As demonstrated in **Figure 3-2**, the FMMP for Tulare County designates the project site as Prime Farmland.

² California Department of Conservation. FMMP – Report and Statistics.
<http://www.conservation.ca.gov/dlrp/fmmp/products/Pages/ReportsStatistics.aspx>. Accessed 29 July 2019.

3.2.2 Impact Assessment

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

a) **Less Than Significant Impact.** The Project site is designated as Prime Farmland and currently partially planted in grapes and safflowers. **See Figure 3-2.** The Proposed Project would allow the construction of a recharge/regulation basin to replenish groundwater from available surface water sources when available, ultimately benefitting water resources that may be withdrawn by agricultural wells in the vicinity and thereby preventing other agricultural lands from being fallowed due to inadequate or costly recovery of declining groundwater supply. Therefore, the impact would be less than significant.

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

b) **Less Than Significant Impact.** Chapter 3, Section 9.5 of the Tulare County Zoning Ordinance addresses the AE zone districts. Section 9.5 does not list basins as a permitted use. However, pursuant to Government Code Section 53091(e), location or construction of facilities for the production, generation, storage, treatment, or transmission of water by a special district are not subject to the zoning ordinance of the county in which the project would be located. Although the Project is not required to comply with the Tulare County Zoning Ordinance, it is important to recognize that the Project intent is to enhance groundwater levels, thereby sustaining agriculture. The basin will facilitate greater security of groundwater storage for District growers, inherently promoting the agricultural zoning and Williamson Act intentions. The project site parcels are not under a Williamson Act contract. The principal objectives of the Williamson Act program include: protection of agricultural resources, preservation of open space land, promotion of efficient urban growth patterns. The implementation of a recharge/regulation basin would promote groundwater security inherently protecting agricultural resources and promotes efficient urban growth as the land is converting from agricultural uses to passively built-up land. Therefore, impacts will be less than significant.

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

c) **Less Than Significant Impact.** There are no forests or timberland in the region, and the site is not zoned to support forest land or timberland. The Project does not propose any rezoning. There will be no impact.

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

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

d and e) **No Impact.** There is no forest or timberland located on or near the Project site, nor is the site zoned for forest land or timberland. The Proposed Project would not convert forest land to non-forest use. The Project would convert the land from its existing partial agricultural use to a use that is considered Urban and Built-Up Land pursuant to the FMMP; however, the sole purpose of said conversion is to support ongoing agricultural endeavors by enhancing groundwater availability. As a result, the Project will likely result in continued farming on agricultural lands that might otherwise be fallowed due to lack of water. Impacts would be less than significant.



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Figure 3-2. Farmland Designation Map

3.3 Air Quality

Table 3-4. Air Quality Impacts

Air Quality				
Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable Federal or State ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3.3.1 Environmental Setting

The Project lies within the eight-county San Joaquin Valley Air Basin (SJVAB), which is managed by the San Joaquin Valley Air Pollution Control District (SJVAPCD). Air quality in the SJVAB is influenced by a variety of factors, including topography, local, and regional meteorology. National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) have been established for the following criteria pollutants: carbon monoxide (CO), ozone (O₃), sulfur dioxide (SO₂), nitrogen dioxide (NO₂), particulate matter (PM₁₀ and PM_{2.5}), and lead (Pb). The CAAQS also set standards for sulfates (SO₄), hydrogen sulfide (H₂S), vinyl chloride (C₂H₃Cl) and visibility.

Air quality plans or attainment plans are used to bring the applicable air basin into attainment with all State and Federal ambient air quality standards designed to protect the health and safety of residents within that air basin. Areas are classified under the Federal Clean Air Act as either “attainment”, “nonattainment”, or “extreme nonattainment” areas for each criteria pollutant based on whether the NAAQS have been achieved or not. Attainment relative to the State standards is determined by the California Air Resources Board (CARB). The San Joaquin Valley is designated as a State and Federal nonattainment area for O₃, a State and Federal nonattainment area for PM_{2.5}, a State nonattainment area for PM₁₀, a Federal and State attainment area for CO, SO₂, and NO₂, and a State attainment area for sulfates, vinyl chloride, and Pb⁴³.

³ San Joaquin Valley Air Pollution Control District. Ambient Air Quality Standards and Valley Attainment Status. Access 29 July 2019 <http://www.valleyair.org/aqinfo/attainment.htm>.

3.3.2 Methodology

An Air Quality and Greenhouse Gas Emissions Evaluation Report (**Appendix A**) was prepared using CalEEMod, Version 2016.3.2 for the proposed Project in July 2019. The sections below detail the methodology of the air quality and greenhouse gas emissions report and its conclusions.

3.3.2.1 Short-Term Construction-Generated Emissions

Short-term construction emissions associated with the Project were calculated using CalEEMod, Version 2016.3.2. The emissions modeling includes emissions generated by off-road equipment, haul trucks, and worker commute trips. Emissions were quantified based on anticipated construction schedules and construction equipment requirements provided by the Project applicant. All remaining assumptions were based on the default parameters contained in the model. Localized air quality impacts associated with the Project would be minor and were qualitatively assessed. Modeling assumptions and output files are included in **Appendix A**.

3.3.2.2 Long-Term Operational Emissions

Long-term operational emissions associated with this groundwater recharge basin Project are estimated to be minimal in nature. Maintenance will be provided infrequently, on an as-needed basis by existing District staff.

3.3.2.3 Thresholds of Significance

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

Short-Term Emissions of Particulate Matter (PM₁₀ and PM_{2.5}): Construction impacts associated with the proposed Project would be considered significant if the feasible control measures for construction in compliance with Regulation VIII as listed in the SJVAPCD guidelines are not incorporated or implemented, or if project-generated emissions of PM₁₀ or PM_{2.5} would exceed 15 tons per year (TPY).

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

Long-Term Emissions of Particulate Matter (PM₁₀ and PM_{2.5}): Operational impacts associated with the proposed Project would be considered significant if the project generates emissions of PM₁₀ or PM_{2.5} that exceed 15 TPY.

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

Conflict with or Obstruct Implementation of Applicable Air Quality Plan: Due to the region's nonattainment status for ozone and particulate matter (PM_{2.5} and PM₁₀), if the project-generated emissions of either of the ozone precursor pollutants (ROG and NO_x) or particulate matter (PM₁₀ or PM_{2.5}) would exceed the SJVAPCD's significance thresholds, then the project would be considered to conflict with the attainment

plans. In addition, if the project would result in a change in land use and corresponding increases in vehicle miles traveled, the project may result in an increase in vehicle miles traveled that is unaccounted for in regional emissions inventories contained in regional air quality control plans.

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

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

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

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

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

* For more information on standards visit: <http://www.arb.ca.gov/research/aaqs/aaqs2.pdf>

** No Federal 1-hour standard. Reclassified extreme nonattainment for the Federal 8-hour standard May 5, 2010.

***Secondary Standard

Source: CARB 2015; SJV APCD 2015

3.3.2.4 Local Regulations

2030 Tulare County General Plan: The Tulare County General Plan sets forth several goals and policies relating to air quality, none of which are relevant to this Project's CEQA review.

San Joaquin Valley Air Pollution Control District: The SJVAPCD is the agency primarily responsible for ensuring that NAAQS and CAAQS are not exceeded and that air quality conditions are maintained in the SJVAB, within which the Proposed Project is located. Responsibilities of the SJVAPCD include, but are not limited to, preparing plans for the attainment of ambient air quality standards, adopting and enforcing rules and regulations concerning sources of air pollution, issuing permits for stationary sources of air pollution, inspecting stationary sources of air pollution and responding to citizen complaints, monitoring ambient air quality and meteorological conditions, and implementing programs and regulations required by the CAA and the CCAA.

The SJVAPCD Rules and Regulations that are applicable to the Proposed Project include, but are not limited to, the following:

Regulation VIII (Fugitive Dust Prohibitions), Regulation VIII (Rules 8011-8081): This regulation is a series of rules designed to reduce particulate emissions generated by human activity, including construction and demolition activities, carryout and trackout, paved and unpaved roads, bulk material handling and storage, unpaved vehicle/traffic areas, open space areas, etc. If a non-residential area is 5.0 or more acres in area, a Dust Control Plan must be submitted as specified in Section 6.3.1 of Rule 8021. Additional requirements may apply, depending on total area of disturbance.

San Joaquin Valley Air Pollution Control District Thresholds of Significance: Projects that produce emissions that exceed the following thresholds shall be considered significant for a project level and/or cumulatively considerable impact to air quality. The following thresholds are defined for purposes of determining cumulative effects as the baseline for "considerable". Projects located within the SJVAPCD will be subject to the significance thresholds identified in section 3.3.2.3 above.

3.3.3 Impact Assessment

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

a) No Impact. As noted in Impact Assessment III-b and III-c below, implementation of the Project would not result in short-term or long-term increases in emissions that would exceed applicable thresholds of significance. Projects that do not exceed the recommended thresholds would not be considered to conflict with or obstruct the implementation of applicable air quality plans.

III-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?

b) Less than Significant Impact. As demonstrated in **Table 3-7** and **Table 3-8**, the emissions generated by the Project's construction and operations phases would not exceed the SJVAPCD significance thresholds for emissions of criteria air pollutants. Therefore, the impacts would be less than significant.

Short-Term Construction-Generated Emissions

Construction-generated emissions are temporary in duration, lasting approximately four months for site preparation, grading, and excavation of the recharge basin. Since the site will be cleared prior to the District assuming ownership of the land, demolition and site preparation activities will be minimal. The majority of

Project-related construction will include activities related to grading and excavation. The construction of the Project would result in the temporary generation of emissions associated with site grading and excavation, motor vehicle exhaust associated with construction equipment and worker trips, as well as the movement of construction equipment on unpaved surfaces.

Estimated construction-generated emissions and operational emissions are summarized in **Table 3-6** below.

It is important to note that the proposed Project would be required to comply with SJVAPCD Regulation VIII (Fugitive PM₁₀ Prohibitions). Mandatory compliance with SJVAPCD Regulation VIII would further reduce emissions of fugitive dust from the Project site, and adequately minimize the proposed Project’s potential to adversely affect nearby sensitive receptors to localized PM impacts.

Given that project-generated emissions would not exceed applicable SJVAPCD significance thresholds and the proposed Project would be required to comply with SJVAPCD Regulation VIII, construction-generated emissions of criteria pollutants would be considered less than significant.

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

Short-Term Construction-Generated Emissions of Criteria Air Pollutants					
Source	Annual Emissions (Tons/Year) ⁽¹⁾				
	ROG	NO _x	CO	PM ₁₀	PM _{2.5}
2019	0.0453	0.4623	0.2638	0.5329	0.1195
2020	0.2497	2.7409	1.7922	0.8712	0.3375
Maximum Annual Proposed Project Emissions:	0.2497	2.7409	1.7922	0.8712	0.3375
SJVAPCD Significance Thresholds:	10	10	100	15	15
Exceed SJVAPCD Thresholds?	No	No	No	No	No

1. Emissions were quantified using CalEEMod Output Files Version 2016.3.2. Refer to Appendix A for modeling results and assumptions. Totals may not sum due to rounding.

Long-Term Operational Emissions

It is projected that the basin will need infrequent upkeep. Maintenance of the Project will be performed by existing District staff on an as-needed basis. Electric stationary pumps, similar to those currently in use in the area for agricultural operations, will be used when necessary. As a result, long-term emissions are estimated to be minimal and therefore, less than significant.

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

c) Less than Significant Impact.

Toxic Air Contaminants

Implementation of the Proposed Project would not result in the long-term operation of any major onsite stationary sources of TACs, nor would Project implementation result in an increase in vehicle trips along area roadways, in comparison to existing conditions. However, construction of the Project may result in temporary increases in emissions of diesel-exhaust particulate matter (DPM) associated with the use of off-road diesel equipment. Health-related risks associated with diesel-exhaust emissions are primarily associated with long-term exposure and associated risk of contracting cancer. As such, the calculation of cancer risk associated with exposure of to TACs are typically calculated based on a long-term (e.g., 70-year) period of

exposure. The use of diesel-powered construction equipment, however, would be temporary and episodic and would occur over a relatively large area. Construction activities would occur over an approximate four-month construction period, which would constitute less than 1 percent of the typical 70-year exposure period. As a result, exposure to construction-generated DPM would not be anticipated to exceed applicable thresholds (i.e. incremental increase in cancer risk of 10 in one million). Furthermore, no sensitive land uses have been identified in the vicinity of the proposed construction areas. For these reasons, this impact would be considered less than significant.

Naturally Occurring Asbestos

Naturally-occurring asbestos, which was identified by ARB as a TAC in 1986, is located in many parts of California and is commonly associated with ultramafic rock. The project site is not located near any areas that are likely to contain ultramafic rock⁴. As a result, risk of exposure to asbestos during the construction process would be considered less than significant.

Fugitive Dust

Construction of the Proposed Project would include ground-disturbing activities which would be anticipated to result in increased emissions of airborne particulate matter. The Proposed Project would be required to comply with SJVAPCD Regulation VIII (Fugitive PM₁₀ Prohibitions). Mandatory compliance with SJVAPCD Regulation VIII would reduce emissions of fugitive dust from the Project site. Furthermore, no sensitive land uses have been identified in the vicinity of the proposed construction areas. As a result, localized emissions of airborne particulate matter emitted during construction would be considered less than significant.

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

d) Less Than Significant Impact. Implementation of the Project would not result in long-term emissions of odors. However, construction would involve the use of a variety of gasoline- or diesel-powered equipment that would emit exhaust fumes. Exhaust fumes, particularly diesel exhaust, may be considered objectionable by some people. Construction activities would be short-term in nature, lasting approximately four months. Furthermore, the Project is located in a region dominated by agricultural activities which typically involve the use of odorous chemicals and exhaust from various vehicles and equipment. Impacts would be less than significant.

⁴ Van Gosen, B.S. and J.P. Clinkenbeard. 2011. Report Historic Asbestos Mines, Historic Asbestos Prospects, and Other Natural Occurrences of Asbestos in California – California Geological Survey map Sheet 59. United States Geological Survey.

3.4 Biological Resources

Table 3-7. Biological Resources Impacts

Biological Resources				
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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.4.1 Environmental Setting and Baseline Conditions

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

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

The Project area sits at an elevation of approximately 377 feet above mean sea level, approximately one mile west of the Friant Kern Canal and directly south of the existing Turnipseed Basin which is bisected by the White River. The Project is located within the Town of Richgrove watershed; Hydrologic Unit Code (HUC): 1803000050802, which is part of the Upper Deer-Upper White watershed HUC: 180300005⁵.

The Project lies entirely within the Tule Groundwater Subbasin of the San Joaquin Valley Groundwater Basin⁶. The Project area is located immediately south of the existing Turnipseed Basin and north of the Phase III Expansion of Turnipseed Basin, which is currently under construction. Additional uses in the vicinity include agricultural lands and associated irrigation basins. The site is accessible by paved roads (Avenue 24 and Road 176) in addition to existing compacted dirt access roads.

As part of a biological evaluation, a reconnaissance-level field survey of the APE was conducted on July 26, 2019. Methodology, summary of findings, and photographs can be found in the Biological Evaluation Report in **Appendix B** at the end of this document.

A thorough search of the CNDDDB for published accounts of special status plant and animal species was conducted for the *Delano East* 7.5-minute quadrangle that contains the Project site in its entirety, and for the eight surrounding quadrangles: *Pixley*, *Sausalito School*, *Ducor*, *Delano West*, *Richgrove*, *Pond*, *McFarland*, and *Deepwell Ranch*. These species, and their potential to occur within the Project area are listed in **Table 3-8** and **Table 3-9** on the following pages, although further explanation and a list of references can be found in the Biological Evaluation Report (**Appendix B**).

⁵ EPA. Waters GeoViewer. <https://www.epa.gov/waterdata/waters-geoviewer> Accessed 6 August 2019.

⁶ DWR. Groundwater Basin Boundary Assessment Tool. <https://gis.water.ca.gov/app/bbat/> Accessed 6 August 2019.

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

Species	Status	Habitat	Occurrence on Project Site
American badger <i>(Taxidea taxus)</i>	CSC	Grasslands, savannas, and mountain meadows near timberline are preferred. Most abundant in drier open spaces of shrub and grassland. Burrows in soil.	Unlikely. No American badger individuals, sign, or suitable burrows were observed during the field survey. The nearest recorded observation of this species corresponds to an undated historic collection at an unknown location near Earlimart, which is approximately 5 miles northwest of the Project site.
Bakersfield legless lizard <i>(Anniella grinnelli)</i>	CSC	General habitat is sandy with herbaceous cover and scattered shrubs in grassland, sand/dune, or chaparral. Burrows in soil. Fallen logs, woody debris, and leaf litter under trees and bushes in sunny areas often indicate suitable habitat.	Unlikely. No Bakersfield legless lizard individuals were observed during the biological survey. The disturbed habitats of the Project site are generally unsuitable for this species. The nearest recorded observation of this species was reported in 2017 along Deer Creek, approximately 9.5 miles northwest of the Project site.
blunt-nosed leopard lizard <i>(Gambelia sila)</i>	FE, CE, FP	Inhabits semi-arid grasslands, alkali flats, low foothills, canyon floors, large washes, and arroyos, usually on sandy, gravelly, or loamy substrate, sometimes on hardpan. Often found where there are abundant rodent burrows in dense vegetation or tall grass. Cannot survive on lands under cultivation. Known to bask on kangaroo rat mounds and often seeks shelter at the base of shrubs, in small mammal burrows, or in rock piles. Adults may excavate shallow burrows, but rely on deeper pre-existing rodent burrows for hibernation and reproduction.	Absent. No blunt-nosed leopard lizard individuals or suitable habitat were observed during the biological survey. The Project site and surrounding areas are frequently cultivated agricultural lands that are unsuitable for this species.
burrowing owl <i>(Athene cunicularia)</i>	CSC	Resides in open, dry annual or perennial grasslands, deserts, and scrublands with low growing vegetation. Nests underground in existing burrows created by burrowing mammals, most often ground squirrels.	Unlikely. The abundance of barn owls and red-tailed hawks in the vicinity makes this site generally unsuitable for burrowing owl.
coast horned lizard <i>(Phrynosoma blainvillii)</i>	CSC	Found in grasslands, coniferous forests, woodlands, and chaparral, primarily in open areas with patches of loose, sandy soil and low-lying vegetation in valleys, foothills, and semi-arid mountains. Frequently found near ant hills and along dirt roads in lowlands along sandy washes with scattered shrubs.	Absent. Suitable habitat for this species is absent for the Project site.
Kern brook lamprey <i>(Entosphenus hubbsi)</i>	CSC	Silty backwaters of large rivers in the foothills region. Requires slight flow and shallow pools with sand, gravel, rubble,	Absent. Suitable habitat is absent from the Project area.

Species	Status	Habitat	Occurrence on Project Site
		and mud substrate in areas where summer temperatures rarely exceed 77 degrees Fahrenheit.	
San Joaquin coachwhip <i>(Masticophis flagellum ruddocki)</i>	CSC	Occurs in open, dry, treeless areas with little or no cover, including valley grassland and saltbush scrub. Avoids dense vegetation where it cannot move quickly, including mixed oak chaparral woodland. Takes refuge in rodent burrows, under shaded vegetation, and under surface objects.	Absent. Habitats of the Project site are generally unsuitable for this species. The nearest recorded observation of this species was reported in 1992 in undisturbed grassland habitat approximately 8 miles west-northwest of the Project area.
San Joaquin kit fox <i>(Vulpes macrotis mutica)</i>	FE, CT	Underground dens with multiple entrances in alkali sink, valley grassland, and woodland in valleys and adjacent foothills.	Possible. There are 67 recorded observations of this species in the vicinity of the Project; however, only 7 of these observations occurred within the past 25 years. The Project site is located approximately 38 miles north-northeast of the nearest core population (Western Kern County). Although the Project area is not within a core recovery area, satellite recovery area, or a linkage recovery area, a kit fox could potentially pass through the Project site.
Swainson's hawk <i>(Buteo swainsoni)</i>	CT	Nests in large trees in open areas adjacent to grasslands, grain or alfalfa fields, or livestock pastures suitable for supporting rodent populations.	Unlikely. Swainson's hawks are generally uncommon in southeast Tulare County. Suitable nest trees are absent from the Project area, although suitable foraging habitat is present. The nearest recorded observation of this species was reported along Deer Creek, approximately 12 miles northwest of the Project site.
Tipton kangaroo rat <i>(Dipodomys nitratoides nitratoides)</i>	FE, CE	Burrows in soil. Often found in grassland and shrubland.	Unlikely. No Tipton kangaroo rat individuals, sign, or suitable burrows were observed during the field survey. The disturbed habitats of the Project area are generally unsuitable for this species. The nearest recorded observation of this species in the vicinity was reported in undisturbed grassland habitats of Allensworth Ecological Reserve, approximately 8 miles west of the Project site.
tricolored blackbird <i>(Agelaius tricolor)</i>	CC, CSC	Nests colonially near fresh water in dense cattails or tules, or in thickets of riparian shrubs. Forages in grassland and cropland. Large colonies are often found on dairy farm forage fields.	Unlikely. Suitable nesting habitat is absent and foraging habitat is marginal, at best.
vernal pool fairy shrimp <i>(Branchinecta lynchi)</i>	FT	Occupies vernal pools, clear to tea-colored water, in grass or mud-bottomed swales, and basalt depression pools.	Absent. Suitable vernal pool habitat is absent from the Project area.

Species	Status	Habitat	Occurrence on Project Site
western spadefoot (<i>Spea hammondi</i>)	CSC	Prefers open areas with sandy or gravelly soils, in a variety of habitats including mixed woodlands, grasslands, coastal sage scrub, chaparral, sandy washes, lowlands, river floodplains, alluvial fans, playas, alkali flats, foothills, and mountains. Vernal pools or temporary wetlands, lasting a minimum of three weeks, which do not contain bullfrogs, fish, or crayfish are necessary for breeding.	Unlikely. Habitat suitable for this species is absent from the Project site. The irrigation basin onsite is not considered suitable breeding or non-breeding habitat due to the abundance of bullfrogs.

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

Species	Status	Habitat	Occurrence on Project Site
alkali Mariposa-lily <i>(Calochortus striatus)</i>	CNPS 1B	Found in the Sierra Nevada Foothills, the Desert Mountains and the Mojave Desert in alkaline meadows and creosote-bush scrub in shadescale scrub, chaparral, and riparian communities at elevations between 2625 feet and 4600 feet. Usually occurs in wetlands, but occasionally found in non-wetlands. Blooms April – June.	Absent. Habitat required by this species is absent from the Project site.
brittlescale <i>(Atriplex depressa)</i>	CNPS 1B	Found in the San Joaquin Valley and Sacramento Valley in alkali or clay soils in shadescale scrub, valley grassland, alkali sink, and riparian communities at elevations below 1050 feet. Equally likely to occur in wetlands and non-wetlands. Blooms June – October.	Absent. The disturbed habitats of the Project site are unsuitable for this species.
California jewelflower <i>(Caulanthus californicus)</i>	CNPS 1B, FE, CE	Found in the San Joaquin Valley and Western Traverse Ranges. Occurs on flats and slopes, generally in non-alkaline grassland at elevations between 230 feet and 3280 feet. Blooms February – April.	Absent. The disturbed habitats of the Project site are unsuitable for this species.
Coulter's goldfields <i>(Lasthenia glabrata ssp. coulteri)</i>	CNPS 1B	Found on alkaline soils in vernal pools and playas in grassland at elevations below 3300 feet. Blooms April – May.	Absent. Habitat required by this species is absent from the Project site.
Earlimart orache <i>(Atriplex cordulata var. erecticaulis)</i>	CNPS 1B	Found in the San Joaquin Valley in saline or alkaline soils at elevations below 325 feet. Equally likely to occur within wetlands and non-wetlands. Blooms August – September.	Absent. The disturbed habitats of the Project site are unsuitable for this species.
Kern mallow <i>(Eremalche parryi ssp. kernensis)</i>	CNPS 1B, FE	Occurs in the San Joaquin Valley and the Inner South Coast Ranges in eroded hillsides and alkali flats in shadescale scrub and valley grassland communities at elevations between 325 feet and 3275 feet. Blooms March – May.	Absent. The disturbed habitats of the Project site are unsuitable for this species.
Lesser saltscale <i>(Atriplex minuscula)</i>	CNPS 1B	Found in the San Joaquin Valley in playas; sandy, alkaline soils in shadescale scrub, valley grassland, and alkali sink	Absent. Habitats required by this species are absent from the Project area.

Species	Status	Habitat	Occurrence on Project Site
		communities at elevations below 300 feet. Blooms April – October.	
Lost Hills crownscale <i>(Atriplex coronata var. vallicola)</i>	CNPS 1B	Found in the San Joaquin Valley in dried ponds and alkali soils in shadescale scrub, valley grassland, freshwater wetlands, and riparian communities at elevations below 1400 feet. Usually occurs in wetlands, but occasionally found in non-wetlands. Blooms April – September.	Absent. Habitats required by this species are absent from the Project site. There have been no recorded observations of this species in the vicinity in over 30 years.
Munz's tidy-tips <i>(Layia munzii)</i>	CNPS 1B	Found in the San Joaquin Valley in alkali clay soils at elevations between 160 feet and 2625 feet in shadescale scrub, valley grassland, and riparian communities. Occurs predominantly in wetlands, but occasionally found in non-wetlands. Blooms March – April.	Absent. Habitats required by this species are absent from the Project site. There have been no recorded observations of this species in the vicinity in over 25 years.
recurved larkspur <i>(Delphinium recurvatum)</i>	CNPS 1B	Found in the San Joaquin Valley and other parts of California. Occurs in poorly drained, fine, alkaline soils in grassland at elevations between 100 feet and 1965 feet. Most often found in non-wetlands, but occasionally found in wetlands. Blooms March – June.	Absent. Habitat required by this species is absent from the Project site.
San Joaquin adobe sunburst <i>(Pseudobahia peirsonii)</i>	CNPS 1B, FT, CE	Found in the San Joaquin Valley and the Sierra Nevada Foothills in bare dark clay in valley grassland and foothill woodland communities at elevations between 325 feet and 2950 feet. Blooms March – May.	Absent. Habitat required by this species is absent from the Project site.
San Joaquin woollythreads <i>(Monolopia congdonii)</i>	CNPS 1B, FE	Occurs in the San Joaquin Valley in sandy soils in shadescale shrub and grasslands at elevations between 300 feet and 2300 feet. Found primarily in non-wetlands, but occasionally found in wetlands. Blooms February – May.	Absent. The disturbed habitats of the Project site are generally unsuitable for this species. There have been no recorded observations of this species in the vicinity in over 100 years.
spiny-sepaled button-celery <i>(Eryngium spinosepalum)</i>	CNPS 1B	Found in the Sierra Nevada Foothills and portions of the San Joaquin Valley. Occurs in vernal pools, swales, and roadside ditches at elevations between 325 feet and 4160 feet in valley grassland, freshwater wetlands, and riparian communities. Blooms April – July.	Absent. Vernal pools are absent, and the disturbed habitats of the Project site are generally unsuitable for this species. There have been no recorded observations of this species in the vicinity in over 50 years.
subtle orache <i>(Atriplex subtilis)</i>	CNPS 1B	Found in the San Joaquin Valley in saline depressions at elevations	Absent. Habitat required by this species is absent from the Project site.

Species	Status	Habitat	Occurrence on Project Site
		below 230 feet. Blooms June – October.	
vernal pool smallscale (<i>Atriplex persistens</i>)	CNPS 1B	Occurs in San Joaquin Valley and Sacramento Valley in alkaline vernal pools at elevations below 375 feet. Usually found in wetlands, but occasionally found in non-wetlands. Blooms June – September.	Absent. Vernal pools are absent, and the disturbed habitats of the Project site are generally unsuitable for this species. There have been no recorded observations of this species in the vicinity in over 30 years.

EXPLANATION OF OCCURRENCE DESIGNATIONS AND STATUS CODES

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

STATUS CODES

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

CNPS LISTING

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

3.4.2 Impact Assessment

IV-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?

a) Less than Significant Impact with Mitigation Incorporated.

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

General Mitigation Measures

Prior to the start of construction, all personnel associated with construction of the Project shall be trained to be able to identify these candidate, sensitive, or special status species in order to prevent impacts to sensitive resources; therefore, the following general mitigation measures shall be implemented:

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

Mitigation Measure BIO-2 (Construction Hours): Construction shall be conducted during daylight hours to reduce disturbance to wildlife that could be foraging within work areas.

Project-Related Mortality and/or Disturbance of Nesting Raptors and Migratory Birds

By the time the District acquires this parcel of land, it will consist of a ruderal, barren field. The current property owner will be removing all structures and owl boxes and clearing all vegetation from the site, including the vineyard rows. Therefore, only ground-nesting birds, such as the killdeer (*Charadrius vociferous*) and the black-necked stilt (*Himantopus mexicanus*) could consider the Project site suitable nesting habitat at the start of construction. Several killdeer and black-necked stilts were observed at the time of the field survey, and although it was late in the breeding season, a colony of stilts was exhibiting defensive behavior indicative of active nesting.

Development of a ruderal, barren lot of land would not be considered a reduction of suitable nesting or foraging habitat as there are plenty of fallow fields in the vicinity of much greater value to wildlife. In fact, as riparian vegetation grows within the proposed basins, the site will become suitable nesting habitat for several avian species, such as tri-colored blackbird, various species of waterfowl, herons, flycatchers, and other riparian migratory birds.

Although the owl boxes, structures, and vegetation currently present onsite will be removed prior to the District's acquisition of the property, ground nesting birds, such as those mentioned above, could potentially nest on the bare ground onsite. Birds nesting within the Project area during construction have the potential to be injured or killed by Project-related activities. In addition to the direct "take" of nesting birds, nesting birds

within the Project site or adjacent areas could be disturbed by Project-related activities resulting in nest abandonment. Projects that adversely affect the nesting success of raptors and migratory birds or result in the mortality of individual birds is considered a violation of State and federal laws and are considered a potentially significant impact under CEQA.

If the owl boxes are not removed prior to the District's acquisition of the property, additional mitigation measures should be implemented in order to protect raptors nesting or inhabiting the boxes during removal.

Assuming the owl boxes have been removed, implementation of the following measures will reduce potential impacts to nesting raptors and migratory birds to a less than significant level and will ensure compliance with state and federal laws protecting avian species.

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

Mitigation Measure BIO-3a (Avoidance): The Project's construction activities shall occur, if feasible, between September 1 and January 31 (outside of nesting bird season) in an effort to avoid impacts to nesting birds.

Mitigation Measure BIO-3b (Pre-construction Surveys): If activities must occur within nesting bird season (February 1 to August 31), a qualified biologist shall conduct pre-construction surveys for active nests within 30 days prior to the start of construction. The survey shall include the proposed work area and surrounding lands within 500 feet for all raptors and migratory birds, with the exception of the Swainson's hawk; the Swainson's hawk survey will extend to 0.5 mile outside of the work area boundaries. If no active nests are observed, no further mitigation is required. Nests containing eggs or young are to be considered "active," with the exception of raptors; raptor nests are considered "active" upon the nest-building stage.

Mitigation Measure BIO-3c (Establish Buffers): On discovery of any active nests near work areas, the biologist shall determine appropriate construction setback distances based on applicable CDFW guidelines and/or the biology of the species in question. Construction buffers shall be identified with flagging, fencing, or other easily visible means, and shall be maintained until the biologist has determined that the nestlings have fledged.

Project-Related Impacts to San Joaquin Kit Fox

San Joaquin kit fox have been documented in the Project vicinity. Although frequent disturbance may deter this species from denning onsite, this species could potentially forage or pass through the Project area during dispersal movements. If a kit fox were present onsite during ground-disturbance, it could be injured or killed by construction activities. Projects that result in the mortality of special status species are considered a violation of State and federal laws and are considered a potentially significant impact under CEQA.

General mitigation measure 3.3.1a (WEAP Training) requires all construction personnel to attend a mandatory education program, which will include a detailed description of the San Joaquin kit fox and habitat requirements, color photographs or illustrations, an explanation of the conservation status of this species and its coverage under State and federal regulations, penalties for violating said regulations, and a list of required measures to reduce impacts to the species during construction. General mitigation measure 3.3.1b (Construction Hours) limits construction activities to daylight hours which would reduce the likelihood of encountering a kit fox onsite.

Implementation of the following measures will further reduce potential impacts to the San Joaquin kit fox to a less than significant level under CEQA, and will ensure compliance with State and federal laws protecting this species.

Mitigation. The following measures derived from the USFWS 2011 Standardized Recommendations for Protection of the San Joaquin Kit Fox Prior to or During Ground Disturbance will be implemented:

Mitigation Measure BIO-4a (Pre-construction Survey): Within 30 days prior to the start of construction, a pre-construction survey for San Joaquin kit fox shall be conducted on and within 200 feet of proposed work areas. If an active kit fox den is detected within or adjacent to the Project area, construction will be delayed, and CDFW and USFWS shall be consulted to determine the best course of action.

Mitigation Measure BIO-4b (Minimization): The Project shall observe all minimization and protective measures from the Construction and On-Going Operational Requirements of the USFWS 2011 Standardized Recommendations, including, but not limited to: construction speed limits, covering of pipes, installation of escape structures, restriction of herbicide and rodenticide use, proper disposal of food items and trash, prohibition of pets and firearms, and completion of an employee education program.

Mitigation Measure BIO-4c (Mortality Reporting): The Sacramento Field Office of USFWS and the Fresno Field Office of CDFW will be notified in writing within three working days in the case of the accidental death or injury to a San Joaquin kit fox during construction. Notification must include the date, time, and location of the incident and any other pertinent information.

Implementation of the above measures will reduce potential impacts to San Joaquin kit fox to a less than significant level and will ensure compliance with State and federal laws protecting this species.

Project-Related Impacts to Special Status Plant Species

15 special status plant species have been documented in the Project vicinity, including alkali Mariposa-lily (*Calochortus striatus*), brittlescale (*Atriplex depressa*), California jewelflower (*Caulanthus californicus*), Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*), Earlimart orache (*Atriplex cordulata* var. *erecticaulis*), Kern mallow (*Eremalche parryi* ssp. *kernensis*), lesser saltscare (*Atriplex miniscula*), Lost Hill's crowscale (*Atriplex coronata* var. *vallicola*), Munz's tidy-tips (*Layia munzii*), recurved larkspur (*Delphinium recurvatum*), San Joaquin adobe sunburst (*Pseudobahia peirsonii*), San Joaquin woollythreads (*Monolopia congdonii*), spiny-sepaled button-celery (*Eryngium spinosepalum*), subtle orache (*Atriplex subtilis*), and vernal pool smallscale (*Atriplex persistens*). As explained in **Table 3-9**, all of the aforementioned plant species are absent from the Project area or unlikely to occur onsite, predominantly due to past and ongoing disturbance and/or the absence of suitable habitat. Therefore, the implementation of the Project will have no effect on individual plants or regional populations of these special status plant species. Mitigation measures are not warranted.

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

Of the 13 regionally occurring special status species, 12 are considered absent or unlikely to occur within the Project area due to past or ongoing disturbance and/or absence of suitable habitat. As explained in **Table 3-8**, the following 5 species were deemed absent from the Project area: blunt-nosed leopard lizard (*Gambelia sila*), coast horned lizard (*Phrynosoma blainvillii*), Kern brook lamprey (*Entosphenus hubbsi*), San Joaquin coachwhip (*Masticophis flagellum ruddockei*), and vernal pool fairy shrimp (*Branchinecta lynchi*); and the following 8 species were deemed unlikely to occur within the Project area: American badger (*Taxidea taxus*), Bakersfield legless lizard (*Anniella grinnelli*), burrowing owl (*Athene cunicularia*), Swainson's hawk (*Buteo swainsoni*), Tipton kangaroo rat (*Dipodomys nitratooides nitratooides*), tricolored blackbird (*Agelaius tricolor*), and western spadefoot (*Spea hammondi*). Since it is highly unlikely that these species would occur onsite, implementation of the Project should have no impact on these 12 special status species through construction mortality, disturbance, or loss of habitat, and mitigation measures are not warranted.

IV-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?

b) No Impact. The biological evaluation determined that riparian habitat and other sensitive natural communities are absent from the Project area. Therefore, there will be no impact.

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

c) Less Than Significant Impact. According to the biological evaluation report, potential Waters of the U.S., riparian habitat, typical wetlands, vernal pools, lakes, or streams, and other sensitive natural communities were not observed onsite at the time of the biological survey. The only aquatic feature observed onsite was an isolated, excavated irrigation basin. Although irrigation basins excavated in dry land are not typically regulated, under the strictest interpretation of the Clean Water Act, it could potentially be labelled a Water of the State and subject to a Section 401 Water Quality Certification permit from the RWQCB. Although the act of reshaping an irrigation basin should not result in a significant impact to the State's water quality, the Project proponent would secure the proper permits prior to construction, if applicable.

Implementation of the Project should not result in a potentially significant adverse effect on waters of the United States as defined by Section 404 of the Clean Water Act and waters of the State of California as defined by the California Water Code and California Fish and Game Code. Furthermore, the aforementioned permit (if required) will have associated protective measures and conditions that the Project must comply with. No additional mitigation measures are warranted.

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

d) Less Than Significant with Mitigation Incorporated. The Project area does not contain features that would be likely to function as wildlife movement corridors. Furthermore, the Project is located in a region often disturbed by human activities related to agricultural production which would discourage dispersal and migration. Potential impacts to migratory birds have been discussed in Impact Assessment IV-a above, and implementation of mitigation measures BIO-3a through BIO-3c will ensure Project-related impacts are less than significant. Furthermore, in the unlikely event of a kit fox natal pupping den onsite, impacts would be avoided or minimized to a less than significant level by implementation of mitigation measures BIO-4a through BIO-4c, as discussed in Impact Assessment IV-a above.

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

e) No Impact. All elements of the Project design, as envisioned, comply with local policies and ordinances protecting biological resources. Therefore, there will be no impact.

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

f) No Impact. The Project area is not located within the boundaries of an adopted habitat conservation plan, natural community conservation plan, or any other approved local, regional, or State habitat conservation plan. Therefore, there will be no impact.

3.5 Cultural Resources

Table 3-10. Cultural Resources Impacts

Cultural Resources				
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3.5.1 Environmental Setting and Baseline Conditions

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

RECORDS SEARCH

On August 12, 2019, Provost & Pritchard received a records search from the Southern San Joaquin Valley Information Center (SSJVIC) of the California Historical Resources Information System (CHRIS), located at California State University, Bakersfield. The records search encompassed the Project APE as well as a 0.5-mile radius surrounding the site. SSJVIC staff examined site record files, maps, and other materials to identify previously recorded resources and prior surveys within the delineated area ([Appendix C](#)). Additional sources included the Office of Historic Preservation (OHP) Historic Properties Directory, Archaeological Determinations of Eligibility, and the California Inventory of Historic Resources.

NATIVE AMERICAN OUTREACH

In July 2019, Provost & Pritchard contacted the Native American Heritage Commission (NAHC) in Sacramento. Provost & Pritchard provided NAHC a brief description of the Project and a map showing its location and requested that the NAHC perform a search of the Sacred Lands File to determine if any Native American resources have been recorded in the immediate study area. Provost & Pritchard also requested NAHC provide a current list of local Native American contacts for the Project APE. The six tribes identified by NAHC were contacted in writing via US mail with a letter dated August 12, 2019 informing them about the Proposed Project. No comments were received to date.

3.5.2 Impact Assessment

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

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

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

a-c) Less than Significant Impact with Mitigation Incorporated.

A records search request to the California Historical Resources Information System (CHRIS) by Provost & Pritchard staff in August 2019 (**Appendix C**) indicated that there are no recorded cultural resources within the project area that are listed in the National Register of Historic Places, the California Register of Historical Resources, the California Points of Historical Interest, California Inventory of Historic Resources, or the California State Historic Landmarks. No additional prehistoric or historic resources were noted to be within a half mile of the Project and there are no unique geological features, fossil-bearing surficial sediments in the area. Additionally, there are no known resources of value to local cultural groups according to the Southern San Joaquin Valley Information Center (SSJVIC). Two studies were conducted within the one-half mile radius, TU-01407 and TU 01408.

Provost & Pritchard contacted the Native American Heritage Commission (NAHC) for a Sacred Lands File & Native American Contacts List which was received August 12, 2019. Following receipt of the list, on August 12, 2019 Provost & Pritchard sent letters to the following Tribes via certified mail requesting consultation:

1. *Kern Valley Indian Community, Julie Turner*
2. *Kern Valley Indian Community, Robert Robinson*
3. *Santa Rosa Rancheria Tachi Yokut Tribe, Reuben Barrios Sr.*
4. *Tubatulabals of Kern Valley, Robert Gomez, Jr.*
5. *Tule River Indian Tribe, Neil Peyron*
6. *Picayune Rancheria of Chukchansi Indians, Claudia Gonzales, Chairperson*

No written responses were received to date. Standard mitigation language was included for Health and Safety Code Section 7050.5 and Public Resource Code Section 5097.98. He did not provide any recommendations or concerns regarding Proposed Project Implementation. All Tribal correspondence is included within **Appendix C** to this initial study.

Although it is unlikely that archeological remains will occur during construction or operation of the Proposed Project, CUL-1 is to be considered.

Mitigation Measure CUL-1

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

V-d) Disturb any human remains, including those interred outside of dedicated cemeteries?

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

Mitigation Measure CUL-2

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

3.6 Energy

Table 3-11. Energy Impacts

Energy				
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.6.1 Environmental Setting and Baseline Conditions

PG&E is the primary energy utility purveyor within Tulare County. PG&E has sufficient energy supplies to supply the growth that has occurred in Tulare County. Much of the energy consumed in the region is for residential, commercial, and transportation purposes.

Construction equipment and construction worker vehicles operated during Project excavation and construction would use fossil fuels. This increased fuel consumption would be temporary and would cease at the end of the construction activity, and it would not have a residual requirement for additional energy input. The marginal increases in fossil fuel use resulting from Project construction are not expected to have appreciable impacts on energy resources.

3.6.2 Impact Assessment

VI-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?

a) No Impact. As discussed in [Section 3.3](#), the Project would not exceed any air emission thresholds during construction or operation. The Project would comply with construction best management practices and may be required to complete a SWPPP as part of construction. Once completed, the Project would be mostly passive in nature and would not use an excessive amount of energy. Therefore, the Project would not result in potentially significant environmental impacts due to wasteful, inefficient, or unnecessary consumption of energy resources during construction or operation.

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

b) No Impact. The Project would be passive in nature once it is completed, and the construction phase would be temporary in nature and would not exceed any thresholds set by the SJVAPCD.

3.7 Geology and Soils

Table 3-12. Geology and Soils Impacts

Geology and Soils				
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.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the most recently adopted Uniform Building Code creating substantial direct or indirect risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.7.1 Environmental Setting and Baseline Conditions

Using the USDA NRCS soil survey of Tulare County, Western Part CA DEID Turnipseed Phase 4 Expansion, a report of the onsite soils was generated and is provided within the Biological Resources Evaluation.

3.7.1.1 Geology and Soils

The Proposed Project is located in southwestern Tulare County, in the southern section of California's Great Valley Geomorphic Province, or Central Valley. The Sacramento Valley makes up the northern third and the San Joaquin Valley makes up the southern two-thirds of the geomorphic province. Both valleys are watered by large rivers flowing west from the Sierra Nevada Range, with smaller tributaries flowing east from the Coast Ranges. Most of the surface of the Great Valley is covered by Quaternary (present day to 1.6 million years ago) alluvium. The sedimentary formations are steeply upturned along the western margin due to the uplifted Sierra Nevada Range.⁷ 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.

3.7.1.2 Faults and Seismicity

The Project site is not located within an Alquist-Priolo Earthquake Fault Zone and no known faults cut through the local soil at the site. The nearest major fault is the San Andreas Fault, located approximately 50 miles south/southwest of the Project site. The San Andreas Fault is the dominant active tectonic feature of the Coast Ranges and represents the boundary of the North American and Pacific plates. A smaller fault zone, the Poso Fault is approximately nine miles southwest of the site and an unnamed fault located near Rag Gulch is approximately seven miles southeast.

3.7.1.3 Liquefaction

The potential for liquefaction, which is the loss of soil strength due to seismic forces, is dependent on soil types and density, the groundwater table, and the duration and intensity of ground shaking. Although no specific liquefaction hazard areas have been identified in the county, this potential is recognized throughout the San Joaquin Valley where unconsolidated sediments and a high water table coincide. It is reasonable to assume that due to the depth to groundwater within the southern portion of Tulare County, liquefaction hazards would be negligible. Soil conditions are key factors in selecting locations for direct groundwater recharge projects. Using the USDA NRCS soil surveys of Tulare and Kern Counties, an analysis of the soils in the District was performed. Soils in the area consist of mostly Hanford sandy loam and a small area of Yettam sandy loam which are both 0-2% slopes and moderately to well-drained.

3.7.1.4 Soil Subsidence

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

3.7.1.5 Dam and Levee Failure

There is no inundation within 10 miles of the Project site.

3.7.2 Impact Assessment

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

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

⁷ Harden, D.R. 1998, California Geology, Prentice Hall, 479 pages

VI-a-ii) Strong seismic ground shaking?

a-i and a-ii) **Less Than Significant Impact.** The nearest major fault is the San Andreas Fault, located approximately 50 miles south-southwest of the Project site. A smaller fault zone, the Poso Fault, is approximately nine miles southwest of the site and an unnamed fault located near Rag Gulch is approximately seven miles southeast. The Proposed Project does not include habitable residential, agricultural, commercial or industrial structures. Operation of the Proposed Project would require infrequent, routine maintenance employees on site. Any impact would be less than significant.

The Project site and its vicinity are located in an area traditionally characterized by relatively low seismic activity. The site is not located in an Alquist-Priolo Earthquake Fault Zone as established by the Alquist-Priolo Fault Zoning Act (Section 2622 of Chapter 7.5, Division 2 of the California Public Resources Code).

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

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

VI-a-iv) Landslides?

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

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

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

VII-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?

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

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

d) Less Than Significant Impact. The soil at the Proposed Project site is sandy loam, see Appendix C of **Appendix B**. Permeability is moderate. The Proposed Project will not contain any facilities that could be affected by expansive soils nor would substantial grading change the topography to the point where the project would expose people to substantial risks to life or property. The Proposed Project will be consistent with the California Building Standards Code; therefore, impacts would be less than significant.

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

e) No Impact. The Project site is located in an area with a significant depth to saturation, consistent with the south side of Tulare County. Septic installation or alternative waste water disposal systems are not necessary for the project. There will be no impact

3.8 Greenhouse Gas Emissions

Table 3-13. Greenhouse Gas Emissions Impacts

Greenhouse Gas Emissions				
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3.8.1 Environmental Setting

The Earth's climate has been warming for the past century. It is believed that this warming trend is related to the release of certain gases into the atmosphere. Greenhouse gases (GHG) absorb infrared energy that would otherwise escape from the Earth. As the infrared energy is absorbed, the air surrounding the Earth is heated. An overall warming trend has been recorded since the late 19th century, with the most rapid warming occurring over the past two decades. The 10 warmest years of the last century all occurred within the last 15 years. It appears that the decade of the 1990s was the warmest in human history (National Oceanic and Atmospheric Administration, 2010). Human activities have been attributed to an increase in the atmospheric abundance of greenhouse gases. The following is a brief description of the most commonly recognized GHGs..

3.8.1.1 Greenhouse Gases

Commonly identified GHG emissions and sources include the following:

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

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

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

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

Ozone (O₃) is known as a photochemical pollutant and is a greenhouse gas; however, unlike other greenhouse gases, ozone in the troposphere is relatively short-lived and, therefore, is not global in

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

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

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

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

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

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

3.8.1.2 Effects of Climate Change

The impacts of climate change have yet to fully manifest. A hotter planet is causing the sea level to rise, disease to spread to non-endemic areas, as well as more frequent and severe storms, heat events, and air pollution episodes. Also affected are agricultural production, the water supply, the sustainability of ecosystems, and therefore the economy. The magnitude of these impacts is unknown.

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

3.8.2 Methodology

An Air Quality and Greenhouse Gas Emissions Evaluation Report ([Appendix A](#)) was prepared in July 2019. The sections below detail the methodology of the report and its conclusions.

3.8.2.1 Short-Term Construction-Generated Emissions

Short-term construction emissions associated with the Project were calculated using CalEEMod, Version 2016.3.2. Emissions modeling was assumed to occur over an approximate six-month period and covering a site

area of approximately 160 acres. Remaining assumptions were based on the default parameters contained in the model. Modeling assumptions and output files are included in **Appendix A**.

3.8.2.2 Long-Term Operational Emissions

It is projected that the basin will need infrequent upkeep. When necessary, maintenance of the Project will be performed by existing staff on an as-needed basis. Consequently, long-term emissions are estimated to be minimal.

3.8.2.3 Thresholds of Significance

CEQA Guidelines Amendments became effective March 18, 2010. Included in the Amendments are revisions to the Appendix G Initial Study Checklist. In accordance with these Amendments, a project would be considered to have a significant impact to climate change if it would:

- a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; or,
- b. Conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases.

In accordance with SJVAPCD's *CEQA Greenhouse Gas Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects*⁸, 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.

3.8.2.4 Local Regulations

2030 Tulare County General Plan: The Tulare County General Plan sets forth several goals and policies relating to greenhouse gas emissions, none of which are relevant to this Project's CEQA review.

Tulare County Climate Action Plan⁹: The Tulare County Climate Action Plan sets forth the following GHG emission reduction target for Tulare County:

- 26.2 percent reduction in County development related emissions
- 6 percent average project reduction required from new development beyond that required by regulation

San Joaquin Valley Air Pollution Control District Climate Change Action Plan

On August 21, 2008, the SJVAPCD Governing Board approved the District's Climate Change Action Plan with the following goals and actions:

⁸ Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA. <http://www.valleyair.org/Programs/CCAP/12-17-09/3%20CCAP%20-%20FINAL%20LU%20Guidance%20-%20Dec%2017%202009.pdf> Accessed 26 July 2019

⁹ Tulare County Climate Action Plan. <http://generalplan.co.tulare.ca.us/documents/GeneralPlan2010/ClimateActionPlan.pdf> Accessed 30 July 2019.

Goals:

- Assist local land-use agencies with California Environmental Quality Act (CEQA) issues relative to projects with GHG emissions increases.
- Assist Valley businesses in complying with mandates of AB 32.
- Ensure that climate protection measures do not cause increase in toxic or criteria pollutants that adversely impact public health or environmental justice communities.

Actions:

- Authorize the Air Pollution Control Officer to develop GHG significance threshold(s) or other mechanisms to address CEQA projects with GHG emissions increases. Begin the requisite public process, including public workshops, and develop recommendations for Governing Board consideration in the spring of 2009.
- Authorize the Air Pollution Control Officer to develop necessary regulations and instruments for establishment and administration of the San Joaquin Valley Carbon Exchange Bank for voluntary GHG reductions created in the Valley. Begin the requisite public process, including public workshops, and develop recommendations for Governing Board consideration in spring 2009.
- Authorize the Air Pollution Control Officer to enhance the District's existing criteria pollutant emissions inventory reporting system to allow businesses subject to AB32 emission reporting requirements to submit simultaneous streamlined reports to the District and the State of California with minimal duplication.
- Authorize the Air Pollution Control Officer to develop and administer voluntary GHG emission reduction agreements to mitigate proposed GHG increases from new projects.
- Direct the Air Pollution Control Officer to support climate protection measures that reduce GHG emissions as well as toxic and criteria pollutants. Oppose measures that result in a significant increase in toxic or criteria pollutant emissions in already impacted area.

SJVAPCD CEQA Greenhouse Gas Guidance

On December 17, 2009, the SJVAPCD Governing Board adopted “Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA” and the policy, “District Policy—Addressing GHG Emission Impacts for Stationary Source Projects Under CEQA When Serving as the Lead Agency.” The SJVAPCD concluded that the existing science is inadequate to support quantification of the impacts that project specific greenhouse gas emissions have on global climatic change. The SJVAPCD found the effects of project-specific emissions to be cumulative, and without mitigation, that their incremental contribution to global climatic change could be considered cumulatively considerable. The SJVAPCD found that this cumulative impact is best addressed by requiring all projects to reduce their greenhouse gas emissions, whether through project design elements or mitigation.

The SJVAPCD's approach is intended to streamline the process of determining if project-specific greenhouse gas emissions would have a significant effect. Projects exempt from the requirements of CEQA, and projects complying with an approved plan or mitigation program would be determined to have a less than significant cumulative impact. Such plans or programs must be specified in law or adopted by the public agency with jurisdiction over the affected resources and have a certified final CEQA document.

Best performance standards (BPS) to address operational emissions of a project would be established according to performance-based determinations. Projects complying with BPS would not require specific quantification of GHG emissions and would be determined to have a less than significant cumulative impact for GHG emissions. Projects not complying with BPS would require quantification of GHG emissions and demonstration that operational greenhouse gas emissions have been reduced or mitigated by 29 percent, as targeted by ARB's AB 32 Scoping Plan. Furthermore, quantification of GHG emissions would be required for all projects for which the lead agency has determined that an Environmental Impact Report is required, regardless of whether the project incorporates BPS.

3.8.3 Impact Assessment

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

a) **Less Than Significant Impact.** Although the Project is not located in the Bay Area, the Bay Area Air Quality Management District’s thresholds for significance are based on the Statewide AB 32 objectives and will be used to quantify potential impacts related to GHG emissions. For land use development projects, the threshold is compliance with a qualified GHG Reduction Strategy or annual emissions less than 1,100 metric tons per year (MT/yr) of CO_{2e}. For stationary source projects, such as those requiring a permit from a local air district to operate, the threshold is 10,000 MT/yr of CO_{2e}. These thresholds are illustrated in **Table 3-14** below.

Short-Term Construction-Generated Emissions

Estimated construction-generated emissions are summarized in **Table 3-14**. As indicated, construction of the Project would generate maximum annual emissions of approximately 310.8278 metric tons of carbon dioxide equivalent (MTCO_{2e}). Construction-related production of GHGs would be temporary and last approximately four months.

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

Short-Term Construction-Generated GHG Emissions	
Year	Emissions (MT CO _{2e}) ⁽¹⁾
2019	42.2792
2020	310.8278
AB 32 Consistency Threshold for Land-Use Development Projects*	1,100
AB 32 Consistency Threshold for Stationary Source Projects*	10,000
Exceed Threshold?	No

1. Emissions were quantified using the CalEEMod, Version 2016.3.2. Refer to Appendix A for modeling results and assumptions. Totals may not sum due to rounding.

* As published in the Bay Area Air Quality Management District’s CEQA Air Quality Guidelines. Available online at http://www.baaqmd.gov/~/_media/files/planning-and-research/ccqa/ccqa_guidelines_may2017-pdf.pdf?la=en Accessed July 26, 2019.

Long-Term Operational Emissions

It is projected that the basin will need infrequent upkeep. Maintenance of the Project will be performed by existing District staff on an as-needed basis. Electric stationary pumps, similar to those currently in use in the area for agricultural operations, will be used when necessary. As a result, long-term emissions are estimated to be minimal.

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

b) **Less Than Significant Impact.** In accordance with SJVAPCD’s recommended guidance, project-generated GHG emissions would be considered less than significant if: (1) the Project complies with applicable BPS; (2) operational GHG emissions would be reduced or mitigated by a minimum of 29 percent in comparison to business-as usual (year 2004) conditions; or (3) project-generated emissions would comply with an approved plan or mitigation program.

The SJVAPCD recognizes that the CARB's Cap-and-Trade regulation is an adopted State-wide plan for reducing or mitigating GHG emissions from targeted industries. In June of 2014, the SJVAPCD issued APR-2025. In this policy document, the SJVAPCD concluded that the combustion of fossil fuels including fuels associated with on- and off-road vehicles, are subject to Cap-and-Trade requirements. The SJVAPCD further concluded that through implementation of the Cap-and-Trade regulation, project specific GHG emissions generated by fossil fuel use would be fully mitigated.

As noted above in **Table 3-14**, Project-generated GHG emissions would be attributable to the consumption of fossil fuels associated with the operation of on- and off-road vehicles. As discussed, the SJVAPCD has determined that project-generated GHG emissions associated with the use of fossil fuels would be fully mitigated through implementation of CARB's Cap-and-Trade regulation and, therefore, would be considered to have a less than significant individual and cumulative impact on the environment.

The Cap-and-Trade regulation is a key component in California's AB 32 GHG-reduction goals. On August 21, 2008, the SJVAPCD Governing Board approved the District's Climate Change Action Plan (CCAP). The CCAP includes various recommended measures for the reduction of GHG emissions associated with development projects. However, of the measures recommended, none are applicable to the proposed Project.

As discussed in Impact Assessment VIII-a and illustrated in **Table 3-14** above, the Project complies with the Bay Area Air Quality Management District's GHG emissions thresholds for significance. Consequently, implementation of the proposed Project is not anticipated to conflict with any applicable plan, policy, or regulation for reducing the emissions of GHGs, nor will the Project have a significant impact on the environment. The impact would be considered less than significant.

3.9 Hazards and Hazardous Materials

Table 3-15. Hazards and Hazardous Materials Impacts

Hazards and Hazardous Materials				
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Expose people or structures, either directly or indirectly to a significant risk of loss, injury or death involving wildland fires,?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3.9.1 Environmental Setting and Baseline Conditions

3.9.1.1 Hazardous Materials

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

Control Board (SWRCB) Geotracker database provides information on regulated hazardous waste facilities in California, including underground storage tank (UST) cases and non-UST cleanup programs, including Spills-Leaks-Investigations-Cleanups (SLIC) sites, Department of Defense (DOD) sites, and Land Disposal program. A search of the DTSC EnviroStor database and the SWRCB Geotracker performed on July 23, 2019 determined that there are no known active hazardous waste generators or hazardous material spill sites within the Project site or surrounding vicinity.

3.9.1.2 Airports

The Delano Municipal Airport (DLO) is located approximately 5.5 miles southwest of the project. A private airstrip is located approximately 6.2 miles northwest of the project and the Fresno Yosemite International Airport is located approximately 70 miles northwest of the project.

3.9.1.3 Emergency Response Plan

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

3.9.1.4 Sensitive Receptors

The Columbine Elementary School is approximately 1.5 miles west of the project.

3.9.2 Impact Assessment

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

IX-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-b) *Less Than Significant Impact.* There are no designated hazardous materials transportation routes in the vicinity of the Project site. Additionally, there would be no transport, use, or disposal of hazardous materials associated with the construction, with the exception of diesel fuel for construction equipment. Any potential accidental hazardous materials spills during Project construction are the responsibility of the contractor to remediate in accordance with industry best management practices and State and county regulations. Any impacts would therefore be less than significant.

IX-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?

c) *Less Than Significant Impact.* The Columbine Elementary School is approximately 1.5 miles west of the Project site. The Proposed Project will not emit hazardous emissions or involve the transport or handling of any hazardous materials. Impacts would be less than significant.

IX-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?

d) *No Impact.* The Proposed 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 DTSC. Both the SWQCB's GeoTracker and DTSC's EnviroStor websites were checked for contaminated groundwater or sites in the area. There would be no impact.

IX-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?; and,

e) No Impact. The Delano Municipal Airport (DLO) is located approximately 5.5 miles southwest of the project. A private airstrip is located approximately 6.2 miles northwest of the project and the Fresno Yosemite International Airport is located approximately 70 miles northwest of the project. The construction of the basin would not be a safety hazard for people working in the area. There would be no impact.

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

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

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

g) Less than Significant Impact. The Proposed Project site and the surrounding lands consist of agricultural and undeveloped lands. The Project does not include any residential components, nor would it require any employees to be stationed permanently at the site on a daily basis. Any impact would be less than significant.

3.10 Hydrology and Water Quality

Table 3-16. Hydrology and Water Quality Impacts

Hydrology and Water Quality				
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
i) result in substantial erosion or siltation on- or off-site;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or offsite;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainsage systems or provide substantial additional sources of polluted runoff; or	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv) impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3.10.1 Environmental Setting and Baseline Conditions

The Friant-Kern Canal is located to the east and the channelized White River is located to the north. The District uses Central Valley Project surface water delivered from the Friant-Kern Canal, which itself carries water south from Millerton Lake.

The District services more than 400 landowners on 56,500 acres of land in southern Tulare and northern Kern counties with an average farm size of 135 acres. Water is distributed through an entirely underground system, allowing for virtually no losses and will provide extremely efficient water delivery to the project site. Both the District and the individual growers have adopted conservation methods and efficient practices through drip irrigation and sprinkler systems.

The 160 acre parcel that the District is currently in the process of acquiring has been historically used for farming. The site contains the following: approximately 80 acres of grapes, 40 acres of safflower (cover crop) and 40 acres has been tilled and is bare dirt.

The water demand for the 160 acre parcel was approximately 3 af per acre for a total of 480 af/year while it was farmed.

3.10.2 Impact Assessment

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

a) *Less than Significant Impact.* SWRCB requires that a SWPPP be prepared for projects that disturb one (1) or more acres of soil. 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 will minimize the potential for the Proposed Project to substantially alter the existing drainage pattern in a manner that will result in substantial erosion or siltation onsite or offsite. Additionally, there will be no discharge to any surface source. However, there will be percolation discharge to groundwater via the proposed recharge/regulation basins. Use of chemicals or surfactants will not be generated through the maintenance or operation of the Proposed Project and as such, there will be no discharge directly associated with Project implementation that could impact water quality standards. The Proposed Project will not violate any water quality standards and will not impact waste discharge requirements and the pipeline construction in the will not entail disturbance of one or more acres of soil. The impact will be less than significant.

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

b) *Less than Significant Impact.* The Proposed Project consists of a recharge basin to improve groundwater supplies, followed by extraction of those supplies by District landowners. Groundwater recoveries would not exceed the total water recharged, as to not deplete any groundwater supplies. The DEID Groundwater Sustainability Agency holds jurisdiction over the Proposed Project area and is responsible for developing a Groundwater Sustainability Plan and any water brought to the Project site under Primary Phase operations would be accounted for under such plan. Subsequently, any recovery of recharged water by District landowners in the original DEID service area, would also be accounted for in such plan, with such accounting being based on the assumption that no more than 90 percent of the recharged water is available to be recovered by District landowners. The 10 percent leave behind effectively provides a net benefit to the aquifer. No additional groundwater will be required compared to baseline conditions; therefore, the impacts will be less than significant. Monitoring wells operated as part of the project would be available to confirm no negative effect of operations.

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

(i) *result in substantial erosion or siltation on- or off-site;*

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

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

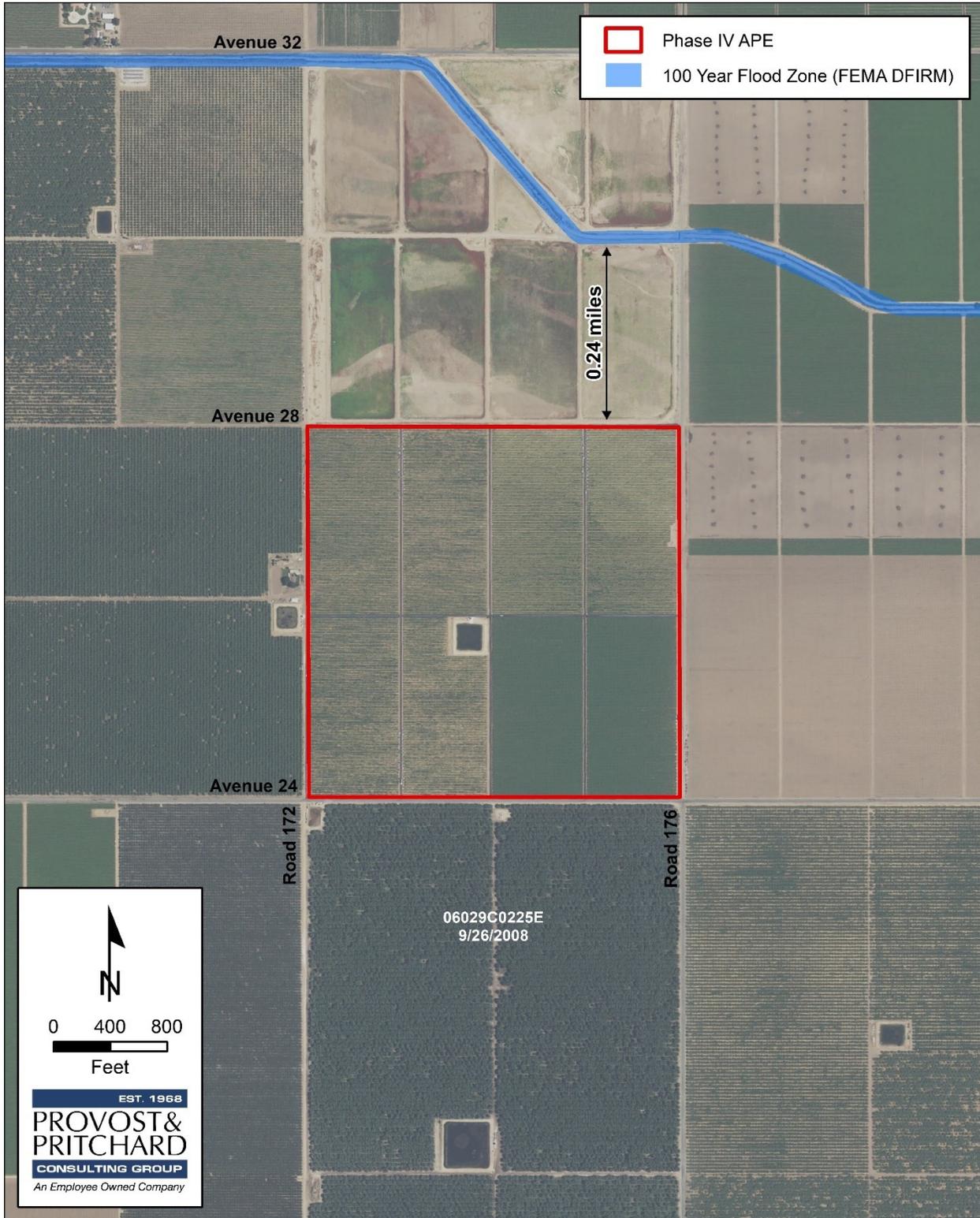
(iv) impede or redirect flood flows?

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

c-d) Less Than Significant Impact. There are no streams or rivers onsite or in the immediate vicinity. The Project would consist of excavating to a uniform depth for the purpose of groundwater recharge. In order to minimize erosion and run-off during construction activities, a SWPPP may 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. Impacts would be less than significant.

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

c-e) Less Than Significant Impact. The Proposed Project will improve groundwater storage and prevent exceedances of storm water drainage systems or additional polluted runoff by providing a depression space for surface water. The project will not substantially alter the course of the flow of a stream or river in which substantial erosion or siltation could occur. This project does not require impermeable area that could potentially alter draining patterns. Therefore, impacts will be less than significant.



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Figure 3-3. FEMA Map

3.11 Land Use and Planning

Table 3-17. Land Use and Planning Impacts

Land Use and Planning				
Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3.11.1 Environmental Setting and Baseline Conditions

The Project area is indicated by DOC's FMMP as Prime Farmland. The Project site is designated as Agriculture by the Tulare County General Plan and is within the AE-20 (Exclusive Agriculture) zone district. Properties directly surrounding the Proposed Project site are currently in use for agriculture, the majority in tree crops, and no residences are located adjacent to the site. The District is located on the Valley floor east of the Coast Ranges and west of the Sierra Nevada Mountain Range. The proposed basin expansion is located approximately 4.1 miles east of SR 99. Topographically, the Proposed Project area is at an elevation of 377 feet above mean sea level. No forest or timber land is present at the Project site or in the Project vicinity.

3.11.1.1.1 General Plan Land Use and Zoning Designations

According to the Land Use Element of the Tulare County General Plan, a water banking facility is an allowable land use in areas designated as agriculture.

3.11.1.1.2 On-site Land Use Designations

The Proposed Project site is zoned Exclusive Agriculture by Tulare County, [see Figure 3-4](#).

3.11.1.1.3 Surrounding Land Use Designations

The Tulare County General Plan designates the areas surrounding the Proposed Project site for agricultural uses ([see Table 2-1](#)).

Zone Districts is illustrated in [Figure 3-4](#).

3.11.2 Impact Assessment

XI-a) Would the project physically divide an established community?

a) No Impact. The Proposed Project is located in an agricultural area approximately three miles southeast of Earlimart and four miles northeast of Delano. This project is west of the Friant-Kern Canal and south of the White River. Surrounding uses are primarily agricultural uses. The Proposed Project would not physically divide any established community. There would be no impact.

XI-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?

b) Less Than Significant Impact. The Project site is zoned Exclusive Agricultural. The Proposed Project would not involve the development of new agriculture lands since the district is almost fully-developed to agriculture. There are no residences adjacent to the basin boundaries, and construction of the Proposed Project would not develop new sources of water that would support any new housing or new permanent population growth that would exceed official regional or local population projections in the District service area. The main purpose of the Proposed Project is to improve the District's water supply reliability in order to meet irrigation demands during dry hydrological years; therefore, no impacts to land use are anticipated. Additionally, the Proposed Project involves the construction and operation of a recharge/regulation basin which is consistent with the land use within the vicinity. Therefore, the Proposed Project would not conflict any applicable plans, policies, or regulations.



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Figure 3-4. Tulare County Zoning Map

3.12 Mineral Resources

Table 3-18. Mineral Resources Impacts

Mineral Resources				
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.12.1 Environmental Setting and Baseline Conditions

The bulk of Tulare County’s mineral extraction activities focus on aggregate (sand, gravel, and crushed stone), which is primarily used in building materials. Historically, the Kaweah River, Lewis Creek, and the Tule River have provided the main sources of high-quality sand and gravel in Tulare County. The highest quality deposits are located at the Kaweah and Tule Rivers. According to the Tulare County General Plan Background Report, all of the known potential mineral resource locations are mapped within the foothills and/or along major watercourses. Similarly, the only active oil and gas fields are located in the foothills along Deer Creek.¹⁰

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

3.12.2 Impact Assessment

XII-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?

XII-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-b) No Impact. The California Geological Survey Division of Mines and Geology has not classified the Proposed Project site as a Mineral Resource Zone under the Surface Mining and Reclamation Act (SMARA). California’s Division of Oil, Gas and Geothermal Resources has no records of active oil or gas wells on the Project site. There is a plugged and abandoned oil well onsite called DiGiorgio Fruit Corp #1. No known mineral resources are within the Project area. Therefore, construction of the Proposed Project would not result in the loss of availability of a known mineral resource since no known mineral resources occur in this area.

¹⁰ Tulare County General Plan Background Report. <http://generalplan.co.tulare.ca.us/documents/GeneralPlan2010/BackgroundReport.pdf> Accessed 25 July 2018.

3.13 Noise

Table 3-19. Noise Impacts

Noise				
Would the project:	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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.13.1 Environmental Setting and Baseline Conditions

The Project site and surrounding area is designated as Agriculture by the Tulare County General Plan. There are not any residences in the vicinity of the Project. The Columbine Elementary School is located approximately 1.5 miles west of the project. The site is approximately three miles southeast of Earlimart and four miles northeast of Delano.

The Project site is situated within a region dominated by agricultural uses. The site is characterized by an agricultural field of orchards. Surrounding land uses include agricultural uses and water infrastructure. Noise levels around the Project area are therefore associated with farm equipment and associated activities, as well as rural traffic noise. While much of unincorporated Tulare County is composed of discrete small communities and remote rural residences, the primary source of noise generation comes from major highways, such as SR 99, as well as other State highways, several airports, and industrial facilities¹¹ Maximum noise levels generated by farm-related tractors typically range from 77 to 85 dB at a distance of 50 feet from the tractor, depending on the horsepower of the tractor and the operating conditions. Due to the seasonal nature of the agricultural industry, there are often extended periods of time when little to no noise is generated at the Project site, followed by short-term periods of intensive mechanical equipment usage and corresponding noise generation. The Tulare County General Plan identifies the normally acceptable noise range for agricultural land uses between 50 and 75 dB.¹²

¹² Tulare County General Plan.
<http://generalplan.co.tulare.ca.us/documents/GP/001Adopted%20Tulare%20County%20General%20Plan%20Materials/000General%20Plan%202030%20Part%20I%20and%20Part%20II/GENERAL%20PLAN%202012.pdf> Accessed 25 July 2019.

Table 3-20. Typical Construction Equipment Noise Levels

Typical Construction Equipment Noise Levels	
Equipment	Typical Noise Levels (dBa Lmax) 50 feet from Source
Backhoe	80
Compactor	82
Dozer	85
Grader	85
Truck	88
Air Compressor	81
Concrete Pump	82
Concrete Vibrator	76
Crane, Mobile	83
Generator	81
Impact Wrench	85
Jack Hammer	88
Paver	89
Pneumatic Tool	85
Pump	76
Roller	74
Saw	76

3.13.2 Impact Assessment

XIII-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?

a) **Less Than Significant Impact.** Project operation would not generate significant noise; however, Project construction will involve temporary noise sources, mostly from trucks. Other construction equipment could include scrapers, backhoes, and drilling rigs. Noise from construction activities would not exceed Tulare County Noise Element standards of 60 dBA. The Project is located within agricultural lands, accustomed to noises associated with farm equipment. Operational maintenance activities would be as-needed. Any impacts would be mild and temporary and less than significant.

XIII-b) Would the project result in Generation of excessive groundborne vibration or groundborne noise levels?

b) *Less Than Significant Impact.* The project will not expose persons or generate excessive vibration or noise levels. The Proposed Project will have excavation and grading as part of basin construction and development of the site for a duration of approximately six months. Because of the location of the proposed project in an area completely surrounded by agriculture, potential temporary noise impacts will be less than significant

XIII-c) Would the project result in 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? and,

e) *No Impact.* The Delano Municipal Airport (DLO) is located approximately 5.5 miles southwest of the project. A private airstrip is located approximately 6.2 miles northwest of the project and the Fresno Yosemite International Airport is located approximately 70 miles northwest of the project. The construction of the basin would not be a safety hazard for people working in the area. There would be no impact.

3.14 Population and Housing

Table 3-21. Population and Housing Impacts

Population and Housing				
Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Induce substantial 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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.14.1 Environmental Setting and Baseline Conditions

The immediate area surrounding the Proposed Project site consists primarily of agriculturally-productive lands, associated agricultural-support facilities, and rural infrastructure. A variety of water-related facilities and structures exist within the Project vicinity including drainage ditches, irrigation basins, wells, pipelines, and associated appurtenances. Properties within the immediate vicinity of the Project site and located within Tulare County boundaries are designated and zoned “Exclusive Agriculture.”

Tulare County’s population according to 2010 Census data was 442,179 with an estimated percent population change from 2010 to 2017 of 5.0 percent. As of 2012 to 2016, there was an average of 134,153 households with an average of 3.36 persons per household. ¹³

3.14.2 Impact Assessment

XIV-a) Would the project induce substantial 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)?

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

a-b) No Impact. The Proposed Project would construct a new recharge/regulation basin. The Proposed Project would not encourage population growth directly or indirectly. No residential structures would be built, nor will any be removed. The project will not displace anyone. Therefore, there is no impact.

¹³ U.S. Census data. <https://www.census.gov/quickfacts/fact/table/tularecountycalifornia/POP010210#viewtop> Accessed 25 July 2018.

3.15 Public Services

Table 3-22. Public Services Impacts

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

3.15.1 Environmental Setting and Baseline Conditions

Fire Protection: The Proposed Project area would be served by the Tulare County Fire Department Battalion 2 Richgrove Firestation 10 located approximately 4.4 miles southeast of the Project site.

Police Protection: Police protection is provided by the Tulare County Sheriff. The closest station is located in Pixley approximately 11 miles northwest of the Project site. A second facility is located in Terra Bella 11.8 miles northeast.

Schools: Public school services are provided throughout the County by 48 school districts. Of the 48 school districts, seven are unified districts providing educational services for kindergarten through 12th grade. Of the remaining 41 districts, 36 are elementary school districts, and four are high school districts. Many of these districts consist of just one school.¹⁴ For instance, Columbine Elementary School District is comprised entirely of Columbine Elementary School, which is located approximately 1.5 miles west of the Proposed Project.

Parks: Tulare County has several regional parks, as well as State and national parks, national forest, wilderness areas and ecological reserves. There are 13 park and recreation facilities that are owned and operated by Tulare County. The development and maintenance of regional parks and landscaped areas is held responsible by the Tulare County Resource Management Agency, Parks and Recreation Branch. 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

¹⁴ Tulare County General Plan Background Report. <http://generalplan.co.tulare.ca.us/documents/GeneralPlan2010/BackgroundReport.pdf> Accessed 25 July 2018.

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.

The nearest park is the Morningside Park, Delano, located approximately 3.3 miles southwest of the Project site. Additionally, Kalibo Park in Delano is located approximately 3.9 miles southwest of the project.

Landfills: The nearest landfill to the Project site is the Teapot Dome Landfill, located 13.4 miles to the northeast.

3.15.2 Impact Assessment

XV-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:

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

Fire Protection – The Project area would continue to be served by the Tulare County Fire Department Battalion 2 Richgrove Firestation 10 located approximately 4.4 miles to the southeast. There would be no impact to public fire services.

Police Protection – Tulare County would continue provide sheriff protection services to the Project site upon development. Emergency response is adequate to the Project site. Stations are located in Pixley, approximately 11 miles northwest, and in Terra Bella, 11.8 miles to the northeast. No residential or office construction is proposed for this Project and no additional police protection would be needed because of the Proposed Project. There would be no impact.

Schools – The nearest school is the Columbine Elementary School located approximately 1.5 miles west of the Project site. Implementation would not include construction of any residential structure. The Proposed Project would not result in an increase of population that would require additional school facilities; therefore, there would be no impact.

Parks and other public facilities – There are no recreational lands or public facilities within the Project area. As the Proposed Project would not induce population growth, the Project would not create a need for additional park or recreational services. The nearest park is the Morningside Park in Delano, located approximately 3.3 miles southwest of the Project site. Additionally, Kalibo Park in Delano is located approximately 3.9 miles southwest of the Project site. No additional public facilities would be impacted by this Project. There would be no additional public wastewater facility or electrical needs generated by this Project. There would be no impact.

3.16 Recreation

Table 3-23. Recreation Impacts

Recreation				
Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.16.1 Environmental Setting and 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 park and recreation facilities that are owned and operated by Tulare County. The development and maintenance of regional parks and landscaped areas is held responsible by the Tulare County Resource Management Agency, Parks and Recreation Branch. 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.¹⁵

As noted in Section 3.15, the nearest park is the Morningside Park in Delano, located approximately 3.3 miles southwest of the Project site. Additionally, Kalibo Park in Delano is located approximately 3.9 miles southwest of the project.

¹⁵ Tulare County General Plan. <http://generalplan.co.tulare.ca.us/> Accessed 25 July 2019.

3.16.2 Impact Assessment

XVI-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?

a) No Impact. The Proposed Project includes the construction and operation of a recharge/regulation basin for Delano-Earlimart Irrigation District. It would not increase the demand for recreational facilities or put a strain on the existing recreational facilities. No population growth would be associated with the Proposed Project or be necessitated by the Proposed Project. There would be no impact.

XVI-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?

b) No Impact. The Proposed Project does not include recreational facilities. As there is no population growth associated with the Proposed Project, construction or expansion of nearby recreational facilities would not be necessary. There would be no impact.

3.17 Transportation

Table 3-24. Transportation Impacts

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

3.17.1 Environmental Settings and Baseline Conditions

The Project site is surrounded by agriculture and very little development. No State or interstate highways are in the immediate vicinity and the Proposed Project will not result in a significant increase in staff. The Delano Municipal Airport (DLO) is located approximately 5.5 miles southwest of the project. A private airstrip is located approximately 6.2 miles northwest of the project and the Fresno Yosemite International Airport is located approximately 70 miles northwest of the project.

3.17.2 Impact Assessment

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

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

a-b) *Less Than Significant Impact.* The Proposed Project would consist of the construction of a recharge/regulation basin. Construction traffic associated with the Proposed Project would be temporary, lasting approximately 12 months for excavation of soil, grading, site preparation, and construction of the basins. Operational traffic consists of as-needed maintenance trips. There would not be a significant adverse effect to existing roadways in the area.

There are no pedestrian or bicycle facilities in the vicinity of the site. Therefore, the Proposed Project would not conflict with any congestion management plan or any other applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system.

XVII-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)?

c) No Impact. The Delano Municipal Airport (DLO) is located approximately 5.5 miles southwest of the project. The construction of Proposed Project would not cause an increase in air traffic levels or cause a change in air traffic location. There would be no impact

XVII-d) Would the project result in inadequate emergency access?

d) No Impact. No new roadway design features are associated with the Proposed Project. Therefore, there will be no impact.

3.18 Tribal Cultural Resources

Table 3-25. Tribal Cultural Resources Impacts

Tribal Cultural Resources				
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:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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, the lead agency shall consider the significance of the resource to a California Native American tribe.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3.18.1 Environmental Setting and Baseline Conditions

The Project lies within the homeland of the Southern Valley Yokuts. At the time of first contact with the Spanish missionaries, the Yokut people, which also includes Northern Valley and Foothill groups, collectively inhabited the San Joaquin Valley as well as the eastern foothills of the Sierra Nevada from the Fresno River southward to the Kern River.

The serial incursion of Spanish, Mexican, and finally northern European settlers irrevocably changed the lifeways of the Yokuts and ultimately led to the complete displacement of native peoples from the valley. With the founding of Mission San Juan Bautista in 1797, Indians inhabiting the western portion of the San Joaquin Valley were forcibly recruited to serve at the mission. It appears that natives were replaced by Spanish settlers.

The Project area has been intensively farmed for over a century and little (if any) natural vegetation remains at the Project site.

3.18.2 Impact Assessment

XVIII-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:

a-i-a-ii) Less than Significant Impact.

A search of the Native American Heritage Commission (NAHC) Sacred Lands File was completed for the area of potential Project effect. No tribal cultural resources were identified. Additionally, a records search was conducted at the Southern San Joaquin Valley Archaeological Information Center, California State University, Bakersfield. This search determined that the study area had not been previously surveyed and that no archaeological sites, sacred sites, or traditional cultural places/landscapes had been identified within or adjacent to the Project area. The District has not received requests for additional consultation from any tribes. Therefore, it is concluded barring evidence to the contrary that there is little or no chance the Project will cause a substantial adverse change to the significance of a tribal cultural resource as defined.

Nonetheless, Mitigation Measure CUL-1 described above in Section 3.5 is recommended in the event cultural materials or human remains are unearthed during excavation or construction.

3.19 Utilities and Service Systems

Table 3-26. Utilities and Service Systems Impacts

Utilities and Service Systems				
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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 reductions goals?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.19.1 Environmental Setting and Baseline Conditions

3.19.1.1 Water Supply

The Project site is located within the Tule Sub-basin of the San Joaquin Valley Groundwater Basin, as defined by the California Department of Water Resources Groundwater Bulletin 118. Declines in groundwater basin storage and groundwater overdraft are recurring problems in Tulare County. Measures for ensuring the continued availability of groundwater for municipal needs have been identified and planned in several areas of the county. The measures include groundwater conservation and recharge, and supplementing or replacing groundwater sources for irrigation with surface water.

3.19.1.2 Wastewater Collection and Treatment

The Delano Wastewater Treatment Plant is the closest wastewater facility. However, no wastewater will be generated during Project construction or operation.

3.19.1.3 Landfills

The closest landfill to the Project site is the Teapot Dome Landfill located approximately 13.41 miles northeast of the site. No significant solid waste will be generated during Project construction or operation.

3.19.2 Impact Assessment

XIX-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?

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

a-b) No Impact. The Proposed Project would not exceed wastewater treatment requirements or require new facilities. The Proposed Project entails the development of a recharge basin that would not generate wastewater or require expansion of existing facilities. The Project is not anticipated to generate the need for expanded wastewater treatment facilities or have an adverse environmental effect to wastewater treatment because of the water recharged by the basin.

XIX-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?

c) No Impact. The Proposed Project would not require or result in the construction of new storm water drainage facilities or expansion of existing facilities. There would be no impact.

XIX-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?

d) No Impact. The Proposed Project entails improving groundwater water supply conditions for the District by capturing and recharging surface water flows that would otherwise be lost to the region. Therefore, there will be no impact related to insufficient water supplies.

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

e) No Impact. The Proposed Project will create no wastewater demand on any wastewater treatment provider, nor will it require any wastewater treatment facilities at the Project site, so there will be no need for any sort of capacity determination by a wastewater treatment provider. There would be no impact.

3.20 Wildfire

Table 3-27. Wildfire Impacts

Wildfire				
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.20.1 Environmental Setting and Baseline Conditions

The Project is located on unincorporated land in Tulare County, northwest of Delano and Southeast of Earlimart. The Project site is in a flat agricultural area of the Central San Joaquin Valley. The construction would be taking place on one parcel of approximately 160-acres in size. The Project would consist of the construction of new groundwater recharge basins. No structures are being constructed as part of the Project, and the Project is not considered to be population growth inducing.

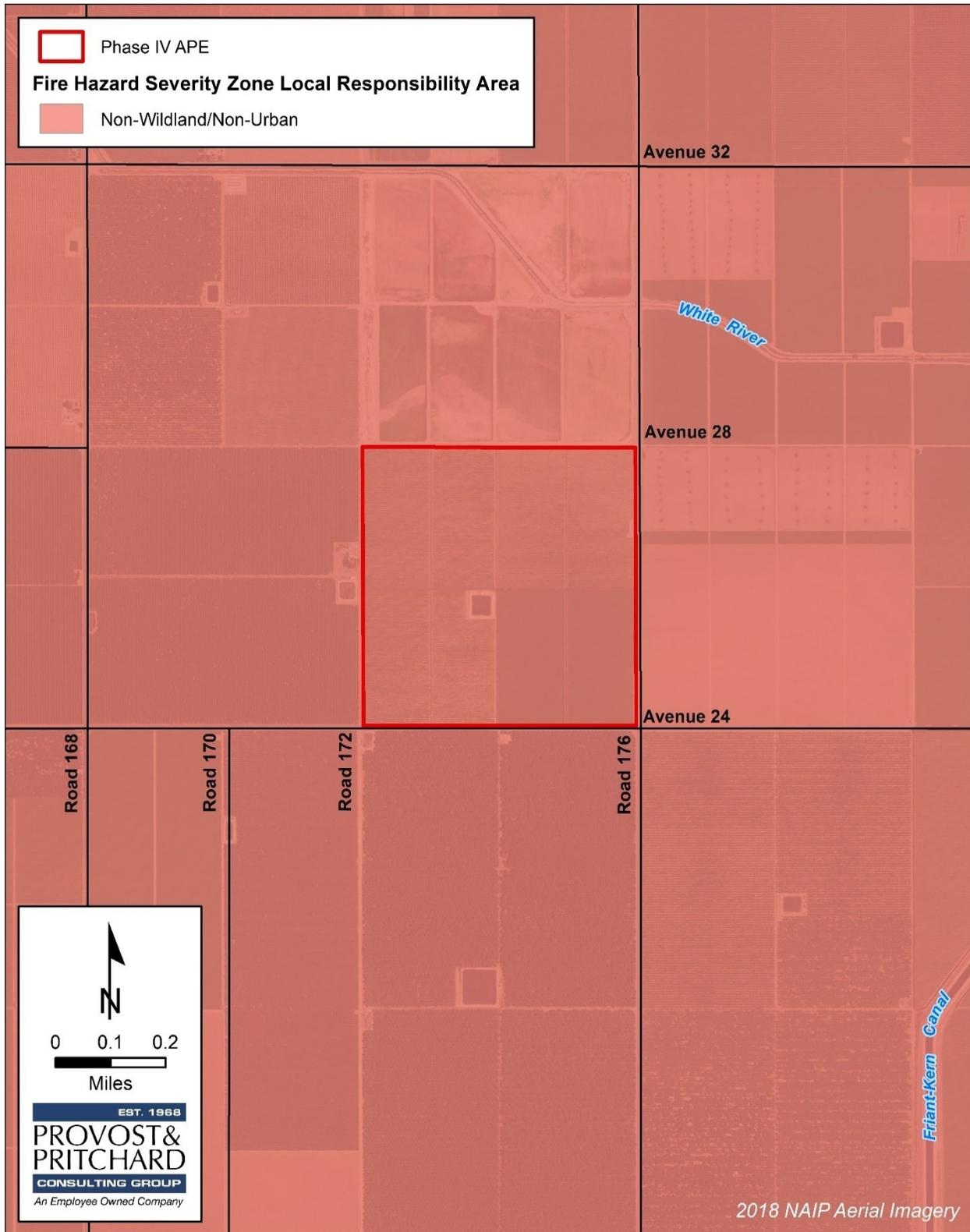
XX-a) Would the project substantially impair an adopted emergency response plan or emergency evacuation plan?

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

XX-c) 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?

XX-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?

a-d) No Impact. The Project is not located in or near state responsibility areas or lands classified as very high fire hazard severity zones. Therefore, further analysis of the Projects potential impacts to wildfire are not warranted. There would be no impacts.



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Figure 3-5. Fire Hazard Severity Map

3.21 CEQA Mandatory Findings of Significance

Table 3-28. Mandatory Findings of Significance Impacts

Mandatory Findings of Significance				
Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3.21.1 Impact Assessment

XXI-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?

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

XXI-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)?

b) *Less Than Significant Impact.* CEQA Guidelines Section 15064(i) States that a Lead Agency shall consider whether the cumulative impact of a project is significant and whether the effects of the project are cumulatively considerable. The assessment of the significance of the cumulative effects of a project must, therefore, be conducted in connection with the effects of past projects, other current projects, and probable future projects. The Proposed Project would include the construction of a 160-acre recharge basin. No additional roads would be constructed as a result of the Project, nor would any additional public services be required. The Proposed 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.

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

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

Chapter 4 Mitigation Monitoring and Reporting Program

This Mitigation Monitoring and Reporting Program (MMRP) has been formulated based upon the findings of the Initial Study/Mitigated Negative Declaration (IS/MND) for the Delano-Earlimart Irrigation District – Turnipseed Basin Phase IV Expansion Project (Proposed Project) in Tulare County (County). The MMRP lists mitigation measures recommended in the IS/MND for the Proposed Project and identifies monitoring and reporting requirements.

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

The first column of **Table 4-1** identifies the mitigation measure. The second column, entitled “When Monitoring is to Occur,” identifies the time the mitigation measure should be initiated. The third column, “Frequency of Monitoring,” identifies the frequency of the monitoring of the mitigation measure. The fourth column, “Agency Responsible for Monitoring,” names the party ultimately responsible for ensuring that the mitigation measure is implemented. The last columns (5 and 6) will be used by the District to ensure that individual mitigation measures have been complied with and monitored..

Table 4-1. Mitigation Monitoring and Reporting Program

Mitigation Monitoring and Reporting Program					
Mitigation Measure/Condition of Approval	When Monitoring is to Occur	Frequency of Monitoring	Agency Responsible for Monitoring	Method to Verify Compliance	Verification of Compliance
Biological Resources					
Mitigation Measure BIO-1: Worker Environmental Action Plan (WEAP) Training					
Mitigation Measure BIO-1 (WEAP Training). Prior to initiating construction activities (including staging and mobilization), all personnel associated with Project construction shall attend mandatory Worker Environmental Awareness Program (WEAP) training, conducted by a qualified biologist, to aid workers in identifying special status resources that may occur in the Project area. The specifics of this program shall include identification of the sensitive species and suitable habitats, a description of the regulatory status and general ecological characteristics of sensitive resources, and review of the limits of construction and mitigation measures required to reduce impacts to biological resources within the work area. A fact sheet conveying this information, along with photographs or illustrations of sensitive species with potential to occur onsite, shall also be prepared for distribution to all contractors, their employees, and all other personnel involved with construction of the Project. All employees shall sign a form documenting that they have attended WEAP training and understand the information presented to them.	Prior to the start of construction and during construction upon arrival of new personnel	Prior to the start of construction and during construction upon arrival of new personnel	Delano-Earlimart Irrigation District	Personnel shall sign a form documenting attendance at WEAP training	
Mitigation Measure BIO-2: Project-Related Mortality and/or Disturbance of Special Status Mammals					
BIO-2 (Construction Hours): Construction shall be conducted during daylight hours to reduce disturbance to wildlife that could be foraging within work areas.	Prior to the start of construction		Delano-Earlimart Irrigation District	Construction Period Records	
BIO-2a (Pre-construction Surveys). Within 30 days prior to the start of construction, a pre-construction survey for San Joaquin kit fox shall be conducted on and within 200 feet of proposed work areas. If an active kit fox den is detected within or adjacent to the Project area, construction will be delayed, and CDFW and USFWS shall be consulted to determine the best course of action.	Prior to the start of construction		Delano-Earlimart Irrigation District	Construction Period Records	
BIO-2b (Minimization): The Project shall observe all minimization and protective measures from the Construction and On-Going Operational Requirements of the USFWS 2011 Standardized Recommendations, including, but not limited to: construction speed limits, covering of pipes, installation of escape structures, restriction of herbicide and rodenticide use, proper disposal of food items and	Prior to the start of construction		Delano-Earlimart Irrigation District	Survey Report	

Chapter 4 Mitigation Monitoring and Reporting Program
Turnipseed Basin Phase IV Expansion Project

Mitigation Monitoring and Reporting Program					
Mitigation Measure/Condition of Approval	When Monitoring is to Occur	Frequency of Monitoring	Agency Responsible for Monitoring	Method to Verify Compliance	Verification of Compliance
trash, prohibition of pets and firearms, and completion of an employee education program.					
BIO-2c (Mortality Reporting): The Sacramento Field Office of USFWS and the Fresno Field Office of CDFW will be notified in writing within three working days in the case of the accidental death or injury to a San Joaquin kit fox during construction. Notification must include the date, time, and location of the incident and any other pertinent information.	Prior to the start of construction		Delano-Earlimart Irrigation District		
Mitigation Measure BIO-3: Project-Related Mortality and/or Disturbance of Nesting Raptors and Migratory Birds					
BIO-3a (Avoidance): The Project's construction activities shall occur, if feasible, between September 1 and January 31 (outside of nesting bird season) in an effort to avoid impacts to nesting birds	Prior to the start of construction		Delano-Earlimart Irrigation District		
BIO-3b (Pre-construction Surveys): If activities must occur within nesting bird season (February 1 to August 31), a qualified biologist shall conduct pre-construction surveys for active nests within 30 days prior to the start of construction. The survey shall include the proposed work area and surrounding lands within 500 feet for all raptors and migratory birds, with the exception of the Swainson's hawk; the Swainson's hawk survey will extend to 0.5 mile outside of the work area boundaries. If no active nests are observed, no further mitigation is required. Nests containing eggs or young are to be considered "active," with the exception of raptors; raptor nests are considered "active" upon the nest-building stage.	Prior to the start of construction		Delano-Earlimart Irrigation District		
BIO-3c (Establish Buffers): On discovery of any active nests near work areas, the biologist shall determine appropriate construction setback distances based on applicable CDFW guidelines and/or the biology of the species in question. Construction buffers shall be identified with flagging, fencing, or other easily visible means, and shall be maintained until the biologist has determined that the nestlings have fledged.	Prior to the start of construction		Delano-Earlimart Irrigation District		
Mitigation Measure BIO-4: Project-Related Mortality and/or Disturbance of Nesting Raptors and Migratory Birds					
BIO-4a (Pre-construction Survey): Within 30 days prior to the start of construction, a pre-construction survey for San Joaquin kit fox shall be conducted on and within 200 feet of proposed work areas. If an active kit fox den is detected within or adjacent to the Project area, construction will be delayed, and CDFW and USFWS shall be consulted to determine the best course of action.			Delano-Earlimart Irrigation District		
BIO-4b (Minimization): The Project shall observe all minimization and protective measures from the Construction and On-Going Operational Requirements of the			Delano-Earlimart Irrigation District		

Mitigation Monitoring and Reporting Program					
Mitigation Measure/Condition of Approval	When Monitoring is to Occur	Frequency of Monitoring	Agency Responsible for Monitoring	Method to Verify Compliance	Verification of Compliance
USFWS 2011 Standardized Recommendations, including, but not limited to: construction speed limits, covering of pipes, installation of escape structures, restriction of herbicide and rodenticide use, proper disposal of food items and trash, prohibition of pets and firearms, and completion of an employee education program.					
BIO-4c (Mortality Reporting): The Sacramento Field Office of USFWS and the Fresno Field Office of CDFW will be notified in writing within three working days in the case of the accidental death or injury to a San Joaquin kit fox during construction. Notification must include the date, time, and location of the incident and any other pertinent information.			Delano-Earlimart Irrigation District		
Cultural Resources					
Mitigation Measure CUL-1: Archaeological Resources					
In the event that archaeological remains are encountered at any time during development or ground-moving activities within the entire project area, all work in the vicinity of the find shall halt until a qualified archaeologist can assess the discovery. The District shall implement all recommendations of the archaeologist necessary to avoid or reduce to a less than significant level potential impacts to cultural resource. Appropriate actions could include a Data Recovery Plan or preservation in place.	In the event archaeological resources are uncovered	During excavation	Delano-Earlimart Irrigation District		
Mitigation Measure CUL-2: Human Remains					
If human remains are uncovered, or in any other case when human remains are discovered during construction, the Tulare County Coroner is to be notified to arrange their proper treatment and disposition. If the remains are identified—on the basis of archaeological context, age, cultural associations, or biological traits—as those of a Native American, California Health and Safety Code 7050.5 and Public Resource Code 5097.98 require that the coroner notify the NAHC within 24 hours of discovery. The NAHC will then identify the Most Likely Descendent who will determine the manner in which the remains are treated.	In the event human remains are uncovered	During excavation	Delano-Earlimart Irrigation District		

Chapter 5 References

List of Sources, Agencies and Persons Consulted:

AB-52 Native Americans: California Environmental Quality Act

http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201320140AB52

California Department of Resources Recycling and Recovery (CalRecycle) website:

<http://www.calrecycle.ca.gov/>

California Department of Toxic Substances Control website:

<http://www.envirostor.dtsc.ca.gov/public/>

California Department of Conservation's Farmland Mapping and Monitoring Program

<https://maps.conservation.ca.gov/>

California Department of Fish and Wildlife: <https://www.wildlife.ca.gov/Data/CNDDDB>

California Emissions Estimator Model (CalEEMod), version 2013.2.2

California State Water Resources Control Board website: <http://geotracker.waterboards.ca.gov/> and

http://www.swrcb.ca.gov/water_issues/programs/stormwater/construction.shtml

Caltrans <http://www.dot.ca.gov/design/lap/livability/scenic-highways/index.html>

Federal Emergency Management Agency (FEMA), Flood Map Service Center website:

<http://msc.fema.gov/portal>

Google Earth: <https://www.google.com/earth/>

Native American Heritage Commission <http://nahc.ca.gov/>

San Joaquin Valley Air Pollution Control District

<http://www.valleyair.org/aqinfo/attainment.htm>

State Water Resources Control Board, GeoTracker <http://geotracker.waterboards.ca.gov/>

U.S. Fish & Wildlife Service National Wetlands Inventor: <https://www.fws.gov/wetlands/>

Chapter 6 List of Preparers

The following firms, individuals, and agency staff contributed to the preparation of this document:

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Appendix A

Air Quality and Greenhouse Gas Emissions Information: CalEEMod

DEID Turnipseed Basin Phase IV Expansion Project - Tulare County, Annual

**DEID Turnipseed Basin Phase IV Expansion Project
Tulare County, Annual**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	160.00	Acre	160.00	6,969,600.00	0

1.2 Other Project Characteristics

Urbanization	Rural	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	51
Climate Zone	3			Operational Year	2021
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Demo and Site Prep phases shortened because land will be delivered to DEID bare. Total duration based on previous project.

Construction Off-road Equipment Mitigation -

DEID Turnipseed Basin Phase IV Expansion Project - Tulare County, Annual

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	200.00	10.00
tblConstructionPhase	NumDays	310.00	111.00
tblConstructionPhase	NumDays	120.00	10.00
tblConstructionPhase	PhaseEndDate	9/4/2020	12/13/2019
tblConstructionPhase	PhaseEndDate	4/29/2022	6/1/2020
tblConstructionPhase	PhaseEndDate	2/19/2021	12/27/2019
tblConstructionPhase	PhaseStartDate	2/20/2021	12/30/2019
tblConstructionPhase	PhaseStartDate	9/5/2020	12/16/2019
tblGrading	AcresOfGrading	277.50	775.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural

2.0 Emissions Summary

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Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	12-2-2019	3-1-2020	1.6226	1.6226
2	3-2-2020	6-1-2020	1.8033	1.8033
		Highest	1.8033	1.8033

2.2 Overall Operational
Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.5960	1.0000e-005	1.4800e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	2.8600e-003	2.8600e-003	1.0000e-005	0.0000	3.0500e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.5960	1.0000e-005	1.4800e-003	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	1.0000e-005	1.0000e-005	0.0000	2.8600e-003	2.8600e-003	1.0000e-005	0.0000	3.0500e-003

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2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.5960	1.0000e-005	1.4800e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	2.8600e-003	2.8600e-003	1.0000e-005	0.0000	3.0500e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.5960	1.0000e-005	1.4800e-003	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	1.0000e-005	1.0000e-005	0.0000	2.8600e-003	2.8600e-003	1.0000e-005	0.0000	3.0500e-003

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	12/2/2019	12/13/2019	5	10	
2	Site Preparation	Site Preparation	12/16/2019	12/27/2019	5	10	
3	Grading	Grading	12/30/2019	6/1/2020	5	111	

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Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 775

Acres of Paving: 160

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Excavators	3	8.00	158	0.38
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Excavators	2	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Graders	1	8.00	187	0.41
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

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Water Exposed Area

3.2 Demolition - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0176	0.1789	0.1103	1.9000e-004		8.9700e-003	8.9700e-003		8.3500e-003	8.3500e-003	0.0000	17.3132	17.3132	4.8200e-003	0.0000	17.4336
Total	0.0176	0.1789	0.1103	1.9000e-004		8.9700e-003	8.9700e-003		8.3500e-003	8.3500e-003	0.0000	17.3132	17.3132	4.8200e-003	0.0000	17.4336

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.4000e-004	4.0000e-004	3.9700e-003	1.0000e-005	9.3000e-004	1.0000e-005	9.4000e-004	2.5000e-004	1.0000e-005	2.5000e-004	0.0000	0.8150	0.8150	3.0000e-005	0.0000	0.8157
Total	5.4000e-004	4.0000e-004	3.9700e-003	1.0000e-005	9.3000e-004	1.0000e-005	9.4000e-004	2.5000e-004	1.0000e-005	2.5000e-004	0.0000	0.8150	0.8150	3.0000e-005	0.0000	0.8157

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3.2 Demolition - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0176	0.1789	0.1103	1.9000e-004		8.9700e-003	8.9700e-003		8.3500e-003	8.3500e-003	0.0000	17.3131	17.3131	4.8200e-003	0.0000	17.4336
Total	0.0176	0.1789	0.1103	1.9000e-004		8.9700e-003	8.9700e-003		8.3500e-003	8.3500e-003	0.0000	17.3131	17.3131	4.8200e-003	0.0000	17.4336

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.4000e-004	4.0000e-004	3.9700e-003	1.0000e-005	9.3000e-004	1.0000e-005	9.4000e-004	2.5000e-004	1.0000e-005	2.5000e-004	0.0000	0.8150	0.8150	3.0000e-005	0.0000	0.8157
Total	5.4000e-004	4.0000e-004	3.9700e-003	1.0000e-005	9.3000e-004	1.0000e-005	9.4000e-004	2.5000e-004	1.0000e-005	2.5000e-004	0.0000	0.8150	0.8150	3.0000e-005	0.0000	0.8157

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3.3 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0217	0.2279	0.1103	1.9000e-004		0.0120	0.0120		0.0110	0.0110	0.0000	17.0843	17.0843	5.4100e-003	0.0000	17.2195
Total	0.0217	0.2279	0.1103	1.9000e-004	0.0903	0.0120	0.1023	0.0497	0.0110	0.0607	0.0000	17.0843	17.0843	5.4100e-003	0.0000	17.2195

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.5000e-004	4.8000e-004	4.7600e-003	1.0000e-005	1.1100e-003	1.0000e-005	1.1200e-003	3.0000e-004	1.0000e-005	3.0000e-004	0.0000	0.9779	0.9779	3.0000e-005	0.0000	0.9788
Total	6.5000e-004	4.8000e-004	4.7600e-003	1.0000e-005	1.1100e-003	1.0000e-005	1.1200e-003	3.0000e-004	1.0000e-005	3.0000e-004	0.0000	0.9779	0.9779	3.0000e-005	0.0000	0.9788

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3.3 Site Preparation - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0407	0.0000	0.0407	0.0223	0.0000	0.0223	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0217	0.2279	0.1103	1.9000e-004		0.0120	0.0120		0.0110	0.0110	0.0000	17.0843	17.0843	5.4100e-003	0.0000	17.2195
Total	0.0217	0.2279	0.1103	1.9000e-004	0.0407	0.0120	0.0526	0.0223	0.0110	0.0333	0.0000	17.0843	17.0843	5.4100e-003	0.0000	17.2195

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.5000e-004	4.8000e-004	4.7600e-003	1.0000e-005	1.1100e-003	1.0000e-005	1.1200e-003	3.0000e-004	1.0000e-005	3.0000e-004	0.0000	0.9779	0.9779	3.0000e-005	0.0000	0.9788
Total	6.5000e-004	4.8000e-004	4.7600e-003	1.0000e-005	1.1100e-003	1.0000e-005	1.1200e-003	3.0000e-004	1.0000e-005	3.0000e-004	0.0000	0.9779	0.9779	3.0000e-005	0.0000	0.9788

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3.4 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.4170	0.0000	0.4170	0.0477	0.0000	0.0477	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.7400e-003	0.0545	0.0334	6.0000e-005		2.3800e-003	2.3800e-003		2.1900e-003	2.1900e-003	0.0000	5.5701	5.5701	1.7600e-003	0.0000	5.6142
Total	4.7400e-003	0.0545	0.0334	6.0000e-005	0.4170	2.3800e-003	0.4194	0.0477	2.1900e-003	0.0499	0.0000	5.5701	5.5701	1.7600e-003	0.0000	5.6142

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4000e-004	1.1000e-004	1.0600e-003	0.0000	2.5000e-004	0.0000	2.5000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.2173	0.2173	1.0000e-005	0.0000	0.2175
Total	1.4000e-004	1.1000e-004	1.0600e-003	0.0000	2.5000e-004	0.0000	2.5000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.2173	0.2173	1.0000e-005	0.0000	0.2175

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3.4 Grading - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1876	0.0000	0.1876	0.0215	0.0000	0.0215	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.7400e-003	0.0545	0.0334	6.0000e-005		2.3800e-003	2.3800e-003		2.1900e-003	2.1900e-003	0.0000	5.5701	5.5701	1.7600e-003	0.0000	5.6142
Total	4.7400e-003	0.0545	0.0334	6.0000e-005	0.1876	2.3800e-003	0.1900	0.0215	2.1900e-003	0.0237	0.0000	5.5701	5.5701	1.7600e-003	0.0000	5.6142

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4000e-004	1.1000e-004	1.0600e-003	0.0000	2.5000e-004	0.0000	2.5000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.2173	0.2173	1.0000e-005	0.0000	0.2175
Total	1.4000e-004	1.1000e-004	1.0600e-003	0.0000	2.5000e-004	0.0000	2.5000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.2173	0.2173	1.0000e-005	0.0000	0.2175

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3.4 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.7392	0.0000	0.7392	0.2248	0.0000	0.2248	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2425	2.7358	1.7417	3.3800e-003		0.1185	0.1185		0.1090	0.1090	0.0000	296.9394	296.9394	0.0960	0.0000	299.3403
Total	0.2425	2.7358	1.7417	3.3800e-003	0.7392	0.1185	0.8576	0.2248	0.1090	0.3338	0.0000	296.9394	296.9394	0.0960	0.0000	299.3403

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.1300e-003	5.0800e-003	0.0505	1.3000e-004	0.0135	9.0000e-005	0.0136	3.5900e-003	8.0000e-005	3.6700e-003	0.0000	11.4789	11.4789	3.5000e-004	0.0000	11.4875
Total	7.1300e-003	5.0800e-003	0.0505	1.3000e-004	0.0135	9.0000e-005	0.0136	3.5900e-003	8.0000e-005	3.6700e-003	0.0000	11.4789	11.4789	3.5000e-004	0.0000	11.4875

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3.4 Grading - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.3326	0.0000	0.3326	0.1012	0.0000	0.1012	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2425	2.7358	1.7417	3.3800e-003		0.1185	0.1185		0.1090	0.1090	0.0000	296.9390	296.9390	0.0960	0.0000	299.3400
Total	0.2425	2.7358	1.7417	3.3800e-003	0.3326	0.1185	0.4511	0.1012	0.1090	0.2102	0.0000	296.9390	296.9390	0.0960	0.0000	299.3400

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.1300e-003	5.0800e-003	0.0505	1.3000e-004	0.0135	9.0000e-005	0.0136	3.5900e-003	8.0000e-005	3.6700e-003	0.0000	11.4789	11.4789	3.5000e-004	0.0000	11.4875
Total	7.1300e-003	5.0800e-003	0.0505	1.3000e-004	0.0135	9.0000e-005	0.0136	3.5900e-003	8.0000e-005	3.6700e-003	0.0000	11.4789	11.4789	3.5000e-004	0.0000	11.4875

4.0 Operational Detail - Mobile

DEID Turnipseed Basin Phase IV Expansion Project - Tulare County, Annual

4.1 Mitigation Measures Mobile

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

4.2 Trip Summary Information

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

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Non-Asphalt Surfaces	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Non-Asphalt Surfaces	0.516727	0.033517	0.172440	0.141085	0.022326	0.005434	0.020884	0.078233	0.001822	0.001311	0.004327	0.001132	0.000761

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5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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

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5.3 Energy by Land Use - Electricity

Unmitigated

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

Mitigated

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

6.0 Area Detail

6.1 Mitigation Measures Area

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.5960	1.0000e-005	1.4800e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	2.8600e-003	2.8600e-003	1.0000e-005	0.0000	3.0500e-003
Unmitigated	0.5960	1.0000e-005	1.4800e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	2.8600e-003	2.8600e-003	1.0000e-005	0.0000	3.0500e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1454					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.4505					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.4000e-004	1.0000e-005	1.4800e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	2.8600e-003	2.8600e-003	1.0000e-005	0.0000	3.0500e-003
Total	0.5960	1.0000e-005	1.4800e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	2.8600e-003	2.8600e-003	1.0000e-005	0.0000	3.0500e-003

DEID Turnipseed Basin Phase IV Expansion Project - Tulare County, Annual

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1454					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.4505					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.4000e-004	1.0000e-005	1.4800e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	2.8600e-003	2.8600e-003	1.0000e-005	0.0000	3.0500e-003
Total	0.5960	1.0000e-005	1.4800e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	2.8600e-003	2.8600e-003	1.0000e-005	0.0000	3.0500e-003

7.0 Water Detail

7.1 Mitigation Measures Water

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

7.2 Water by Land Use

Unmitigated

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

DEID Turnipseed Basin Phase IV Expansion Project - Tulare County, Annual

7.2 Water by Land Use

Mitigated

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

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

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

DEID Turnipseed Basin Phase IV Expansion Project - Tulare County, Annual

8.2 Waste by Land Use

Unmitigated

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

Mitigated

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

9.0 Operational Offroad

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

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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number
----------------	--------

11.0 Vegetation

Appendix B

Biological Resources Report

Delano-Earlimart Irrigation District: Turnipseed Basin Phase IV Expansion Project

Biological Evaluation



Prepared by:

Brooke Fletcher, Wildlife Biologist

August 2019



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1 Introduction

Delano-Earlimart Irrigation District (DEID or District) currently manages a network of groundwater recharge basins with the intent of reducing groundwater overdraft in the vicinity by recharging the aquifer with available wet-year surface water supplies. The District is in the process of acquiring a 160-acre parcel (APN# 338-140-001) directly south of the existing, operational Turnipseed Basin and immediately north of the Turnipseed Basin Phase III Expansion Project, which was approved in 2018 and is currently under construction. The following technical report includes a description of the biological resources on the site proposed for development of the Turnipseed Basin Phase IV Expansion Project.

1.1 Project Description

The District is in the process of acquiring a 160-acre parcel (APN #338-140-001) immediately south of the existing Turnipseed Basin to provide for sustainable management of surface and groundwater. The proposed Project is located in southwest Tulare County, northeast of the City of Delano (see **Figure 1**).

The Proposed Project includes several phases of construction, including equipment mobilization, earthwork for excavation of recharge/regulation basins and construction of basin perimeter berms of no greater than six feet in external height. Project components could include ponds/cells within the basin separated by levees, performance testing, and demobilization.

The District will excavate approximately 55,000 cubic yards of material from the site to form the overall basin. The basin will be further divided into approximately eight (8) cells to increase storage over varying topography. The Project will include a settling channel on the east side and an overflow basin along its western edge. The Project may also construct a network of monitoring wells if needed to supplement existing monitoring wells associated with the existing banking operations that currently exist in proximity to the Project. The only pipelines contemplated in the Project would serve to introduce water for recharge/banking via connection to a tee in the existing Ave 24 mainline and pipeline at the southeast corner of the project and interconnections with the existing recharge cells just north of the Project site.

1.2 Report Objectives

Construction of groundwater recharge facilities could damage biological resources or modify habitats that are detrimental to sensitive plant and wildlife species. In cases such as these, development may be regulated by state or federal agencies, subject to provisions of the California Environmental Quality Act (CEQA), and/or addressed by local regulatory agencies.

This report addresses issues related to the following:

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

Therefore, the objectives of this report are:

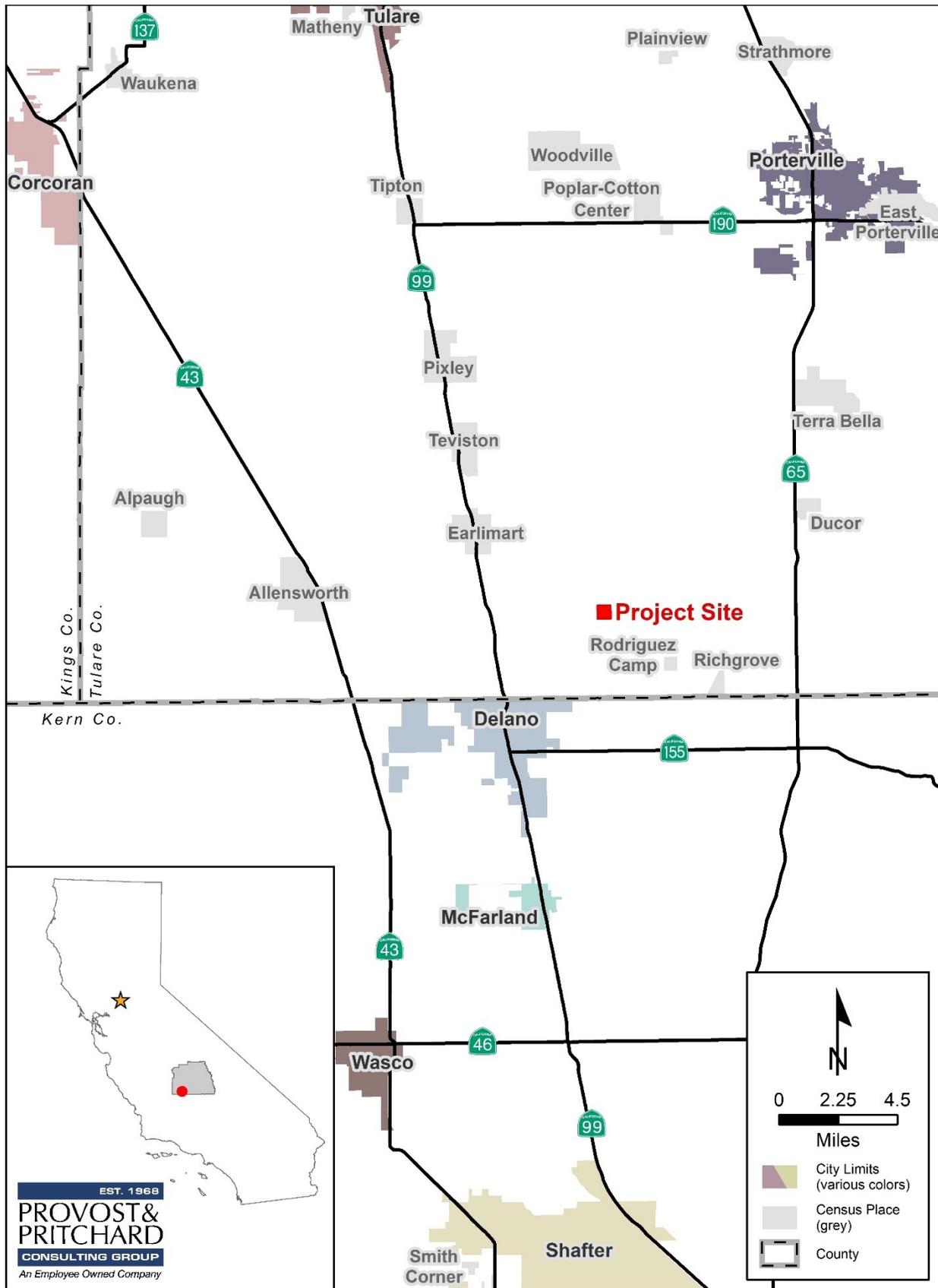
- 1) Summarize all site-specific information related to existing biological resources.
- 2) Make reasonable inferences about the biological resources that could occur onsite based on habitat suitability and the proximity of the site to a species' known range.
- 3) Summarize all state and federal natural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

1.3 Study Methodology

A reconnaissance-level field survey of the Project site and surrounding areas was conducted on July 26, 2019 by Provost & Pritchard. The Project's Area of Potential Effect (APE) is illustrated in **Figure 2**. The survey consisted of driving the perimeter of the site and walking through the orchard and adjacent areas while identifying and noting land uses, biological habitats and communities, and plant and animal species encountered. Furthermore, the site and surrounding areas were assessed for suitable habitats of various wildlife species.

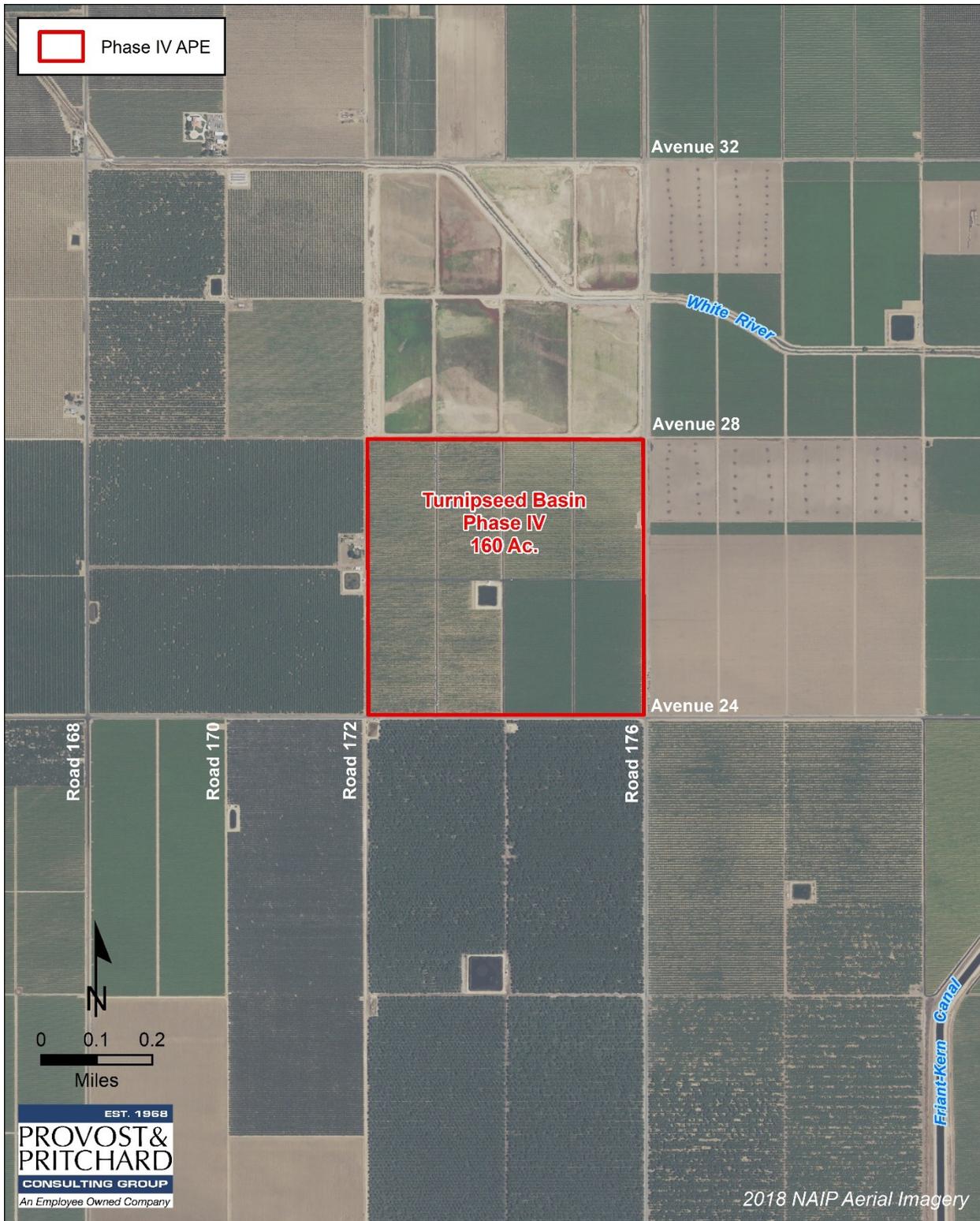
Provost & Pritchard conducted an analysis of potential Project-related impacts to biological resources based on the resources known to exist or with potential to exist within the Project site and surrounding areas. Sources of information used in preparation of this analysis included: the California Department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

The field investigation did not include a wetland delineation or focused surveys for special status species. The field survey conducted included an appropriate level of detail to assess the significance of potential impacts to sensitive biological resources resulting from the Project. Furthermore, the field survey was sufficient to generally describe those features of the Project that could be subject to the jurisdiction of federal and/or State agencies, such as the U.S. Army Corps of Engineers (USACE), CDFW, and the Regional Water Quality Control Board (RWQCB).

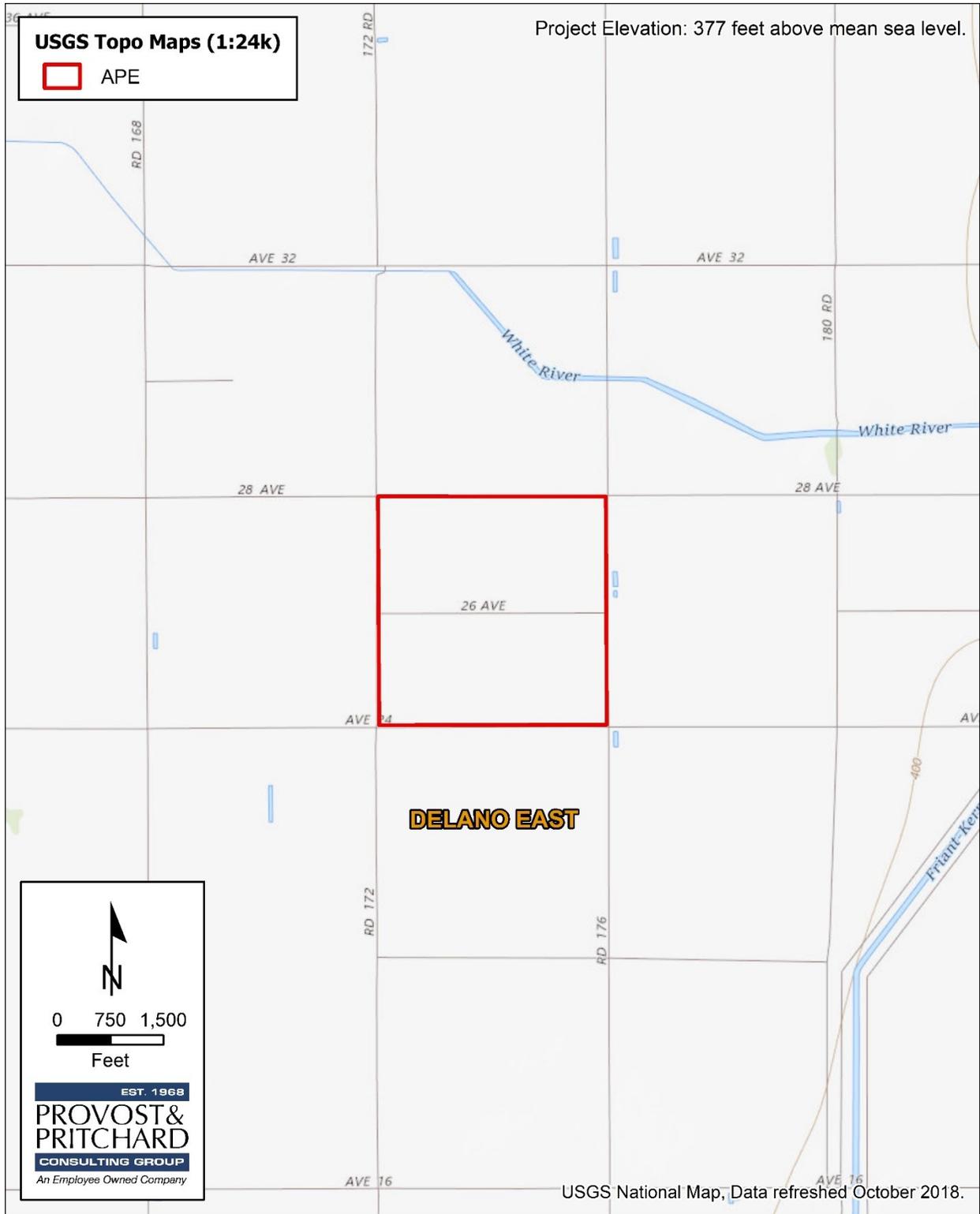


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Figure 1. Regional Map



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Figure 2-Area of Potential Effect/Aerial Map



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Figure 3-Topographic Map

2 Existing Conditions

2.1 Regional Setting

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

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

The Project area sits at an elevation of approximately 377 feet above mean sea level, approximately one mile west of the Friant Kern Canal and directly south of the existing Turnipseed Basin which is bisected by the White River. The Project is located within the Town of Richgrove watershed; Hydrologic Unit Code (HUC): 1803000050802 (EPA, 2019), which is part of the Upper Deer-Upper White watershed HUC: 180300005.

The Project lies entirely within the Tule Groundwater Subbasin of the San Joaquin Valley Groundwater Basin. (DWR, 2019). The Project area is located immediately south of the existing Turnipseed Basin and north of the Phase III Expansion of Turnipseed Basin, which is currently under construction. Additional uses in the vicinity include agricultural lands and associated irrigation basins. The site is accessible by paved roads (Avenue 24 and Road 176) in addition to existing compacted dirt access roads.

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

2.2 Project Site

The Project site consists of agricultural land, bordered on each side by paved and compacted dirt roads. There are several compacted dirt access roads throughout the site. At the time of the field survey, the site contained a recently disked fallow field, fallow field overgrown with weedy, herbaceous vegetation, an excavated irrigation basin, and a vineyard currently in agricultural production. Several owl boxes were present throughout the site, nearly all of which showed signs of recent habitation.

Although intensive agricultural cultivation practices in the vineyard and Project vicinity most likely limit the value of the property to wildlife, some species undoubtedly occur onsite, and some were observed during the biological survey. Native amphibians with the potential to use vineyards of the surrounding sites include the Sierran treefrog (*Pseudacris sierra*) and the California toad (*Anaxyrus boreas*), both of which may breed in seasonal irrigation basins or nearby canals and subsequently disperse through the farmlands. It is not uncommon to find these species far from water outside of breeding season. At the time of the field survey, an abundance of California toads (*Anaxyrus boreas*) and American bullfrogs (*Lithobates catesbeianus*) were observed. Native reptiles with the potential to occur within the Project site are California kingsnake (*Lampropeltis californiae*), pacific gopher snake (*Pituophis catenifer catenifer*), valley gartersnake (*Thamnophis sirtalis fitchi*), San Joaquin fence lizard (*Sceloporus occidentalis biseriatus*), and western side-blotched lizard (*Uta stansburiana elegans*). San Joaquin fence lizards (*Sceloporus occidentalis biseriatus*) and western side-blotched lizards (*Uta stansburiana elegans*) were observed basking throughout the site during the biological reconnaissance survey. One California kingsnake (*Lampropeltis*

californiae) carcass was observed and sheds of pacific gopher snake (*Pituophis catenifer catenifer*) and California kingsnake (*Lampropeltis californiae*) were present at the time of the field survey.

The following avian species were observed during the biological reconnaissance survey: red-tailed hawk (*Buteo jamaicensis*), barn owl (*Tyto alba*), western kingbird (*Tyrannus verticalis*), mourning dove (*Zenaidura macroura*), black-necked stilt (*Himantopus mexicanus*), mallard (*Anas platyrhynchos*), killdeer (*Charadrius vociferus*), black phoebe (*Sayornis nigricans*), house finch (*Haemorhous mexicanus*), and American crow (*Corvus brachyrhynchos*).

A few mammal species may also occur within the Project vicinity. Small mammals such as deer mice (*Peromyscus maniculatus*), California voles (*Microtus californicus*), Botta's pocket gophers (*Thomomys bottae*), and California ground squirrels (*Otospermophilus beecheyi*) would likely occur, but the population would depend heavily on the presence or absence of rodenticides and predators. Several rodent bait stations were present at the time of the field survey, and four dead barn owls were observed onsite, possibly due to secondary poisoning from rodenticides.

The presence of amphibians, reptiles, birds, and small mammals is likely to attract foraging raptors and mammalian predators. In addition to the red-tailed hawks (*Buteo jamaicensis*) and barn owls (*Tyto alba*) which were observed onsite, raptors such as American kestrels (*Falco sparverius*) likely forage over the vineyard and fallow fields within the Project site. Due to intensive agricultural cultivation practices in the orchard and Project vicinity, mammalian predators are likely limited to raccoons (*Procyon lotor*), striped skunks (*Mephitis mephitis*), coyotes (*Canis latrans*) and red foxes (*Vulpes vulpes*), as these species are usually tolerant of human disturbance.

The description provided above includes site conditions and habitat assessment of the Project site at the time of the July field survey. It should be noted that the current owner of the land plans to remove all vegetation, structures, and owl boxes from the site and grade the land prior to the District's ownership. Therefore, it is projected that the site will be a ruderal, vacant lot of land with little-to-no value for wildlife prior to initiation of the Project.

2.3 Soils

Three soil mapping units, representing three soil series, were identified within the Project area: Hanford sandy loam, 0 to 2 percent slopes; Nord fine sandy loam, 0 to 2 percent slopes; and Yettem sandy loam, 0 to 2 percent slopes. Hanford, Nord, and Yettem soils are not considered hydric, although both Nord and Yettem mapping units identified within the Project contain minor Gangeville components, which are classified as hydric soils. 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 is supported.

Approximately 68 percent of the mapped Project area is classified as Nord fine sandy loam, 0 to 2 percent slopes. The Nord soil series consists of very deep, well drained soils on flood plains and alluvial fans. These soils have a negligible runoff class and moderate to moderately slow permeability. Nord soils are considered prime farmland if irrigated and protected from flooding. Typical uses include irrigated crops, such as alfalfa, cotton, tomatoes, grapes, and fruit and nut orchards. Uncultivated lands typically support a vegetative cover of annual grasses, forbs, and oaks.

Approximately 25 percent of the mapped Project area is classified as Hanford sandy loam, 0 to 2 percent slopes. The Hanford series consists of very deep, well drained soils on streambeds, floodplains, and alluvial fans. These soils have negligible runoff and moderately rapid permeability. Hanford soils are considered prime farmland if irrigated and protected from flooding. Typical uses include irrigated cropland, urban development, and dairies. Uncultivated areas typically support a vegetative cover of annual grasses and forbs.

Approximately 7 percent of the mapped Project area is classified as Yettem sandy loam, 0 to 2 percent slopes. The Yettem series consists of very deep, well drained soils on alluvial fans and flood plains. These soils have a very low runoff class and moderately rapid permeability. Yettem soils are considered prime farmland if irrigated and protected from flooding. Typical uses include annual pasture and cropland of oranges, plums, walnuts, and grapes. Uncultivated areas typically support a vegetative cover of annual grasses and forbs.

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

2.4 Natural Communities of Special Concern

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

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

2.5 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 and that may require special management and protection.

According to CNDDDB and IPaC, designated critical habitat is absent from the Project area and vicinity.

2.6 Wildlife Movement Corridors

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

The Project area does not contain features that would be likely to function as wildlife movement corridors. Furthermore, the Project is located in a region often disturbed by human activities related to agricultural production which would discourage dispersal and migration.

2.7 Special Status Plants and Animals

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

has its list of native plants considered rare, threatened, or endangered. Collectively these plants and animals are referred to as “special status species.”

A thorough search of the CNDDDB for published accounts of special status plant and animal species was conducted for the *Delano East* 7.5-minute quadrangle that contains the Project site in its entirety, and for the eight surrounding quadrangles: *Pixley*, *Sausalito School*, *Ducor*, *Delano West*, *Richgrove*, *Pond*, *McFarland*, and *Deepwell Ranch*. These species, and their potential to occur within the Project area are listed in **Table 1** and **Table 2** on the following pages. Raw data obtained from CNDDDB is available in **Appendix B** at the end of this document. Other sources of information utilized in the preparation of this analysis included the California Native Plant Society (CNPS) Online Inventory of Rare and Endangered Vascular Plants of California, CalFlora’s online database of California native plants, the Jepson Herbarium online database (Jepson eFlora), U.S. Fish and Wildlife Service (USFWS) Environmental Conservation Online System (ECOS), the NatureServe Explorer online database, the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Plants Database, the California Department of Fish and Wildlife (CDFW) California Wildlife Habitat Relationships (CWHR) database, ebird.org, and the California Herps online database. **Figure 3** shows the Project’s 7.5-minute quadrangle, according to USGS Topographic Maps.

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

Species	Status	Habitat	Occurrence on Project Site
American badger <i>(Taxidea taxus)</i>	CSC	Grasslands, savannas, and mountain meadows near timberline are preferred. Most abundant in drier open spaces of shrub and grassland. Burrows in soil.	Unlikely. No American badger individuals, sign, or suitable burrows were observed during the field survey. The nearest recorded observation of this species corresponds to an undated historic collection at an unknown location near Earlimart, which is approximately 5 miles northwest of the Project site.
Bakersfield legless lizard <i>(Anniella grinnelli)</i>	CSC	General habitat is sandy with herbaceous cover and scattered shrubs in grassland, sand/dune, or chaparral. Burrows in soil. Fallen logs, woody debris, and leaf litter under trees and bushes in sunny areas often indicate suitable habitat.	Unlikely. No Bakersfield legless lizard individuals were observed during the biological survey. The disturbed habitats of the Project site are generally unsuitable for this species. The nearest recorded observation of this species was reported in 2017 along Deer Creek, approximately 9.5 miles northwest of the Project site.
blunt-nosed leopard lizard <i>(Gambelia sila)</i>	FE, CE, FP	Inhabits semi-arid grasslands, alkali flats, low foothills, canyon floors, large washes, and arroyos, usually on sandy, gravelly, or loamy substrate, sometimes on hardpan. Often found where there are abundant rodent burrows in dense vegetation or tall grass. Cannot survive on lands under cultivation. Known to bask on kangaroo rat mounds and often seeks shelter at the base of shrubs, in small mammal burrows, or in rock piles. Adults may excavate shallow burrows, but rely on deeper pre-existing rodent burrows for hibernation and reproduction.	Absent. No blunt-nosed leopard lizard individuals or suitable habitat were observed during the biological survey. The Project site and surrounding areas are frequently cultivated agricultural lands that are unsuitable for this species.
burrowing owl <i>(Athene cunicularia)</i>	CSC	Resides in open, dry annual or perennial grasslands, deserts, and scrublands with low growing vegetation. Nests underground in existing burrows created by burrowing mammals, most often ground squirrels.	Unlikely. The abundance of barn owls and red-tailed hawks in the vicinity makes this site generally unsuitable for burrowing owl.
coast horned lizard <i>(Phrynosoma blainvillii)</i>	CSC	Found in grasslands, coniferous forests, woodlands, and chaparral, primarily in open areas with patches of loose, sandy soil and low-lying vegetation in valleys, foothills, and semi-arid mountains.	Absent. Suitable habitat for this species is absent for the Project site.

Species	Status	Habitat	Occurrence on Project Site
		Frequently found near ant hills and along dirt roads in lowlands along sandy washes with scattered shrubs.	
Kern brook lamprey <i>(Entosphenus hubbsi)</i>	CSC	Silty backwaters of large rivers in the foothills region. Requires slight flow and shallow pools with sand, gravel, rubble, and mud substrate in areas where summer temperatures rarely exceed 77 degrees Fahrenheit.	Absent. Suitable habitat is absent from the Project area.
San Joaquin coachwhip <i>(Masticophis flagellum ruddocki)</i>	CSC	Occurs in open, dry, treeless areas with little or no cover, including valley grassland and saltbush scrub. Avoids dense vegetation where it cannot move quickly, including mixed oak chaparral woodland. Takes refuge in rodent burrows, under shaded vegetation, and under surface objects.	Absent. Habitats of the Project site are generally unsuitable for this species. The nearest recorded observation of this species was reported in 1992 in undisturbed grassland habitat approximately 8 miles west-northwest of the Project area.
San Joaquin kit fox <i>(Vulpes macrotis mutica)</i>	FE, CT	Underground dens with multiple entrances in alkali sink, valley grassland, and woodland in valleys and adjacent foothills.	Possible. There are 67 recorded observations of this species in the vicinity of the Project; however, only 7 of these observations occurred within the past 25 years. The Project site is located approximately 38 miles north-northeast of the nearest core population (Western Kern County). Although the Project area is not within a core recovery area, satellite recovery area, or a linkage recovery area, a kit fox could potentially pass through the Project site.
Swainson's hawk <i>(Buteo swainsoni)</i>	CT	Nests in large trees in open areas adjacent to grasslands, grain or alfalfa fields, or livestock pastures suitable for supporting rodent populations.	Unlikely. Swainson's hawks are generally uncommon in southeast Tulare County. Suitable nest trees are absent from the Project area, although suitable foraging habitat is present. The nearest recorded observation of this species was reported along Deer Creek, approximately 12 miles northwest of the Project site.
Tipton kangaroo rat <i>(Dipodomys nitratoides nitratoides)</i>	FE, CE	Burrows in soil. Often found in grassland and shrubland.	Unlikely. No Tipton kangaroo rat individuals, sign, or suitable burrows were observed during the field survey. The disturbed habitats of the Project area are generally unsuitable for this species. The nearest recorded observation of this species in the vicinity was reported in undisturbed grassland habitats of Allensworth Ecological Reserve,

Species	Status	Habitat	Occurrence on Project Site
			approximately 8 miles west of the Project site.
tricolored blackbird <i>(Agelaius tricolor)</i>	CC, CSC	Nests colonially near fresh water in dense cattails or tules, or in thickets of riparian shrubs. Forages in grassland and cropland. Large colonies are often found on dairy farm forage fields.	Unlikely. Suitable nesting habitat is absent and foraging habitat is marginal, at best.
vernal pool fairy shrimp <i>(Branchinecta lynchi)</i>	FT	Occupies vernal pools, clear to tea-colored water, in grass or mud-bottomed swales, and basalt depression pools.	Absent. Suitable vernal pool habitat is absent from the Project area.
western spadefoot <i>(Spea hammondi)</i>	CSC	Prefers open areas with sandy or gravelly soils, in a variety of habitats including mixed woodlands, grasslands, coastal sage scrub, chaparral, sandy washes, lowlands, river floodplains, alluvial fans, playas, alkali flats, foothills, and mountains. Vernal pools or temporary wetlands, lasting a minimum of three weeks, which do not contain bullfrogs, fish, or crayfish are necessary for breeding.	Unlikely. Habitat suitable for this species is absent from the Project site. The irrigation basin onsite is not considered suitable breeding or non-breeding habitat due to the abundance of bullfrogs.

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

Species	Status	Habitat	Occurrence on Project Site
alkali Mariposa-lily (<i>Calochortus striatus</i>)	CNPS 1B	Found in the Sierra Nevada Foothills, the Desert Mountains and the Mojave Desert in alkaline meadows and creosote-bush scrub in shadescale scrub, chaparral, and riparian communities at elevations between 2625 feet and 4600 feet. Usually occurs in wetlands, but occasionally found in non-wetlands. Blooms April – June.	Absent. Habitat required by this species is absent from the Project site.
brittlescale (<i>Atriplex depressa</i>)	CNPS 1B	Found in the San Joaquin Valley and Sacramento Valley in alkali or clay soils in shadescale scrub, valley grassland, alkali sink, and riparian communities at elevations below 1050 feet. Equally likely to occur in wetlands and non-wetlands. Blooms June – October.	Absent. The disturbed habitats of the Project site are unsuitable for this species.
California jewelflower (<i>Caulanthus californicus</i>)	CNPS 1B, FE, CE	Found in the San Joaquin Valley and Western Traverse Ranges. Occurs on flats and slopes, generally in non-alkaline grassland at elevations between 230 feet and 3280 feet. Blooms February – April.	Absent. The disturbed habitats of the Project site are unsuitable for this species.
Coulter's goldfields (<i>Lasthenia glabrata ssp. coulteri</i>)	CNPS 1B	Found on alkaline soils in vernal pools and playas in grassland at elevations below 3300 feet. Blooms April – May.	Absent. Habitat required by this species is absent from the Project site.
Earlimart orache (<i>Atriplex cordulata var. erecticaulis</i>)	CNPS 1B	Found in the San Joaquin Valley in saline or alkaline soils at elevations below 325 feet. Equally likely to occur within wetlands and non-wetlands. Blooms August – September.	Absent. The disturbed habitats of the Project site are unsuitable for this species.
Kern mallow (<i>Eremalche parryi ssp. kernensis</i>)	CNPS 1B, FE	Occurs in the San Joaquin Valley and the Inner South Coast Ranges in eroded hillsides and alkali flats in shadescale scrub and valley grassland communities at elevations between 325 feet and 3275 feet. Blooms March – May.	Absent. The disturbed habitats of the Project site are unsuitable for this species.
Lesser saltscale (<i>Atriplex minuscula</i>)	CNPS 1B	Found in the San Joaquin Valley in playas; sandy, alkaline soils in shadescale scrub, valley grassland, and alkali sink communities at elevations below 300 feet. Blooms April – October.	Absent. Habitats required by this species are absent from the Project area.

Species	Status	Habitat	Occurrence on Project Site
Lost Hills crownscale <i>(Atriplex coronata var. vallicola)</i>	CNPS 1B	Found in the San Joaquin Valley in dried ponds and alkali soils in shadscale scrub, valley grassland, freshwater wetlands, and riparian communities at elevations below 1400 feet. Usually occurs in wetlands, but occasionally found in non-wetlands. Blooms April – September.	Absent. Habitats required by this species are absent from the Project site. There have been no recorded observations of this species in the vicinity in over 30 years.
Munz’s tidy-tips <i>(Layia munzii)</i>	CNPS 1B	Found in the San Joaquin Valley in alkali clay soils at elevations between 160 feet and 2625 feet in shadscale scrub, valley grassland, and riparian communities. Occurs predominantly in wetlands, but occasionally found in non-wetlands. Blooms March – April.	Absent. Habitats required by this species are absent from the Project site. There have been no recorded observations of this species in the vicinity in over 25 years.
recurved larkspur <i>(Delphinium recurvatum)</i>	CNPS 1B	Found in the San Joaquin Valley and other parts of California. Occurs in poorly drained, fine, alkaline soils in grassland at elevations between 100 feet and 1965 feet. Most often found in non-wetlands, but occasionally found in wetlands. Blooms March – June.	Absent. Habitat required by this species is absent from the Project site.
San Joaquin adobe sunburst <i>(Pseudobahia peirsonii)</i>	CNPS 1B, FT, CE	Found in the San Joaquin Valley and the Sierra Nevada Foothills in bare dark clay in valley grassland and foothill woodland communities at elevations between 325 feet and 2950 feet. Blooms March – May.	Absent. Habitat required by this species is absent from the Project site.
San Joaquin woollythreads <i>(Monolopia congdonii)</i>	CNPS 1B, FE	Occurs in the San Joaquin Valley in sandy soils in shadscale shrub and grasslands at elevations between 300 feet and 2300 feet. Found primarily in non-wetlands, but occasionally found in wetlands. Blooms February – May.	Absent. The disturbed habitats of the Project site are generally unsuitable for this species. There have been no recorded observations of this species in the vicinity in over 100 years.
spiny-sepaled button-celery <i>(Eryngium spinosepalum)</i>	CNPS 1B	Found in the Sierra Nevada Foothills and portions of the San Joaquin Valley. Occurs in vernal pools, swales, and roadside ditches at elevations between 325 feet and 4160 feet in valley grassland, freshwater wetlands, and riparian communities. Blooms April – July.	Absent. Vernal pools are absent, and the disturbed habitats of the Project site are generally unsuitable for this species. There have been no recorded observations of this species in the vicinity in over 50 years.

Species	Status	Habitat	Occurrence on Project Site
subtle orache (<i>Atriplex subtilis</i>)	CNPS 1B	Found in the San Joaquin Valley in saline depressions at elevations below 230 feet. Blooms June – October.	Absent. Habitat required by this species is absent from the Project site.
vernal pool smallscale (<i>Atriplex persistens</i>)	CNPS 1B	Occurs in San Joaquin Valley and Sacramento Valley in alkaline vernal pools at elevations below 375 feet. Usually found in wetlands, but occasionally found in non-wetlands. Blooms June – September.	Absent. Vernal pools are absent, and the disturbed habitats of the Project site are generally unsuitable for this species. There have been no recorded observations of this species in the vicinity in over 30 years.

EXPLANATION OF OCCURRENCE DESIGNATIONS AND STATUS CODES

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

STATUS CODES

FE	Federally Endangered	CE	California Endangered
FT	Federally Threatened	CT	California Threatened
FPE	Federally Endangered (Proposed)	CCT	California Threatened (Candidate)
FPT	Federally Threatened (Proposed)	CFP	California Fully Protected
FC	Federal Candidate	CSC	California Species of Special Concern

CNPS LISTING

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

3 Impacts and Mitigation

3.1 Significance Criteria

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 state and/or federally listed as threatened or endangered may be destroyed or displaced. Sensitive habitats such as wetlands and riparian woodlands may be altered or destroyed. Such impacts may be considered either “significant” or “less than significant” under CEQA. According to *California Environmental Quality Act, Statute and Guidelines* (AEP 2012), “significant effect on the environment” means a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic interest. Specific project impacts to biological resources may be considered “significant” if they would:

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

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 General Plan

The Tulare County General Plan Agriculture and Environmental Resources Management Elements contain the following goals and policies related to the Delano-Earlimart Irrigation District Turnipseed Basin Expansion Project:

- The County shall seek to protect and enhance surface water and groundwater resources critical to agriculture.
- The long-term strategy for water in Tulare County centers on protecting and conserving existing water supplies and identifying new sources of water. As Tulare County continues to grow, new methods for conserving, treating, and supplying water will enable County residents and farmers to continue to have an adequate supply of quality water that limits long-term impacts on groundwater.
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The Tulare County General Plan provides the following relevant definitions in the Environmental Resources Management Element:

Riparian: “The interface between land and a flowing surface water body. They are typically characterized by hydrophilic vegetation and are often subject to flooding. Riparian zones are significant in ecology, environmental management, and civil engineering due to their role in soil conservation, their biodiversity, and the influence they have on aquatic ecosystems. Riparian zones occur in many forms including grassland, woodland, wetland, or even non-vegetative.”

Sensitive Habitat: “A sensitive habitat is especially diverse, regionally uncommon, or of special concern to local, State, and Federal agencies. Elimination or substantial degradation of such a community would constitute a significant impact under California Environmental Quality Act (CEQA). The California Department of Fish and Game (CDFG) monitors the condition of some sensitive natural communities in its Natural Diversity Database (NDDDB).”

In addition to these definitions, the Tulare County General Plans contains several goals and policies regarding the conservation and protection of sensitive biological resources, specifically oak woodlands, riparian areas, natural communities, rare and endangered species, wetlands, and other environmentally sensitive areas. Because the Project site consists of ruderal agricultural land with man-made excavated irrigation basins, these goals and policies regarding sensitive biological resources do not apply to the Project.

3.2.2 Threatened and Endangered Species

Permits may be required from the USFWS and/or CDFW if activities associated with a Project have the potential to result in the “take” of a species listed as threatened or endangered under the federal and/or state Endangered Species Acts. “Take” is defined by the state of California as “to hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture or kill” (California Fish and Game Code, Section 86). “Take” is

more broadly defined by the federal Endangered Species Act to include “harm” (16 USC, Section 1532(19), 50 CFR, Section 17.3). The CDFW and the USFWS are responding agencies under CEQA. Both agencies review CEQA documents in order to determine the adequacy of their 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 federal Endangered Species Act (ESA). Critical Habitat is a term defined in the ESA as a specific geographic area that contains features essential for the conservation of a threatened or endangered species and that may require special management and protection. Critical Habitat is a tool that supports the continued conservation of imperiled species by guiding cooperation with the federal government. Designations only affect federal agency actions or federally funded or permitted activities. Critical Habitat does not prevent activities that occur within the designated area. Only activities that involve a federal permit, license, or funding and are likely to destroy or adversely modify Critical Habitat will be affected.

3.2.4 Migratory Birds

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

3.2.5 Birds of Prey

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

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 U.S. Army Corps of Engineers (USACE) regulates the filling or grading of Waters of the United States (Waters of the U.S.) under the authority of Section 404 of the Clean Water Act. Natural drainage channels and adjacent wetlands may be considered Waters of the U.S. or “jurisdictional waters” subject to the jurisdiction of the USACE. The extent of jurisdiction has been defined in the Code of Federal Regulations (CFR) and clarified by federal courts.

On June 29, 2015 the U.S. Environmental Protection Agency (EPA) and USACE jointly issued the Clean Water Rule (33 CFR 328.3) as a synthesis of statute, science, and U.S. Supreme Court decisions. The Clean Water Rule (33 CFR 328.3) defines Waters of the U.S. to include the following:

- 1) All waters used in interstate or foreign commerce (also known as “traditional navigable waters”), including all waters subject to the ebb and flow of the tide;
- 2) All interstate waters including interstate wetlands;
- 3) The territorial seas;
- 4) All impoundments of Waters of the U.S.;
- 5) All tributaries of waters defined in Nos. 1 through 4 above, where “tributary” refers to a water (natural or constructed) that contributes flow to another water and is characterized by the physical indicators of a bed and bank and an Ordinary High-Water Mark (OHWM);
- 6) Adjacent waters, defined as either (a) located in whole or in part within 100 feet of the OHWM of waters defined in Nos. 1 through 5 above, or (b) located in whole or in part within the 100-year floodplain and within 1,500 feet of the OHWM of waters defined in Nos. 1 through 5 above;
- 7) Western vernal pools, prairie potholes, Carolina bays and Delmarva bays, pocosins, and Texas coastal prairie wetlands, if determined on a case-specific basis to have a significant nexus to waters defined in Nos. 1 through 3 above;
- 8) Waters that do not meet the definition of adjacency, but are determined on a case-specific basis to have a significant nexus to waters defined in Nos. 1 through 3 above, and are either (a) located in whole or in part within the 100-year floodplain of waters defined in Nos. 1 through 3 above, or (b) located within 4,000 feet of the OHWM of waters defined in Nos. 1 through 5 above.

The 2015 rule also redefines exclusions from jurisdiction, which include:

- 1) Waste treatment systems;
- 2) Prior converted cropland;
- 3) Artificially irrigated areas that would revert to dry land should application of irrigation water to the area cease;
- 4) Groundwater;
- 5) Stormwater control features constructed to convey treat or store stormwater created in dry land; and
- 6) Three types of ditches: (a) ditches with ephemeral flow that are not a relocated or excavated tributary, (b) ditches with intermittent flow that are not a relocated or excavated tributary or that do not drain wetlands, and (c) ditches that do not flow, either directly or through another water, to a traditional navigable water.

A ditch may be a Water of the U.S. only if it meets the definition of “tributary” and is not otherwise excluded under the provision.

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

The USACE regulates the filling or grading of Waters of the U.S. under the authority of Section 404 of the Clean Water Act. The extent of jurisdiction within drainage channels is defined by “ordinary high-water marks” on opposing channel banks. All activities that involve the discharge of dredge or fill material into Waters of the U.S. 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 result 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 State Water Resources Control Board has regulatory authority to protect the water quality of all surface water and groundwater in the State of California (“Waters of the State”). Nine RWQCBs oversee water quality at the local and regional level. The RWQCB for a given region regulates discharges of fill or pollutants into Waters of the State through the issuance of various permits and orders. Discharges into Waters of the State that are also Waters of the U.S. require a Section 401 Water Quality Certification from the RWQCB as a prerequisite to obtaining certain federal permits, such as a Section 404 Clean Water Act permit. Discharges into all Waters of the State, even those that are not also Waters of the U.S., 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 or more acres of soil must obtain a Construction General Permit under the Construction Storm Water Program. A prerequisite for this permit is the development of a Storm Water Pollution Prevention Plan (SWPPP) by a certified Qualified SWPPP Developer. Projects that discharge wastewater, storm water, or other pollutants into a Water of the U.S. may require a NPDES permit.

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

Potential water features onsite at the time of the field survey were limited to the presence of one isolated excavated irrigation basin near the center of the parcel, which is visible on the APE map (**Figure 2**). The basin appeared ruderal in nature, cleared of vegetation except for some weedy grasses along the water margins, and occupied by an abundance of American bullfrogs. It is unlikely that this small isolated basin would represent unique habitat for native wildlife or special status species. Excavated farm ponds and irrigation basins, like the one present onsite, are typically not regulated by State or federal agencies.

3.3 Potentially Significant Project Impacts and Mitigation

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

3.3.1 General Mitigation Measures

Prior to the start of construction, all personnel associated with construction of the Project shall be trained to be able to identify these candidate, sensitive, or special status species in order to prevent impacts to sensitive resources; therefore, the following general mitigation measures shall be implemented:

Mitigation Measure 3.3.1a (WEAP Training): Prior to initiating construction activities (including staging and mobilization), all personnel associated with Project construction shall attend mandatory Worker Environmental Awareness Program (WEAP) training, conducted by a qualified biologist, to aid workers in identifying special status resources that may occur in the Project area. The specifics of this program shall include identification of the sensitive species and suitable habitats, a description of the regulatory status and general ecological characteristics of sensitive resources, and review of the limits of construction and mitigation measures required to reduce impacts to biological resources within the work area. A fact sheet conveying this information, along with photographs or illustrations of sensitive species with potential to occur onsite, shall also be prepared for distribution to all contractors, their employees, and all other personnel involved with construction of the Project. All employees shall sign a form documenting that they have attended WEAP training and understand the information presented to them.

Mitigation Measure 3.3.1b (Construction Hours): Construction shall be conducted during daylight hours to reduce disturbance to wildlife that could be foraging within work areas.

3.3.2 Project-Related Mortality and/or Disturbance of Nesting Raptors and Migratory Birds

By the time the District acquires this parcel of land, it will consist of a ruderal, barren field. The current property owner will be removing all structures and owl boxes and clearing all vegetation from the site, including the vineyard rows. Therefore, only ground-nesting birds, such as the killdeer (*Charadrius vociferous*) and the black-necked stilt (*Himantopus mexicanus*) could consider the Project site suitable nesting habitat at the start of construction. Several killdeer and black-necked stilts were observed at the time of the field survey, and although it was late in the breeding season, a colony of stilts was exhibiting defensive behavior indicative of active nesting.

Development of a ruderal, barren lot of land would not be considered a reduction of suitable nesting or foraging habitat as there are plenty of fallow fields in the vicinity of much greater value to wildlife. In fact, as riparian vegetation grows within the proposed basins, the site will become suitable nesting habitat for several avian species, such as tri-colored blackbird, various species of waterfowl, herons, flycatchers, and other riparian migratory birds.

Although the owl boxes, structures, and vegetation currently present onsite will be removed prior to the District's acquisition of the property, ground nesting birds, such as those mentioned above, could potentially nest on the bare ground onsite. Birds nesting within the Project area during construction have the potential to be injured or killed by Project-related activities. In addition to the direct "take" of nesting birds, nesting birds within the Project site or adjacent areas could be disturbed by Project-related activities resulting in nest abandonment. Projects that adversely affect the nesting success of raptors and migratory birds or result in the mortality of individual birds is considered a violation of State and federal laws and are considered a potentially significant impact under CEQA.

If the owl boxes are not removed prior to the District's acquisition of the property, additional mitigation measures should be implemented in order to protect raptors nesting or inhabiting the boxes during removal.

Assuming the owl boxes have been removed, implementation of the following measures will reduce potential impacts to nesting raptors and migratory birds to a less than significant level and will ensure compliance with state and federal laws protecting avian species.

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

Mitigation Measure 3.3.1a (Avoidance): The Project's construction activities shall occur, if feasible, between September 1 and January 31 (outside of nesting bird season) in an effort to avoid impacts to nesting birds.

Mitigation Measure 3.3.1b (Pre-construction Surveys): If activities must occur within nesting bird season (February 1 to August 31), a qualified biologist shall conduct pre-construction surveys for active nests within 30 days prior to the start of construction. The survey shall include the proposed work area and surrounding lands within 500 feet for all raptors and migratory birds, with the exception of the Swainson's hawk; the Swainson's hawk survey will extend to 0.5 mile outside of the work area boundaries. If no active nests are observed, no further mitigation is required. Nests containing eggs or young are to be considered "active," with the exception of raptors; raptor nests are considered "active" upon the nest-building stage.

Mitigation Measure 3.3.1c (Establish Buffers): On discovery of any active nests near work areas, the biologist shall determine appropriate construction setback distances based on applicable CDFW guidelines and/or the biology of the species in question. Construction buffers shall be identified with flagging, fencing, or other easily visible means, and shall be maintained until the biologist has determined that the nestlings have fledged.

3.3.3 Project-Related Impacts to San Joaquin Kit Fox

San Joaquin kit fox have been documented in the Project vicinity. Although frequent disturbance may deter this species from denning onsite, this species could potentially forage or pass through the Project area during dispersal movements. If a kit fox were present onsite during ground-disturbance, it could be injured or killed by construction activities. Projects that result in the mortality of special status species are considered a violation of State and federal laws and are considered a potentially significant impact under CEQA.

General mitigation measure 3.3.1a (WEAP Training) requires all construction personnel to attend a mandatory education program, which will include a detailed description of the San Joaquin kit fox and habitat requirements, color photographs or illustrations, an explanation of the conservation status of this species and its coverage under State and federal regulations, penalties for violating said regulations, and a list of required measures to reduce impacts to the species during construction. General mitigation measure 3.3.1b (Construction Hours) limits construction activities to daylight hours which would reduce the likelihood of encountering a kit fox onsite.

Implementation of the following measures will further reduce potential impacts to the San Joaquin kit fox to a less than significant level under CEQA and will ensure compliance with State and federal laws protecting this species.

Mitigation. The following measures derived from the USFWS 2011 Standardized Recommendations for Protection of the San Joaquin Kit Fox Prior to or During Ground Disturbance will be implemented:

Mitigation Measure 3.3.3a (Pre-construction Survey): Within 30 days prior to the start of construction, a pre-construction survey for San Joaquin kit fox shall be conducted on and within 200 feet of proposed work areas. If an active kit fox den is detected within or adjacent to the Project area, construction will be delayed, and CDFW and USFWS shall be consulted to determine the best course of action.

Mitigation Measure 3.3.3b (Minimization): The Project shall observe all minimization and protective measures from the Construction and On-Going Operational Requirements of the USFWS

2011 Standardized Recommendations, including, but not limited to: construction speed limits, covering of pipes, installation of escape structures, restriction of herbicide and rodenticide use, proper disposal of food items and trash, prohibition of pets and firearms, and completion of an employee education program.

Mitigation Measure 3.3.3c (Mortality Reporting): The Sacramento Field Office of USFWS and the Fresno Field Office of CDFW will be notified in writing within three working days in the case of the accidental death or injury to a San Joaquin kit fox during construction. Notification must include the date, time, and location of the incident and any other pertinent information.

Implementation of the above measures will reduce potential impacts to San Joaquin kit fox to a less than significant level and will ensure compliance with State and federal laws protecting this species.

3.4 Less Than Significant Project-related Impacts

3.4.1 Project-Related Impacts to Special Status Plant Species

15 special status plant species have been documented in the Project vicinity, including alkali Mariposa-lily (*Calochortus striatus*), brittlescale (*Atriplex depressa*), California jewelflower (*Caulanthus californicus*), Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*), Earlimart orache (*Atriplex cordulata* var. *erecticaulis*), Kern mallow (*Eremalche parryi* ssp. *kernensis*), lesser saltscare (*Atriplex miniscula*), Lost Hill's crowscale (*Atriplex coronate* var. *vallicola*), Munz's tidy-tips (*Layia munzii*), recurved larkspur (*Delphinium recurvatum*), San Joaquin adobe sunburst (*Pseudobahia peirsonii*), San Joaquin woollythreads (*Monolopia congdonii*), spiny-sepaled button-celery (*Eryngium spinosepalum*), subtle orache (*Atriplex subtilis*), and vernal pool smallscale (*Atriplex persistens*). As explained in **Table 2**, all of the aforementioned plant species are absent from the Project area or unlikely to occur onsite, predominantly due to past and ongoing disturbance and/or the absence of suitable habitat. Therefore, the implementation of the Project will have no effect on individual plants or regional populations of these special status plant species. 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 13 regionally occurring special status species, 12 are considered absent or unlikely to occur within the Project area due to past or ongoing disturbance and/or absence of suitable habitat. As explained in **Table 1**, the following 5 species were deemed absent from the Project area: blunt-nosed leopard lizard (*Gambelia sila*), coast horned lizard (*Phrynosoma blainvillii*), Kern brook lamprey (*Entosphenus hubbsi*), San Joaquin coachwhip (*Masticophis flagellum ruddocki*), and vernal pool fairy shrimp (*Branchinecta lynchi*); and the following 8 species were deemed unlikely to occur within the Project area: American badger (*Taxidea taxus*), Bakersfield legless lizard (*Anniella grinnelli*), burrowing owl (*Athene cunicularia*), Swainson's hawk (*Buteo swainsoni*), Tipton kangaroo rat (*Dipodomys nitratooides nitratooides*), tricolored blackbird (*Agelaius tricolor*), and western spadefoot (*Spea hammondi*). Since it is highly unlikely that these species would occur onsite, implementation of the Project should have no impact on these 12 special status species through construction mortality, disturbance, or loss of habitat. Mitigation measures are not warranted.

3.4.3 Project-Related Impacts to Jurisdictional Waters, Wetlands, Natural Water Features, Riparian Habitat, and Sensitive Natural Communities

Potential Waters of the U.S., riparian habitat, typical wetlands, vernal pools, lakes, or streams, and other sensitive natural communities were not observed onsite at the time of the biological survey. The only aquatic feature observed onsite was an isolated, excavated irrigation basin. Although irrigation basins excavated in dry land are not typically regulated, under the strictest interpretation of the Clean Water Act, it could potentially be labelled a Water of the State and subject to a Section 401 Water Quality Certification permit from the RWQCB. Although the act of reshaping an irrigation basin should not result in a significant impact to the State's water quality, the Project proponent would secure the proper permits prior to construction, if applicable.

Implementation of the Project should not result in a potentially significant adverse effect on waters of the United States as defined by Section 404 of the Clean Water Act and waters of the State of California as defined by the California Water Code and California Fish and Game Code. Furthermore, the aforementioned permit (if required) will have associated protective measures and conditions that the Project must comply with. No additional mitigation measures are warranted.

3.4.4 Project-Related Impacts to Wildlife Movement Corridors

As discussed in Section 2.6, the Project area does not contain features that would be likely to function as wildlife movement corridors. Furthermore, the Project is located in a region often disturbed by human activities related to agricultural production which would discourage dispersal and migration. Therefore, the Project will have no impact on wildlife movement corridors, and no additional mitigation measures are necessary.

3.4.5 Project-Related Impacts to Critical Habitat

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

3.4.6 Local Policies or Habitat Conservation Plans

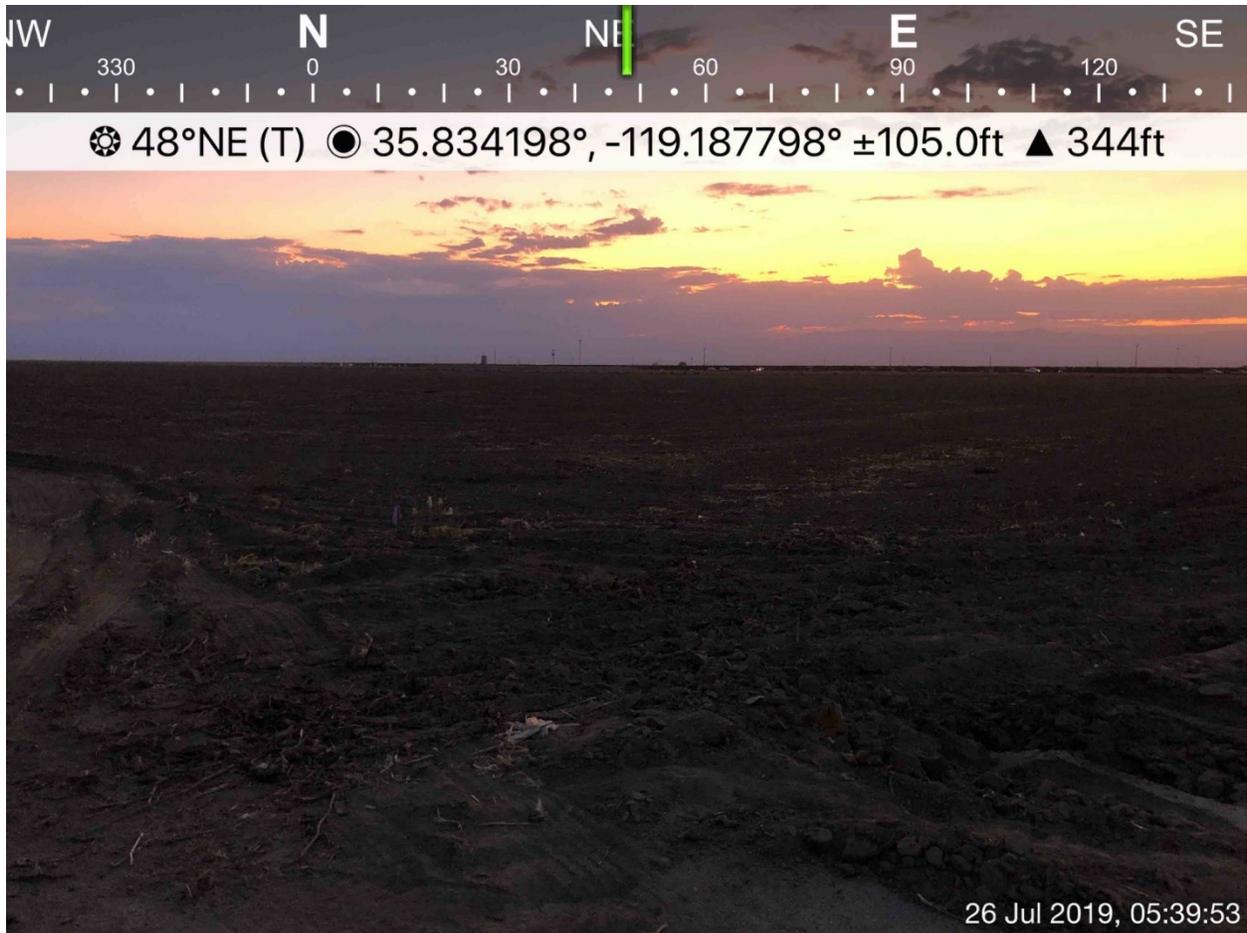
The Project design appears to be consistent with the goals and policies of the Tulare County General Plan. There are no known habitat conservation plans in the Project vicinity. Mitigation is not warranted.

4 Bibliography

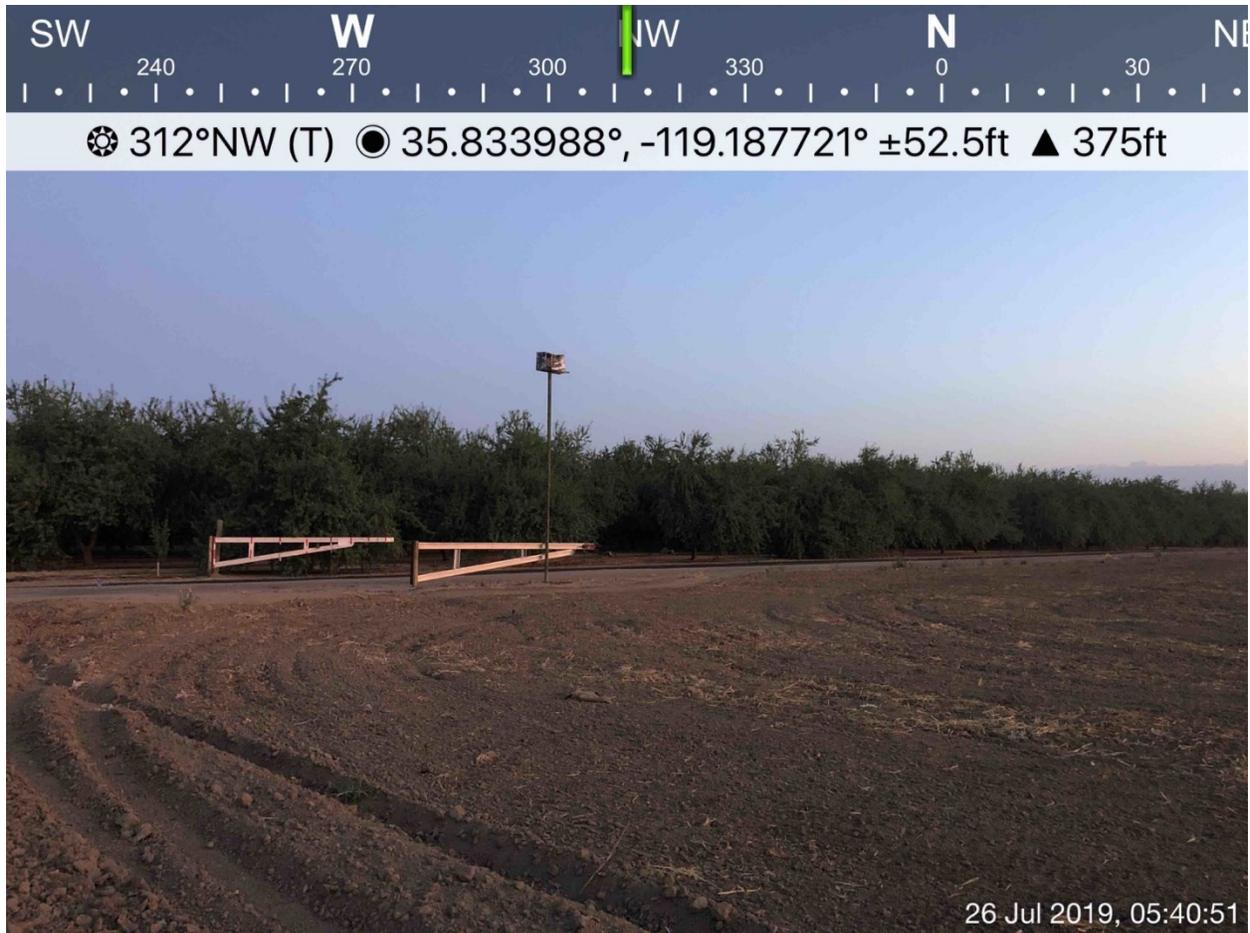
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Appendix A. Selected Photographs of the Project Area



Photograph 1: Overview of the Project area from the southwest site boundary.



Photograph 2: This photo shows one of the many owl boxes that were observed onsite at the time of the field survey.



Photograph 3: Overview of the western border of the site and suitable raptor nest trees in the vicinity.



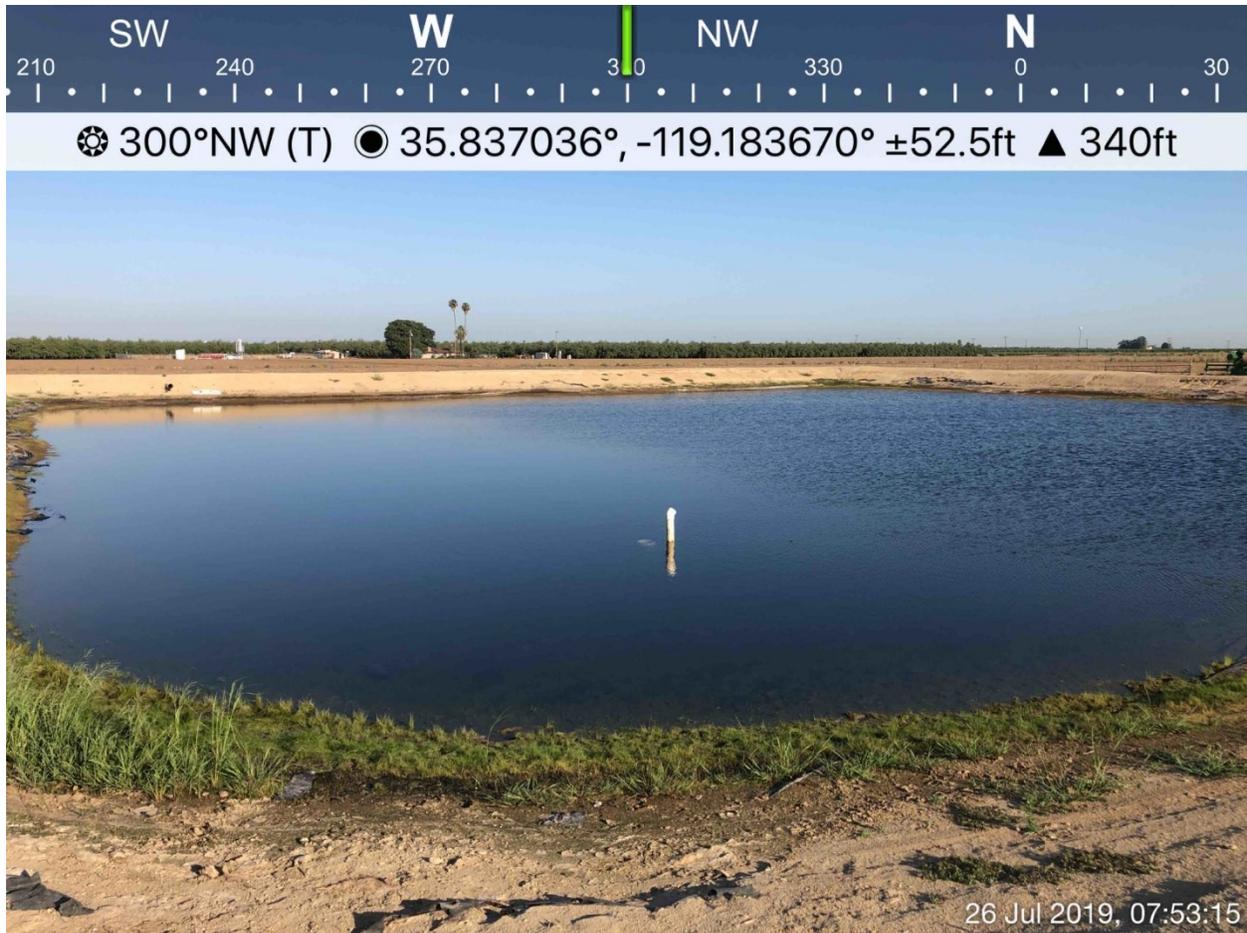
Photograph 4: This photo shows one of the many rodent bait stations observed in the vicinity at the time of the field survey.



Photograph 5: All of the owl boxes showed signs of recent habitation. Fresh feathers, whitewash, pellets, egg shell, and prey remnants are visible at the base of the owl box in this photo.



Photograph 6: At the time of the field survey, crews working in the vineyards were observed cooking food and burning trash onsite, both activities which could attract kit foxes to the area.



Photograph 7: Overview of the excavated irrigation basin near the center of the parcel.



Photograph 8: Inactive nest on a structure near the irrigation basin.



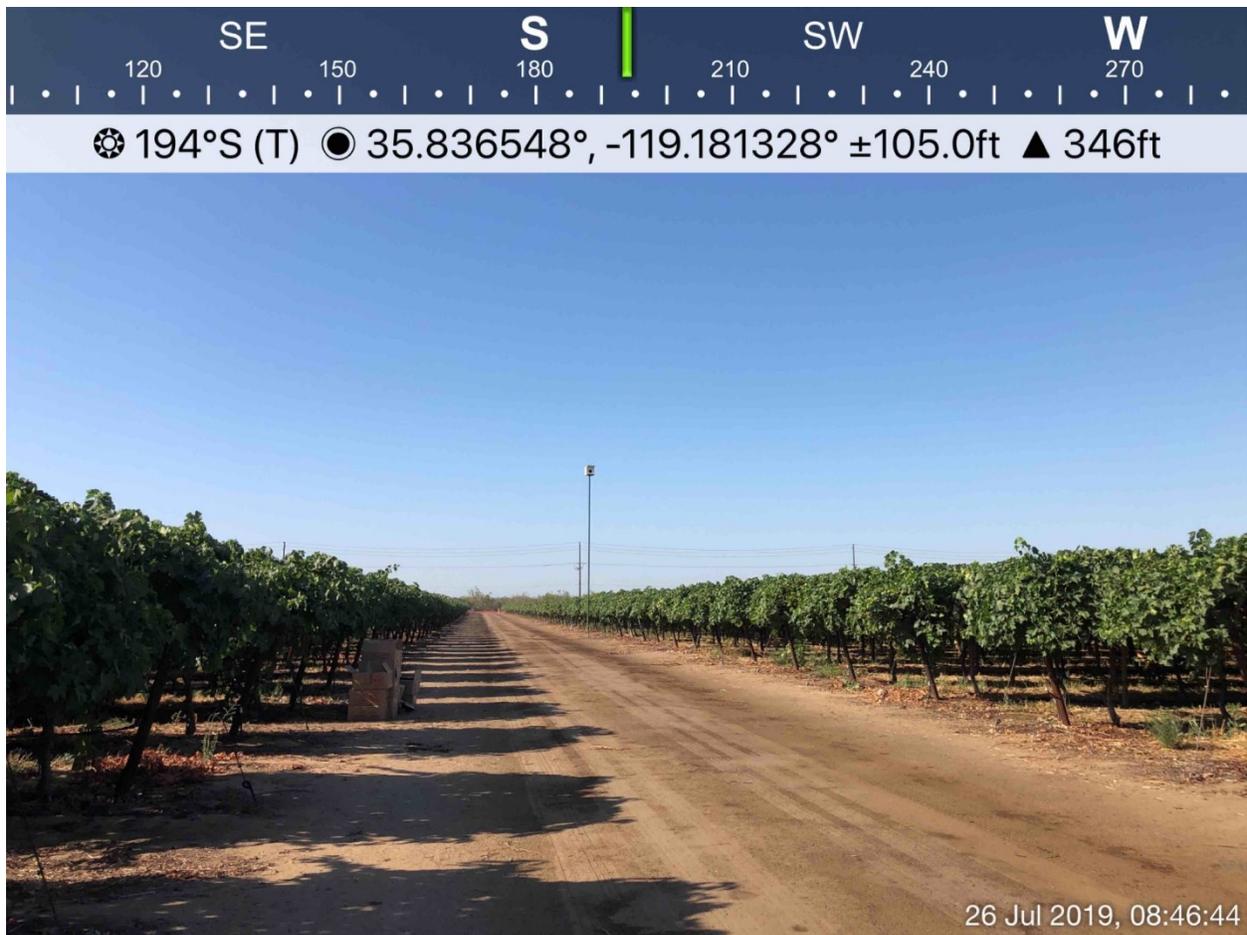
Photograph 9: California kingsnake carcass observed onsite near the irrigation basin.



Photograph 10: An abundance of small burrows were observed along the berms around the irrigation basin, all of which appeared to be occupied by California toads.



Photograph 11: This photo shows one of the four dead barn owls observed onsite at the time of the field survey.



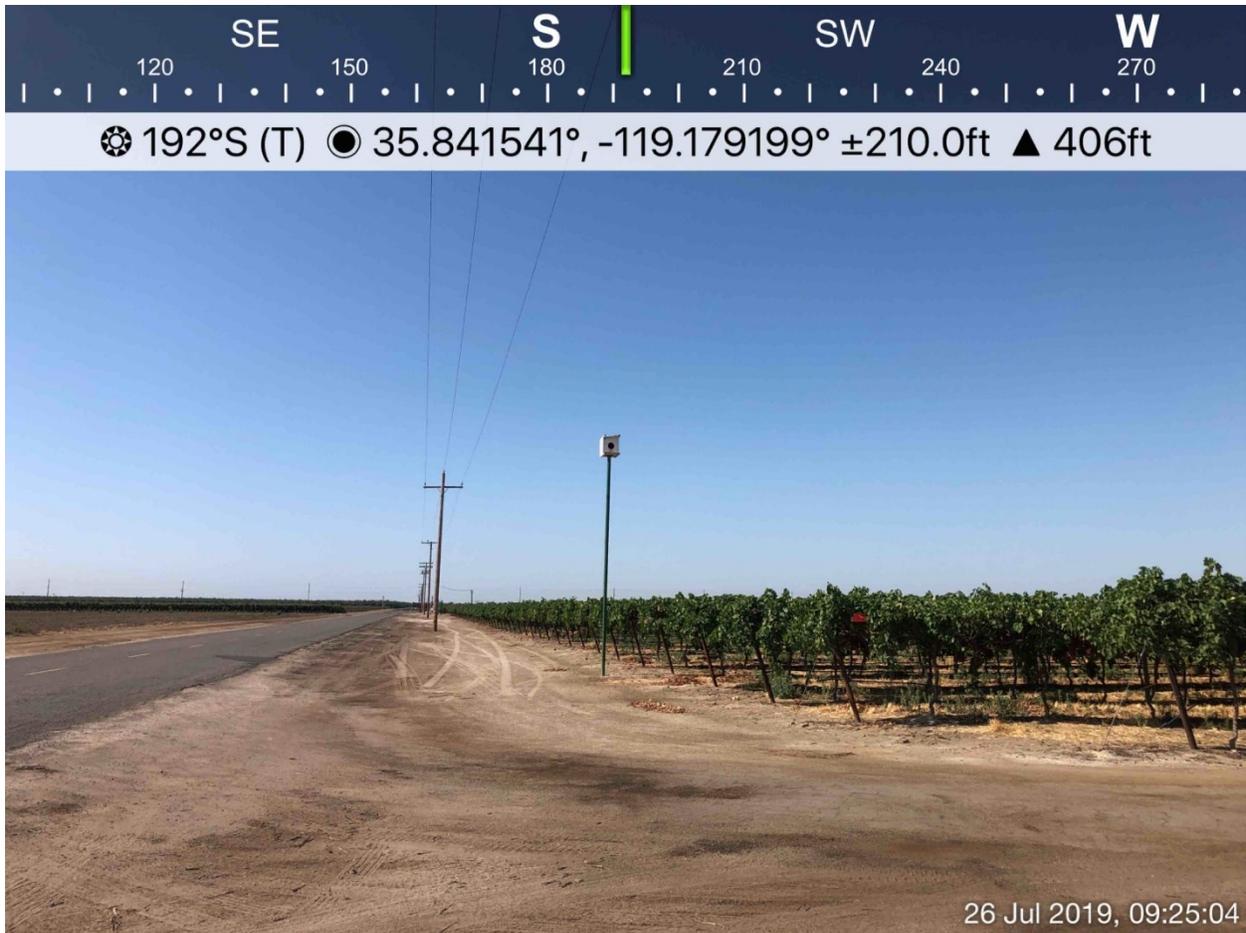
Photograph 12: Overview of the portion of the site utilized as a grape vineyard.



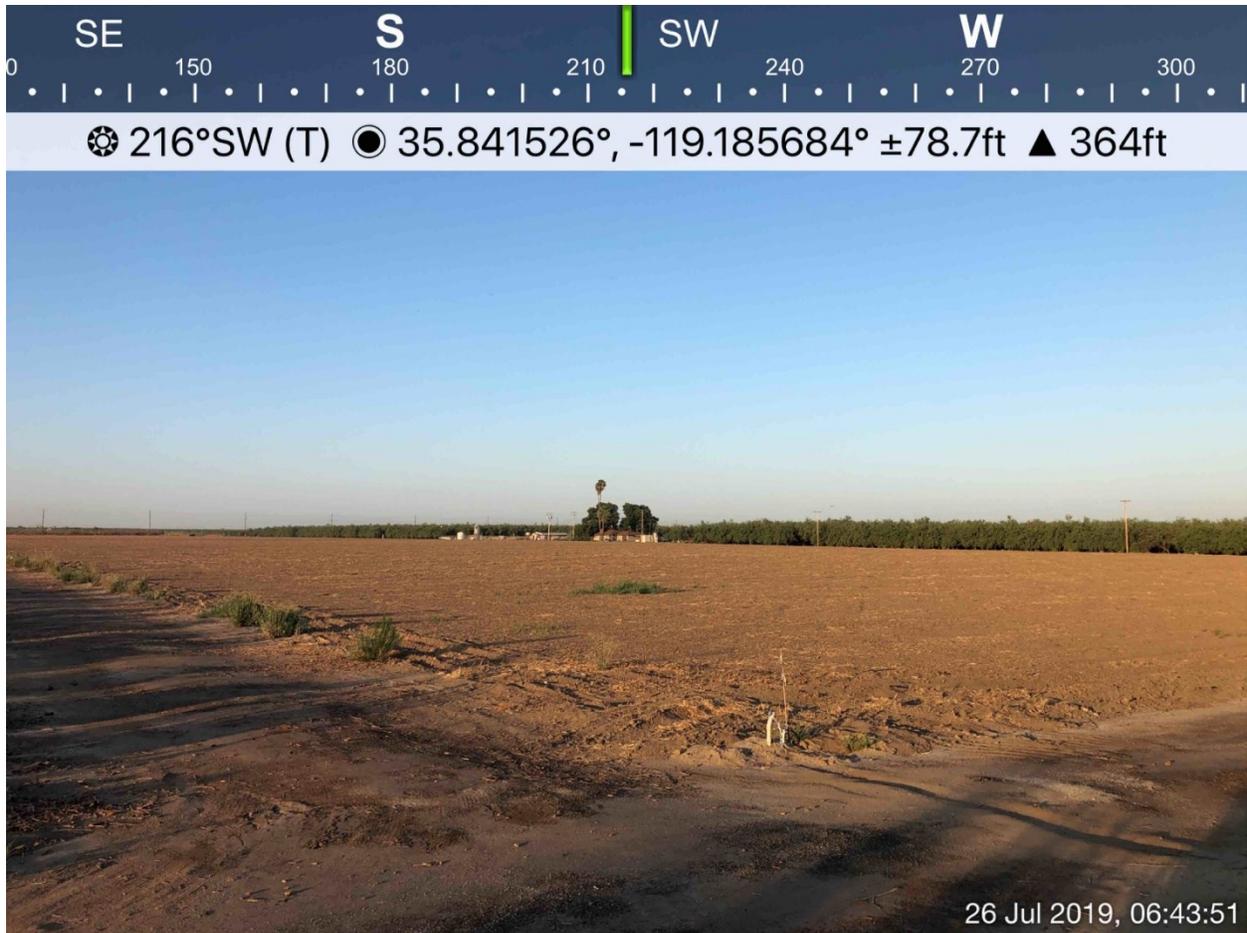
Photograph 13: Several snake sheds were observed onsite at the entrance of small burrows. All of the sheds were identified as California kingsnake and Pacific gophersnake.



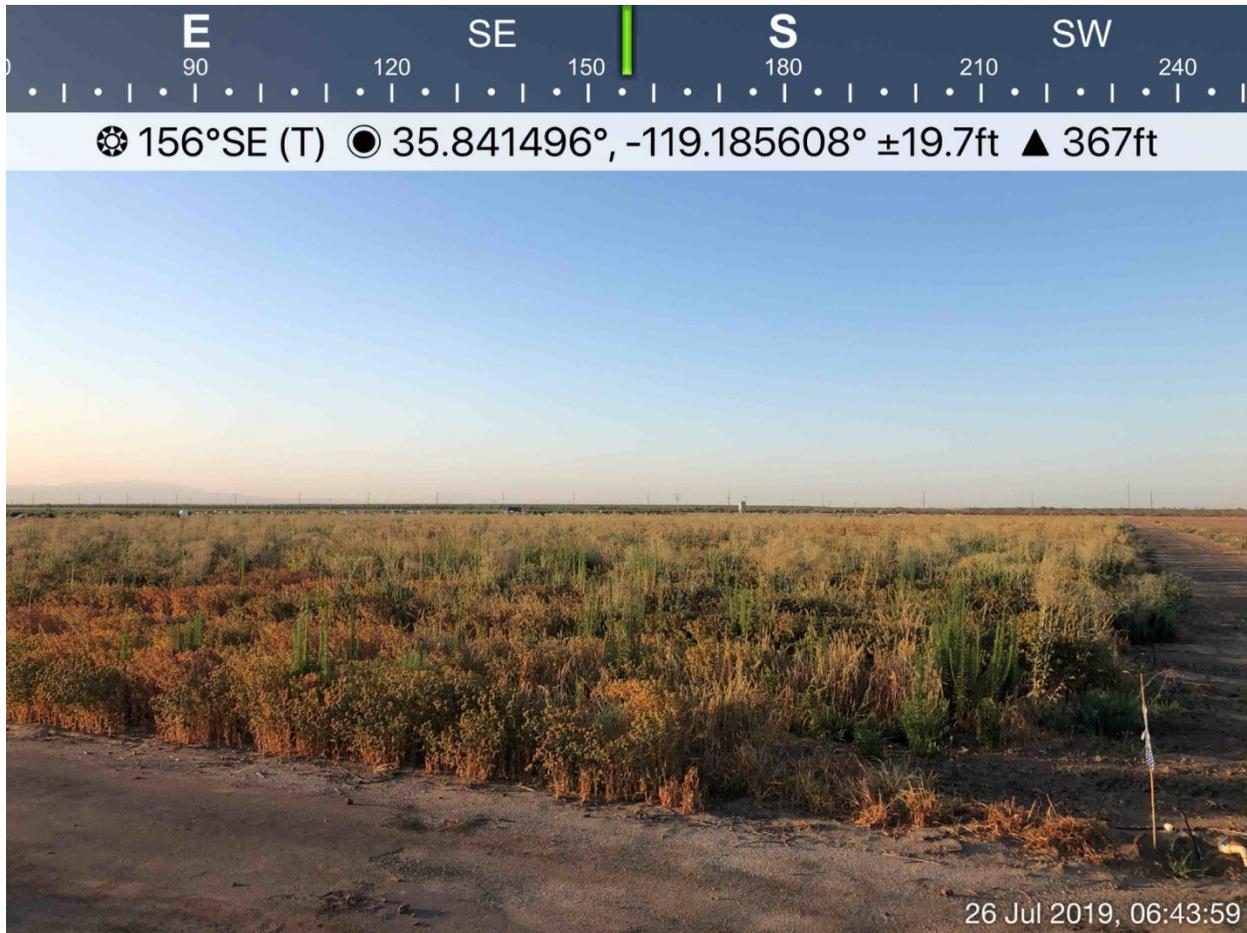
Photograph 14: Overview of the northern site boundary. The existing Turnipseed Basin is visible to the right in this photo, beyond the irrigation standpipe.



Photograph 15: Overview of the eastern site boundary, along Road 176.



Photograph 16: Overview of the western portion of the site, which at the time of the field survey, was composed of recently disked fallow field.



Photograph 17: Overview of the portion of the site composed of an overgrowth of weedy herbaceous vegetation.



Photograph 18: At the time of the field survey, crews were working, harvesting grapes from the portion of the site planted in a grape vineyard.

Appendix B. CNDDDB Query Results



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



Query Criteria: Quad (Delano East (3511972) OR Pixley (3511983) OR Sausalito School (3511982) OR Ducor (3511981) OR Delano West (3511973) OR Richgrove (3511971) OR Pond (3511963) OR McFarland (3511962) OR Deepwell Ranch (3511961))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
alkali mariposa-lily <i>Calochortus striatus</i>	PMLIL0D190	None	None	G3?	S2S3	1B.2
American badger <i>Taxidea taxus</i>	AMAJF04010	None	None	G5	S3	SSC
Bakersfield legless lizard <i>Anniella grinnelli</i>	ARACC01050	None	None	G2G3	S2S3	SSC
blunt-nosed leopard lizard <i>Gambelia sila</i>	ARACF07010	Endangered	Endangered	G1	S1	FP
brittlescale <i>Atriplex depressa</i>	PDCHE042L0	None	None	G2	S2	1B.2
burrowing owl <i>Athene cunicularia</i>	ABNSB10010	None	None	G4	S3	SSC
California jewelflower <i>Caulanthus californicus</i>	PDBRA31010	Endangered	Endangered	G1	S1	1B.1
coast horned lizard <i>Phrynosoma blainvillii</i>	ARACF12100	None	None	G3G4	S3S4	SSC
Coulter's goldfields <i>Lasthenia glabrata ssp. coulteri</i>	PDAST5L0A1	None	None	G4T2	S2	1B.1
Crotch bumble bee <i>Bombus crotchii</i>	IIHYM24480	None	None	G3G4	S1S2	
Earlimart orache <i>Atriplex cordulata var. erecticaulis</i>	PDCHE042V0	None	None	G3T1	S1	1B.2
hoary bat <i>Lasiurus cinereus</i>	AMACC05030	None	None	G5	S4	
Hopping's blister beetle <i>Lytta hoppingi</i>	IICOL4C010	None	None	G1G2	S1S2	
Kern brook lamprey <i>Entosphenus hubbsi</i>	AFBAA02040	None	None	G1G2	S1S2	SSC
Kern mallow <i>Eremalche parryi ssp. kernensis</i>	PDMAL0C031	Endangered	None	G3G4T3	S3	1B.2
lesser saltscale <i>Atriplex minuscula</i>	PDCHE042M0	None	None	G2	S2	1B.1
Lost Hills crownscale <i>Atriplex coronata var. vallicola</i>	PDCHE04250	None	None	G4T2	S2	1B.2
molestan blister beetle <i>Lytta molesta</i>	IICOL4C030	None	None	G2	S2	
Morrison's blister beetle <i>Lytta morrisoni</i>	IICOL4C040	None	None	G1G2	S1S2	



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



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Munz's tidy-tips <i>Layia munzii</i>	PDAST5N0B0	None	None	G2	S2	1B.2
Northern Claypan Vernal Pool <i>Northern Claypan Vernal Pool</i>	CTT44120CA	None	None	G1	S1.1	
recurved larkspur <i>Delphinium recurvatum</i>	PDRAN0B1J0	None	None	G2?	S2?	1B.2
San Joaquin adobe sunburst <i>Pseudobahia peirsonii</i>	PDAST7P030	Threatened	Endangered	G1	S1	1B.1
San Joaquin coachwhip <i>Masticophis flagellum ruddocki</i>	ARADB21021	None	None	G5T2T3	S2?	SSC
San Joaquin kit fox <i>Vulpes macrotis mutica</i>	AMAJA03041	Endangered	Threatened	G4T2	S2	
San Joaquin Pocket Mouse <i>Perognathus inornatus</i>	AMAFD01060	None	None	G2G3	S2S3	
San Joaquin tiger beetle <i>Cicindela tranquebarica ssp.</i>	IICOL0220E	None	None	G5T1	S1	
San Joaquin woollythreads <i>Monolopia congdonii</i>	PDASTA8010	Endangered	None	G2	S2	1B.2
spiny-sepaled button-celery <i>Eryngium spinosepalum</i>	PDAPI0Z0Y0	None	None	G2	S2	1B.2
subtle orache <i>Atriplex subtilis</i>	PDCHE042T0	None	None	G1	S1	1B.2
Swainson's hawk <i>Buteo swainsoni</i>	ABNKC19070	None	Threatened	G5	S3	
Tipton kangaroo rat <i>Dipodomys nitratoides nitratoides</i>	AMAFD03152	Endangered	Endangered	G3T1T2	S1S2	
tricolored blackbird <i>Agelaius tricolor</i>	ABPBXB0020	None	Threatened	G2G3	S1S2	SSC
Valley Saltbush Scrub <i>Valley Saltbush Scrub</i>	CTT36220CA	None	None	G2	S2.1	
Valley Sink Scrub <i>Valley Sink Scrub</i>	CTT36210CA	None	None	G1	S1.1	
vernal pool fairy shrimp <i>Branchinecta lynchi</i>	ICBRA03030	Threatened	None	G3	S3	
vernal pool smallscale <i>Atriplex persistens</i>	PDCHE042P0	None	None	G2	S2	1B.2
western spadefoot <i>Spea hammondi</i>	AAABF02020	None	None	G3	S3	SSC

Record Count: 38

Appendix C. NRCS Soils Report

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

DEID- Turnipseed Phase 4 Expansion



Preface

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

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

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

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

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

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

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

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How Soil Surveys Are Made

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

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

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

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

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

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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

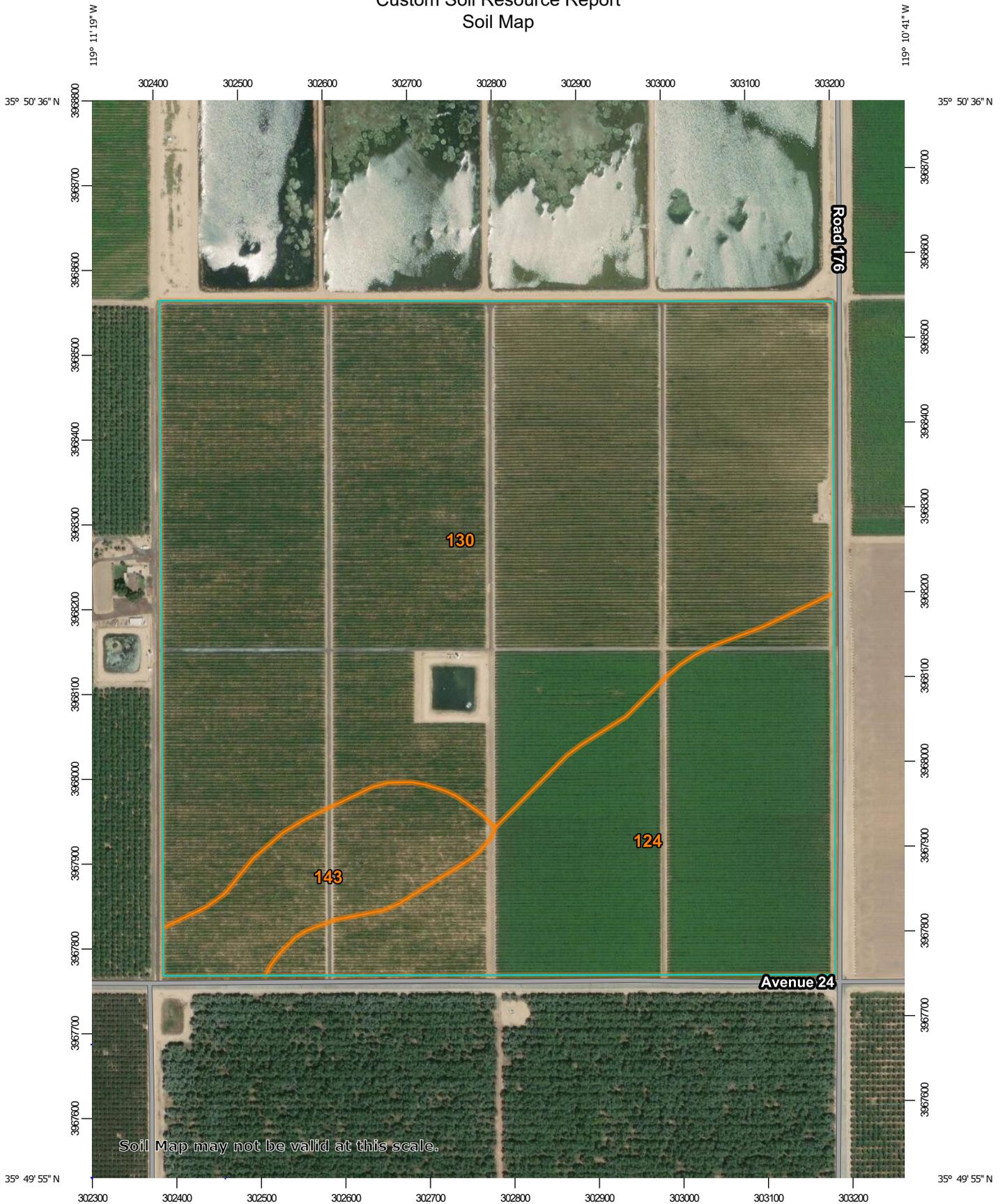
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identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

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



Soil Map may not be valid at this scale.

Map Scale: 1:6,200 if printed on A portrait (8.5" x 11") sheet.

0 50 100 200 300 Meters

0 300 600 1200 1800 Feet

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, Western Part, California
 Survey Area Data: Version 12, Sep 12, 2018

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

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

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
124	Hanford sandy loam, 0 to 2 percent slopes	39.0	24.9%
130	Nord fine sandy loam, 0 to 2 percent slopes	107.0	68.2%
143	Yettem sandy loam, 0 to 2 percent slopes	10.9	6.9%
Totals for Area of Interest		156.8	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

Custom Soil Resource Report

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, Western Part, California

124—Hanford sandy loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: hp4v

Elevation: 220 to 490 feet

Mean annual precipitation: 9 to 12 inches

Mean annual air temperature: 63 to 64 degrees F

Frost-free period: 250 to 280 days

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

Map Unit Composition

Hanford and similar soils: 85 percent

Minor components: 15 percent

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

Description of Hanford

Setting

Landform: Flood plains, alluvial fans

Landform position (two-dimensional): Toeslope, footslope

Landform position (three-dimensional): Base slope

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Alluvium derived from granitic rock sources

Typical profile

Ap - 0 to 6 inches: sandy loam

C1 - 6 to 30 inches: fine sandy loam

C2 - 30 to 60 inches: sandy loam

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Well drained

Runoff class: Negligible

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

Depth to water table: More than 80 inches

Frequency of flooding: Very rare

Frequency of ponding: None

Calcium carbonate, maximum in profile: 2 percent

Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Sodium adsorption ratio, maximum in profile: 7.0

Available water storage in profile: Moderate (about 6.6 inches)

Interpretive groups

Land capability classification (irrigated): 1

Land capability classification (nonirrigated): 3c

Hydrologic Soil Group: A

Hydric soil rating: No

Minor Components

Tujunga

Percent of map unit: 5 percent
Landform: Flood plains
Hydric soil rating: No

Exeter

Percent of map unit: 5 percent
Landform: Fan remnants
Hydric soil rating: No

Calgro

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

Yettem

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

130—Nord fine sandy loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: hp51
Elevation: 190 to 520 feet
Mean annual precipitation: 8 to 12 inches
Mean annual air temperature: 61 to 64 degrees F
Frost-free period: 250 to 275 days
Farmland classification: Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season

Map Unit Composition

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

Description of Nord

Setting

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

Typical profile

Ap - 0 to 11 inches: fine sandy loam
C1 - 11 to 38 inches: stratified sandy loam to loam

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C2 - 38 to 50 inches: stratified loamy coarse sand to coarse sandy loam

2Btb - 50 to 72 inches: stratified sandy loam to silt loam

Properties and qualities

Slope: 0 to 1 percent

Depth to restrictive feature: About 50 inches to abrupt textural change; About 38 inches to abrupt textural change

Natural drainage class: Well drained

Runoff class: Negligible

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

Depth to water table: More than 80 inches

Frequency of flooding: Very rare

Frequency of ponding: None

Calcium carbonate, maximum in profile: 4 percent

Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Sodium adsorption ratio, maximum in profile: 10.0

Available water storage in profile: Low (about 4.9 inches)

Interpretive groups

Land capability classification (irrigated): 1

Land capability classification (nonirrigated): 4c

Hydrologic Soil Group: B

Hydric soil rating: No

Minor Components

Grangeville, saline-sodic

Percent of map unit: 3 percent

Landform: Alluvial fans, flood plains

Hydric soil rating: Yes

Hanford

Percent of map unit: 3 percent

Landform: Flood plains, alluvial fans

Hydric soil rating: No

Tujunga

Percent of map unit: 3 percent

Landform: Flood plains

Hydric soil rating: No

Tagus

Percent of map unit: 2 percent

Landform: Fan remnants

Hydric soil rating: No

Akers

Percent of map unit: 2 percent

Landform: Fan remnants

Hydric soil rating: No

Colpien

Percent of map unit: 2 percent

Landform: Fan remnants

Hydric soil rating: No

143—Yettem sandy loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: hp5g

Elevation: 270 to 530 feet

Mean annual precipitation: 9 to 12 inches

Mean annual air temperature: 62 to 65 degrees F

Frost-free period: 250 to 300 days

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

Map Unit Composition

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, flood plains

Landform position (two-dimensional): Footslope, toeslope

Landform position (three-dimensional): Base slope

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Alluvium derived from granite

Typical profile

Ap - 0 to 13 inches: sandy loam

C - 13 to 63 inches: sandy loam

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Well drained

Runoff class: Very low

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

Depth to water table: More than 80 inches

Frequency of flooding: Very rare

Frequency of ponding: None

Calcium carbonate, maximum in profile: 5 percent

Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Sodium adsorption ratio, maximum in profile: 5.0

Available water storage in profile: Moderate (about 6.5 inches)

Interpretive groups

Land capability classification (irrigated): 1

Land capability classification (nonirrigated): 4c

Hydrologic Soil Group: A

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Hydric soil rating: No

Minor Components

Kimberlina

Percent of map unit: 5 percent

Landform: Flood plains

Hydric soil rating: No

Grangeville

Percent of map unit: 5 percent

Landform: Flood plains, alluvial fans

Hydric soil rating: Yes

Colpien

Percent of map unit: 3 percent

Landform: Fan remnants

Hydric soil rating: No

Tujunga

Percent of map unit: 2 percent

Landform: Flood plains

Hydric soil rating: No

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Appendix C

Cultural Resources Information

Cultural Resources Information
Turnipseed Basin Phase IV Expansion Project

Southern San Joaquin Valley Information Center, CSUB, California Historical Resources Information System: Record Search 19-294, dated August 6, 2019

- There are no recorded cultural resources within the project area or within a 0.5 mile radius.

Native American Heritage Commission (NAHC): Sacred Lands File & Native American Contacts List Request, dated August 12, 2019.

- A Search of the NAHC Sacred Lands File was completed for the Area of Potential Effect (APE) with negative results
- A list of six (6) tribes was provided, and letters to the six tribes were then mailed out August 12, 2019
- No responses or additional cultural information was received to date.

AB 52 Consultation pursuant to Public Resource Code Section 21080.3.1

- Delano-Earlimart Irrigation District has not received any letters from tribes regarding AB 52.
- Therefore no tribes were consulted on AB 52.



To: Briza Sholars
Provost & Pritchard Consulting Group, Inc.
286 W. Cromwell Ave.
Fresno, CA 93711

Record Search 19-294

Date: August 6, 2019

Re: Delano-Earlimart Irrigation District – Turnipseed Basin Phase IV Expansion Project

County: Tulare

Map(s): Delano East 7.5'

CULTURAL RESOURCES RECORDS SEARCH

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

The following are the results of a search of the cultural resource files at the Southern San Joaquin Valley Information Center. These files include known and recorded cultural resources sites, inventory and excavation reports filed with this office, and resources listed on the National Register of Historic Places, Historic Property Directory, California State Historical Landmarks, California Register of Historical Resources, California Inventory of Historic Resources, and California Points of Historical Interest. Due to processing delays and other factors, not all of the historical resource reports and resource records that have been submitted to the Office of Historic Preservation are available via this records search. Additional information may be available through the federal, state, and local agencies that produced or paid for historical resource management work in the search area.

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

According to the information in our files, there have been no previous cultural resource studies conducted within the project area. There have been two studies within the one-half mile radius, TU-01407 and TU-01408.

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

There are no recorded cultural resources within the project area or within the one-half mile radius, and it is not known if any exist there.

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

COMMENTS AND RECOMMENDATIONS

We understand this project consists of acquiring a 160-acre parcel immediately south of the existing Turnipseed Basin to provide for sustainable management of surface and groundwater. The proposed project will include several phases of construction, including equipment mobilization, earthwork for excavation of recharge/regulation basins, and construction of a basin perimeter berms of no greater than six feet in external height. Further, we understand the project area is currently used as a walnut orchard. Please note that agriculture does not constitute previous development, as it does not destroy cultural resources but merely moves them around within the plow zone. Because a cultural resources study has not been previously conducted on this property, it is unknown if any cultural resources are present. Therefore, prior to ground disturbance activities, we recommend a qualified, professional consultant conduct a field survey to determine if cultural resources are present. A list of qualified consultants can be found at www.chrisinfo.org.

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

By:

Celeste M. Thomson, Coordinator

Date: August 6, 2019

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

**Native American Heritage Commission
Native American Contacts List
8/12/2019**

Kern Valley Indian Community
Julie Turner, Secretary
P.O. Box 1010
Lake Isabella CA 93240
(661) 340-0032 Cell

Kawaiisu
Tubatulabal

Wuksache Indian Tribe/Eshom Valley Band
Kenneth Woodrow, Chairperson
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Mono
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Tubatulabal
Kawaiisu

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Tache
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Yokut

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Tubatulabal

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(559) 781-4610 Fax

Yokuts

This list is current as of the date of this document and is based on the information available to the Commission on the date it was produced.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code, or Section 5097.98 of the Public Resources Code.

**This list is only applicable for contacting local Native Americans Tribes for the proposed:
Delano-Earlimart Irrigation District Turnipseed Basin Phase IV Expansion Project.**



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Fresno, CA 93711-6162
Tel: (559) 449-2700
Fax: (559) 449-2715
www.ppeng.com

August 12, 2019

Kern Valley Indian Community
Attn: Julie Turner
P.O. Box 1010
Lake Isabella, CA 93240

RE: Turnipseed Basin Phase IV Expansion Project

Dear Ms. Turner:

Provost and Pritchard Consulting Group, is providing cultural resources services in support of the Turnipseed Basin Phase IV Expansion Project within the Delano-Earlimart Irrigation District (District.)

The District is in the process of acquiring a 160-acre parcel (APN #338-140-001) immediately south of the existing Turnipseed Basin project to provide for sustainable management of surface and groundwater. The proposed project is located in southwest Tulare County, northeast of the City of Delano. The Proposed Project includes several phases of construction, including equipment mobilization, earthwork for excavation of recharge/regulation basins and construction of basin perimeter berms of no greater than six feet in external height. Project components could include ponds/cells within the basin separated by levees, performance testing, and demobilization. This project is west of the Friant Kern Canal at the southwest corner of Avenue 28 and Road 176, within the north half of Northeast quarter of Section 17, Township 24 South, Range 26 East, M.D.B&M. The proposed project is located in eastern Tulare County, Northeast of the City of Delano. See attached map.

Provost and Pritchard Consulting Group has requested a records search of the California Historic Resources Information System from the Southern San Joaquin Valley Information Center to identify any cultural resources within or adjacent to the Project Area. A search of the Native American Heritage Commission (NAHC) Sacred Lands File was completed with negative results. The NAHC provided your name and address as a tribal contact that is culturally affiliated to the project area. If you have any information that you wish to share, or have questions or would like more information about the project, please do not hesitate to contact me by phone (559) 449-2700, email (bsholars@ppeng.com), or send a letter to my attention. I would appreciate any information you might provide to assist us with our inventory efforts.

Be assured that any locations of archaeological sites, cemeteries, or sacred places will be treated confidentially, as required by law, and not disclosed in any document available to the general public.

Sincerely,
Briza Sholars

A handwritten signature in blue ink that reads "Briza Sholars".

encl.: Topo Quad Map

August 12, 2019

Kern Valley Indian Community
Attn: Robert Robinson
P.O. Box 1010
Lake Isabella, CA 93240

RE: Turnipseed Basin Phase IV Expansion Project

Dear Mr. Robinson:

Provost and Pritchard Consulting Group, is providing cultural resources services in support of the Turnipseed Basin IV Expansion Project within the Delano-Earlimart Irrigation District (District.)

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Sincerely,
Briza Sholars



encl.: Topo Quad Map



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www.ppeng.com

August 12, 2019

Santa Rosa Rancheria Tachi Yokut Tribe
Attn: Rueben Barrios Sr.
P.O. Box 8
Lemoore, CA 93245

RE: Turnipseed Basin Phase IV Expansion Project

Dear Mr. Barrios:

Provost and Pritchard Consulting Group, is providing cultural resources services in support of the Turnipseed Basin Phase IV Expansion Project within the Delano-Earlimart Irrigation District (District.)

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August 12, 2019

Tubatulabals of Kern Valley
Attn: Robert L. Gomez Jr.
P.O. Box 226
Lake Isabella CA 93240

RE: Turnipseed Basin Phase IV Expansion Project

Dear Mr. Gomez:

Provost and Pritchard Consulting Group, is providing cultural resources services in support of the Turnipseed Basin Phase IV Expansion Project within the Delano-Earlimart Irrigation District (District.)

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August 12, 2019

Tule River Indian Tribe
Attn: Neil Peyron
P.O. Box 589
Porterville, CA 93258

RE: Turnipseed Basin Phase IV Expansion Project

Dear Mr. Peyron:

Provost and Pritchard Consulting Group, is providing cultural resources services in support of the Turnipseed Basin Phase IV Expansion Project within the Delano-Earlimart Irrigation District (District.)

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Briza Sholars

encl.: Topo Quad Map

August 12, 2019

Wuksache Indian Tribe/Eshom Valley Band
Attn: Kenneth Woodrow
1179 Rock Haven Court
Salinas, CA 93906

RE: Turnipseed Basin Phase IV Expansion Project

Dear Mr. Woodrow:

Provost and Pritchard Consulting Group, is providing cultural resources services in support of the Turnipseed Basin Phase IV Expansion Project within the Delano-Earlimart Irrigation District (District.)

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