Initial Study

Paregien Basin Recharge Expansion Project

Prepared for:

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PROJECT INFORMATION

This document is the Initial Study for the potential environmental effects of the Kaweah Delta Water Conservation District's (KDWCD) Paregien Basin Recharge Expansion Project (Project). KDWCD will act as the Lead Agency for this project pursuant to the California Environmental Quality Act (CEQA) and the CEQA Guidelines. Copies of all materials referenced in this report are available for review in the project file during regular business hours at 2979 N. Farmersville Blvd., Farmersville, CA 93223.

Project title

Paregien Basin Recharge Expansion Project

Lead agency name and address

Kaweah Delta Water Conservation District
2975 N. Farmersville Blvd.
Farmersville, CA 93223

Contact person and phone number

Larry Dotson, Senior Engineer
559-747-5601

Project location

The Project is located in Tulare County in the San Joaquin Valley, in close proximity of the northeasterly limits of the City of Farmersville (see Figure 1). The proposed Project site is just south of State Route (SR) 198, east of Road 168, on Tulare County Assessor's Parcel Numbers 111-230-010, 111-230-015 & 111-190-027. The Project property is split by Deep Creek, which is a natural channel distributary from the Kaweah River that runs through the City of Farmersville.

Figure 1 – Location

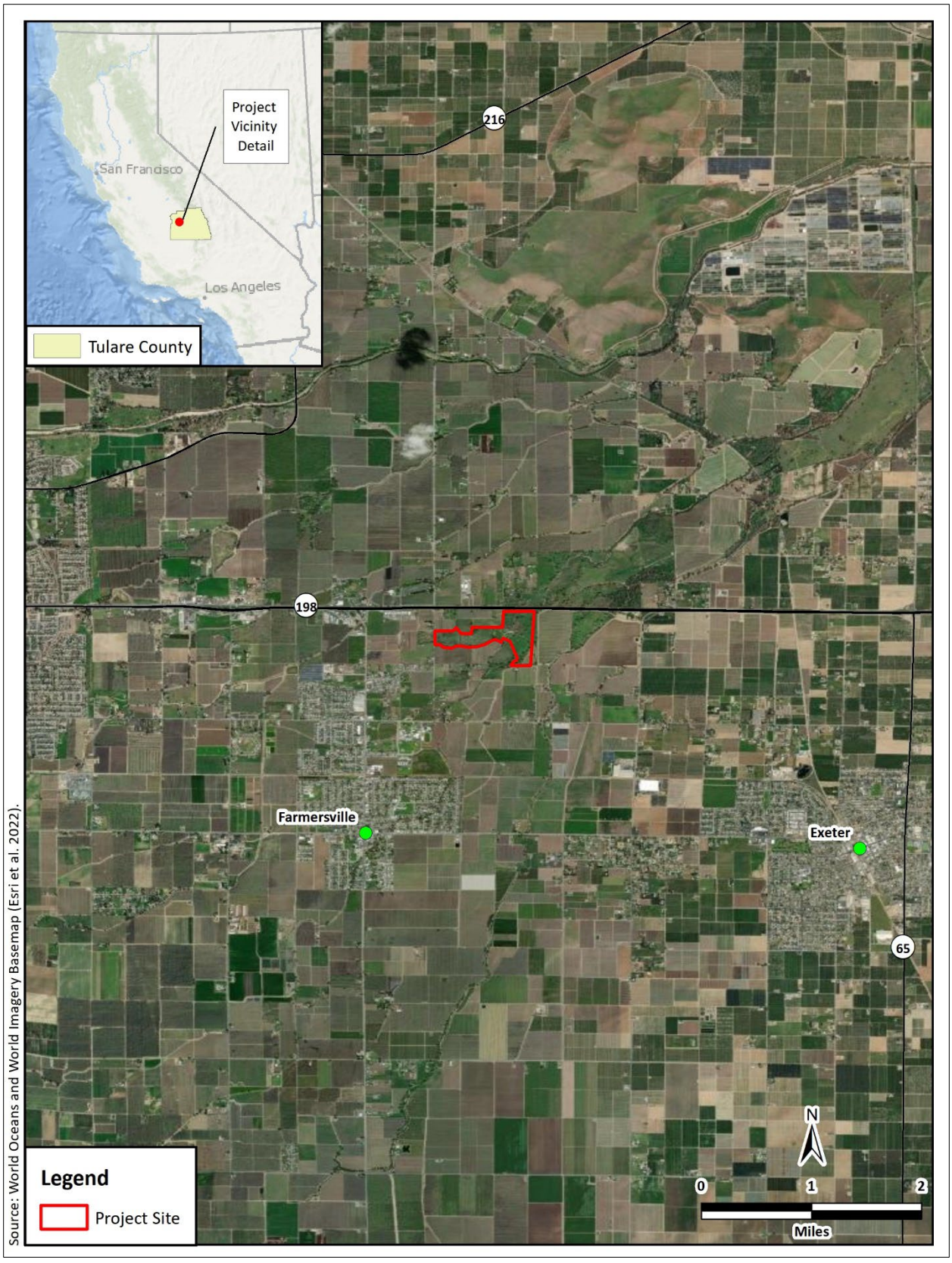

Figure 2 – Site Aerial

Project sponsor's name/address

Kaweah Delta Water Conservation District
2975 N. Farmersville Blvd.
Farmersville, CA 93223

General plan designation

Exclusive Agriculture, minimum parcel size 40-acres (Tulare County)

Zoning

AE- 40 (Tulare County)

Project Description

The Kaweah Delta Water Conservation District (KDWCD or the District) intends to recontour the existing Paregien recharge basins to expand its groundwater recharge capacity. Paregein Basins is composed of four basins; Cameron Basin, West Basin, East Basin and South Basin (see Figure 2). The proposed Project intends to expand existing basins in a location known to have excellent groundwater recharging capabilities. The proposed expansion Project will perform re-contouring of existing natural grades of available retention areas to provide a more uniform basin shape for water control and storage. This work will be accomplished with mechanical land moving equipment in conformance with design plans that will avoid or minimize impacts to the sites natural resources. The re-contoured areas are proposed to provide a uniform depth of 3 feet across all the areas and thereby increase the overall retention capacity by approximately 80 percent and provide sufficient hydraulic pressures to facilitate optimum percolation rates. The noted improvements should expand the water retention area to approximately 36 acres and provide a maximum capacity of 108 acre-feet, up from the current capacity of 60 acre-feet. The expansion is anticipated to generate 1,440 acre-feet per year of recharge in addition to the flood protection and environmental benefits.

Project Components

- Modifying and expanding an existing groundwater recharge basin, from 60 acre-feet capacity to 108 acre-feet capacity. The proposed grading plan is provided in Appendix A.
- Excavating material to provide a uniform water depth of approximately 3 feet in depth. Material will be placed along outer perimeter to develop a constant height of the embarkments and roadways over the natural topography.

- Deep ripping and discing to ensure that the recharge basin does not retain a sealed floor to achieve maximum recharge rate.
- Retrofitting two recharge areas with a pre-cast weir to provide flow capability through measurement over the top of the weir.
- Replacing the natural inlet at West Basin, East Basin and South Basin with prefabricated concrete structures.
- Placing a short run of pipe and flume in the third recharge area to provide measurement capability.
- Install a safety feature that will provide an overflow structure from the basins back into Deep Creek that will prevent overfilling the basins beyond free board water level requirements.

Surrounding Land Uses/Existing Conditions

The proposed Project site is currently being used as an active recharge basin managed by KDWCD.

Lands surrounding the proposed Project are described as follows:

- North: State Route 198.
- South: Agriculture, rural residences, and a portion of Deep Creek.
- East: Agriculture.
- West: Agriculture.

Other Public Agencies Involved

- State Water Resources Control Board
- San Joaquin Valley Air Pollution Control District

Tribal Consultation

Notices have been sent out to associated Tribes in the area and the Kaweah Delta Water Conservation District has not received any project-specific correspondence to date.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

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

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

DETERMINATION

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.

April 8, 2022

Larry Dotson

Date

Senior Engineer

Kaweah Delta Water Conservation District

ENVIRONMENTAL CHECKLIST

I. AESTHETICS

Would the project:

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

ENVIRONMENTAL SETTING

The Project area is on the San Joaquin Valley floor near the western foothills of the Sierra Nevada mountain range. On clear days, the peaks are visible from the majority of the City of Farmersville. The proposed basin expansion is located in an agricultural area, northeast of the City. The proposed basin site is bounded to the north by SR 198, with Road 168 nearby to the west. The remaining adjacent areas are utilized for cattle rangeland and agriculture. Deep Creek divides the project site and is a natural channel distributary from the Kaweah River. There are no adopted scenic resources or scenic vistas in the area. State Routes (SR) in the proposed Project vicinity include 198, 245 and 65.

RESPONSES

a. Have a substantial adverse effect on a scenic vista?

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

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

Less than Significant Impact. The Tulare County General Plan does not identify any scenic vistas within the proposed Project area; however, the peaks of the Sierra Nevada mountain range are clearly visible on many days of the year. A scenic vista is generally considered a view of an area that has remarkable scenery or a resource that is indigenous to the area.

The proposed Project is consistent with the existing character and uses of the surrounding area, as the basin has been previously constructed and the neighboring vicinities are primarily agriculturally related. As such, Project operations will not degrade the existing visual character of the site. Construction activities may be visible from the adjacent roadside; however, the construction activities will be temporary in nature and will not affect a scenic vista.

There are no state designated scenic highways within the immediate proximity to the Project site. California Department of Transportation Scenic Highway Mapping System identifies SR 198 east of SR 99 as an Eligible State Scenic Highway.[1] This is the closest highway, located directly adjacent to the project site, on the northern boundary. The basin site has previously been approved and constructed; the expansion project is not expected to visually impact the surrounding areas. In addition, no official scenic highways or roadways are listed within the Project area or in the City of Farmersville's General Plan or Tulare County's General Plan. Based on the National Register of Historic Places (NRHP) and the City's General Plan, no historic buildings exist on the Project site. The proposed Project would not cause damage to rock outcroppings or historic buildings within a State scenic highway corridor. Any impacts would be considered ***less than significant***.

Mitigation Measures: None are required.

[1] California Department of Transportation. California State Scenic Highway System Map. https://caltrans.maps.arcgis.com/apps/webappviewer/index.html?id=465dfd3d807c46cc8e8057116f1aacaa. Accessed March 2022.

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

Less Than Significant Impact. Nighttime lighting is necessary to provide and maintain safe, secure, and attractive environments; however, these lights have the potential to produce spillover light and glare and waste energy, and if designed incorrectly, could be considered unattractive. Light that falls beyond the intended area is referred to as "light trespass." Types of light trespass include spillover light and glare. Minimizing all these forms of obtrusive light is an important environmental consideration. A less obtrusive and well-designed energy efficient fixture would face downward, emit the correct intensity of light for the use, and incorporate energy timers.

Glare results when a light source directly in the field of vision is brighter than the eye can comfortably accept. Squinting or turning away from a light source is an indication of glare. The presence of a bright light in an otherwise dark setting may be distracting or annoying, referred to as discomfort glare, or it may diminish the ability to see other objects in the darkened environment, referred to as disability glare. Glare can be reduced by design features that block direct line of sight to the light source and that direct light downward, with little or no light emitted at high (near horizontal) angles, since this light would travel long distances. Cutoff-type light fixtures minimize glare because they emit relatively low-intensity light at these angles.

Current sources of light in the Project area are from the surrounding agricultural uses and the vehicles traveling along SR 198. The Project will not include any new sources of lighting. Accordingly, the Project would not create substantial new sources of light or glare. Potential impacts are ***less than significant***.

Mitigation Measures: None are required.

II. AGRICULTURE AND FOREST RESOURCES

Would the project:

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

ENVIRONMENTAL SETTING

The proposed Project site is currently an active District-owned water recharge basin. The site is currently zoned AE-40 (Exclusive Agriculture) by the County of Tulare. The Project site is considered *Farmland of Statewide Importance* and *Prime Farmland*[2], and an area of the site on the western side is under the Williamson Act; however, water basins are an allowable use under contracted lands.

RESPONSES

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

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

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

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

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

No Impact. The Project site is *Farmland of Local Importance* and *Prime Farmland* according to the California Important Farmland Finder, and the site is zoned AE-40 (Exclusive Agriculture) by Tulare County. A portion of the Project site is under the Williamson Act contract; however, water recharge basins are an allowable use on contracted lands. No land use changes are proposed. Therefore, no land conversion from Farmland would occur as a result of the Project. The Project is not zoned for forestland and does not propose any zone changes related to forest or timberland. There is ***no impact***.

Mitigation Measures: None are required.

[2] Department of Conservation, California Important Farmland Finder. https://maps.conservation.ca.gov/DLRP/CIFF/. Accessed March 2022.

III. AIR QUALITY

Would the project:

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

ENVIRONMENTAL SETTING

The climate of Tulare County and the San Joaquin Valley is characterized by long, hot summers and stagnant, foggy winters. Precipitation is low and temperature inversions are common. These characteristics are conducive to the formation and retention of air pollutants and are in part influenced by the surrounding mountains which intercept precipitation and act as a barrier to the passage of cold air and air pollutants.

The proposed Project lies within the San Joaquin Valley Air Basin, which is managed by the San Joaquin Valley Air Pollution Control District (SJVAPCD or Air District). National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) have been established for the following criteria pollutants: carbon monoxide (CO), ozone (O_3), sulfur dioxide (SO_2), nitrogen dioxide (NO_2), particulate matter (PM_{10} and $PM_{2.5}$), and lead (Pb). The CAAQS also set standards for sulfates, hydrogen sulfide, and visibility.

Air quality plans or attainment plans are used to bring the applicable air basin into attainment with all state and federal ambient air quality standards designed to protect the health and safety of residents

within that air basin. Areas are classified under the Federal Clean Air Act as either "attainment", "non-attainment", or "extreme non-attainment" areas for each criteria pollutant based on whether the NAAQS have been achieved or not. Attainment relative to the State standards is determined by the California Air Resources Board (CARB). The San Joaquin Valley is designated as a State and Federal extreme non-attainment area for O3, a State and Federal non-attainment area for PM2.5, a State non-attainment area for PM10, and Federal and State attainment area for CO, SO2, NO2, and Pb.

Standards and attainment status for listed pollutants in the Air District can be found in Table 1. Note that both state and federal standards are presented.

Table 1 - Standards and Attainment Status for Listed Pollutants in the Air District

	Federal Standard	California Standard
Ozone	0.075 ppm (8-hr avg)	0.07 ppm (8-hr avg) 0.09 ppm (1-hr avg)
Carbon Monoxide	9.0 ppm (8-hr avg) 35.0 ppm (1-hr avg)	9.0 ppm (8-hr avg) 20.0 ppm (1-hr avg)
Nitrogen Dioxide	0.053 ppm (annual avg)	0.30 ppm (annual avg) 0.18 ppm (1-hr avg)
Sulfur Dioxide	0.03 ppm (annual avg) 0.14 ppm (24-hr avg) 0.5 ppm (3-hr avg)	0.04 ppm (24-hr avg) 0.25 ppm (1hr avg)
Lead	1.5 µg/m3 (calendar quarter) 0.15 µg/m3 (rolling 3-month avg)	1.5 µg/m3 (30-day avg)
Particulate Matter (PM10)	150 µg/m3 (24-hr avg)	20 µg/m3 (annual avg) 50 µg/m3 (24-hr avg)
Particulate Matter (PM2.5)	15 µg/m3 (annual avg)	35 µg/m3 (24-hr avg) 12 µg/m3 (annual avg)

µg/m3 = micrograms per cubic meter

Additional State regulations include:

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

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

currently developing a control measure to reduce diesel PM and NOX emissions from existing off-road diesel equipment throughout the state.

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

RESPONSES

a. Conflict with or obstruct implementation of the applicable air quality plan?

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

c. Expose sensitive receptors to substantial pollutant concentrations?

Less Than Significant Impact. The proposed Project lies within the San Joaquin Valley Air Basin (SJVAB). At the Federal level, the SJVAB is designated as extreme nonattainment for the 8-hour ozone standard, attainment for PM_{10} and CO, and nonattainment fort $PM_{2.5}$. At the State level, the SJVAB is designated as nonattainment for the 8-hour ozone, PM_{10}, and $PM_{2.5}$ standards. Although the Federal 1-hour ozone standard was revoked in 2005, areas must still attain this standard, and the SJVAPCD recently requested an EPA finding that the SJVAB has attained the standard based on 2011-2013 data[3]. To meet Federal Clean Air Act (CAA) requirements, the SJVAPCD has multiple air quality attainment plan (AQAP) documents, including:

- Extreme Ozone Attainment Demonstration Plan (EOADP) for attainment of the 1-hour ozone standard (2004);
- 2007 Ozone Plan for attainment of the 8-hour ozone standard;
- 2007 PM_{10} Maintenance Plan and Request for Redesignation; and
- 2008 $PM_{2.5}$ Plan.

Because of the region's non-attainment status for ozone, $PM_{2.5}$, and PM_{10}, if the project-generated emissions of either of the ozone precursor pollutants (ROG or NOx), PM_{10}, or $PM_{2.5}$ were to exceed the SJVAPCD's significance thresholds, then the project uses would be considered to conflict with the

[3] San Joaquin Valley Air Pollution Control District. Guide for Assessing and Mitigating Air Quality Impacts. February 19, 2015. Page 28. https://www.valleyair.org/transportation/GAMAQI-2015/FINAL-DRAFT-GAMAQI.PDF. Accessed March 2022.

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

The annual significance thresholds to be used for the Project for construction and operational emissions are as follows[4]:

- 10 tons per year ROG;
- 10 tons per year NOx;
- 15 tons per year PM_{10}; and
- 15 tons per year $PM_{2.5}$.

The project will result in both construction emissions and operational emissions as described below.

Short-Term (Construction) Emissions

Site preparation and project construction would involve excavating, compacting, deep ripping, discing and various activities needed to construct the Project. During construction, the Project could generate pollutants such as hydrocarbons, oxides of nitrogen, carbon monoxide, and suspended PM. A major source of PM would be windblown dust generated during construction activities. Sources of fugitive dust would include disturbed soils at the construction site. Vehicles leaving the site could deposit dirt and mud on local streets, which could be an additional source of airborne dust after it dries. PM10 emissions would vary from day to day, depending on the nature and magnitude of construction activity and local weather conditions. PM10 emissions would depend on soil moisture, the silt content of soil, wind speed, and the amount of operating equipment. Larger dust particles would settle near the source, while fine particles would be dispersed over greater distances from the construction site. These emissions would be temporary and limited to the immediate area surrounding the construction site.

Operational Emissions

The recharge basin is passive in nature and the expansion will not generate any additional on-site emissions.

Total Project Emissions

The estimated annual construction emissions are provided below. The California Emissions Estimator (CalEEMod), Version 2020.4.0, was used to estimate construction emissions resulting from basin

[4] San Joaquin Valley Air Control District – Air Quality Threshold of Significance – Criteria Pollutants. http://www.valleyair.org/transportation/0714-gamaqi-criteria-pollutant-thresholds-of-significance.pdf. Accessed March 2022.

expansion. Default construction data, including phasing, site preparation, grading, building construction, paving and architectural coatings was utilized to generate estimated emissions. It should be noted that actual Project construction activities do not include building construction, paving or architectural coatings so estimated emissions will be higher than actual emissions. It is also important to note that all excavated soils will remain on-site. Modeling results are provided in Table 2 and the CalEEMod output files are provided in Appendix B.

Table 2 - Proposed Project Construction Emissions

	VOC (ROG) (tons/year)	NO_x (tons/year)	PM_{10} (tons/year)	$PM_{2.5}$ (tons/year
2022 Basin Construction Emissions	0.3717	3.4133	0.9749	0.4727
2023 Basin Construction Emissions	0.5101	3.5272	1.0106	0.3441
2024 Basin Construction Emissions	0.4786	3.4103	1.0069	0.3360
2025 Basin Construction Emissions	0.5570	2.3292	0.6678	0.2243
2026 Basin Construction Emissions	0.0930	0.0101	0.0083	0.0025
Maximum Yearly Emissions	**0.5570**	**3.572**	**1.0106**	**0.4727**
Annual Threshold of Significance	10	10	15	15
Significant?	**No**	**No**	**No**	**No**

Source: CalEEMod results (Appendix B). Crawford & Bowen Planning (2022)

As demonstrated in Table 2, estimated construction emissions would not exceed the SJVAPCD's significance thresholds for ROG, NOx, PM_{10}, and $PM_{2.5}$. As a result, the Project uses would not conflict with emissions inventories contained in regional air quality attainment plans and would not result in a significant contribution to the region's air quality non-attainment status[5].

Any impacts to air resources would be considered ***less than significant***.

Mitigation Measures: None are required.

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

Less than Significant Impact. The proposed Project is located in an agricultural area northeast of the City of Farmersville in Tulare County. During construction, the various diesel-powered vehicles and equipment in use on-site would create localized odors. These odors would be temporary and are not likely to be noticeable for extended periods of time beyond the Project site. The potential for diesel odor impacts is therefore considered less than significant.

[5] San Joaquin Valley Air Pollution Control District. Guide to Assessing and Mitigating Air Quality Impacts. March 19, 2015. Page 65. https://www.valleyair.org/transportation/GAMAQI-2015/FINAL-DRAFT-GAMAQI.PDF. Accessed March 2022.

As such, the proposed Project is not expected to produce any offensive odors that would result in frequent odor complaints. Any impacts would be ***less than significant.***

Mitigation Measures: None are required.

IV. BIOLOGICAL RESOURCES

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☒	☐
c. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☒	☐
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☒	☐	☐

e.	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
f.	Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

ENVIRONMENTAL SETTING

The proposed Project site is located in a portion of the central San Joaquin Valley that has, for decades, experienced intensive agricultural and urban disturbances. Current agricultural endeavors in the region include dairies, groves, and row crops.

Like most of California, the Central San Joaquin Valley experiences a Mediterranean climate. Warm dry summers are followed by cool moist winters. Summer temperatures usually exceed 90 degrees Fahrenheit, and the relative humidity is generally very low. Winter temperatures rarely raise much above 70 degrees Fahrenheit, with daytime highs often below 60 degrees Fahrenheit.

Native plant and animal species once abundant in the region have become locally extirpated or have experienced large reductions in their populations due to conversion of upland, riparian, and aquatic habitats to agricultural and urban uses. Remaining native habitats are particularly valuable to native wildlife species including special status species that still persist in the region. Much of the of the open space in the Farmersville area is dominated by agriculture, specifically field crops, nuts and citrus.

A Biological Resource Evaluation (BRE) was prepared for the proposed Project by Colibri Ecological Consulting, LLC in March of 2022. The following descriptions and subsequent impact analysis is based on observations and expertise of Colibri Ecological Consulting. The BRE is provided in Appendix C.

A reconnaissance survey was completed on March 3, 2022 as part of the BRE. At the time of the survey, the Project site contained four groundwater recharge basins connected to Deep Creek through a series of canals, ditches, and floodgates. The groundwater recharge basins supported disturbed grassland dominated by nonnative grasses and ruderal herbaceous plant species. The recharge basin embankments were sparsely lined with mature valley oaks (*Quercus lobata*). Deep Creek, which bisected the Project site, had a trapezoidal channel formed by 10-foot-tall reinforced earthen embankments. The stream channel was moderate to sparsely vegetated with native and nonnative

plant species and had a fine sandy substrate. The stream channel was dry at the time of survey. Deep Creek supported valley oak riparian forest upstream and downstream of the groundwater recharge basins (Figure 11). Soil in the groundwater recharge basins was sandy loam. Soil was saturated in low-lying areas of the groundwater recharge basins although no standing water was present. Ground squirrel burrows were present in the embankments of Deep Creek and the groundwater recharge basins.

A total of 46 plant species (16 native and 30 nonnative), one reptile species, 17 bird species, and two mammal species were observed during the survey. Site photos taken during the survey are provided in Appendix C.

Special Status Species

Also as part of the BRE, a desktop review of the USFWS special species database, the California Natural Diversity Database (CNDDB), the California Native Plant Society (CNPS) inventory database were reviewed for known special-status species in the area.

The USFWS species list for the Project included nine species listed as threatened or endangered under the Federal Endangered Species Act. Of those nine species, only San Joaquin kit fox (*Vulpes macrotis mutica* – FE, ST) has the potential to occur on or near the Project site. The remaining eight species have been excluded from further consideration due to either (1) the lack of habitat, (2) the Project site being outside the current range of the species, or (3) the presence of development that would otherwise preclude occurrence (see Table 3). As identified in the species list, the Project site does not occur in USFWS-designated or proposed critical habitat for any species.

Searching the CNDDB for records of special-status species from the Exeter 7.5-minute USGS topographic quad and the eight surrounding quads produced 210 records of 47 species (see Table 3). Of those 47 species, eight are not given further consideration because they are not CEQA-recognized as special-status species by state or federal regulatory agencies or public interest groups or are considered extirpated in California. Of the remaining 39 species, 14 are known from within 5 miles of the Project site. Of those species, only the Northern California legless lizard (*Anniella pulchra* – SSSC), American badger (*Taxidea taxus* – SSSC), pallid bat (*Antrozous pallidus* – SSSC), and San Joaquin kit fox could occur on or near the Project site (Table 1). In addition, Swainson's hawk (*Buteo swainsoni* – ST), burrowing owl (*Athene cunicularia* – SSSC), and western mastiff bat (*Eumops perotis californicus* – SSSC) were identified in the nine-quad search and could occur on or near the Project site (Table 3).

Searching the CNPS inventory of rare and endangered plants of California yielded 27 species, 21 of which have a CRPR of 1 or 2 (Table 3). None of these species are expected to occur on or near the

Project site due to either (1) lack of habitat, (2) the Project site being outside the current range of the species, or (3) lack of detection during the 3 March 2022 survey (see Table 3).

Table 3 – Special-status species, listing status, habitats and potential to occur[6]

Species	Status[1]	Habitat	Potential to Occur[2]
Federally and State-Listed Endangered or Threatened Species			
California jewelflower (***Caulanthus californicus***)	FE, SE, 1B.1	Chenopod scrub, pinyon and juniper woodland, and valley and foothill grassland at 150–3300 feet elevation.	**None.** Grassland habitat was present; however, the Project site is routinely disturbed and managed for groundwater retention, and there are no occurrence records from within 5 miles of the Project site.
Greene's tuctoria (***Tuctoria greenei***)	FE, 1B.1	Vernal pools in open grasslands below 3445 feet elevation.	**None.** Habitat lacking; the Project site lacks vernal pools.
Hoover's spurge (***Euphorbia spurge***)	FT, 1B.2	Vernal pools and depressions.	**None.** Habitat lacking; the Project site lacks vernal pools.
Kaweah brodiaea (***Brodiaea insignis***)	SE, 1B.2	Valley and foothill grassland, meadows, and cismontane woodlands with granitic or clay soils.	**None.** Grassland habitat was present; however, the Project site lacks granitic or clay soils.
San Joaquin adobe sunburst[3] (***Pseudobahia peirsonii***)	FT, SE, 1B.1	Grassland and bare dark clay.	**None.** Grassland habitat was present; however, the Project site lacks bare dark clay.
San Joaquin Valley Orcutt grass (***Orcuttia inaequalis***)	FT, SE, 1B.1	Vernal pools at or below 2700 feet elevation.	**None.** Habitat lacking; the Project site lacks vernal pools.

[6] Colibri Ecological Consulting, LLC. Biological Resource Evaluation for the Paregien Basin Recharge Expansion Project. March 2022. Appendix C. Page 5.

Striped adobe-lily (*Fritillaria striata*)	ST, 1B.1	Grasslands, in deep, clayey soils of granitic origin.	**None.** Grassland habitat was present; however, the Project site lacks deep, clayey soils of granitic origin.
Monarch California overwintering population (*Danaus plexippus*)	FC	Groves of trees within 1.5 miles of the ocean that produce suitable micro-climates for overwintering such as high humidity, dappled sunlight, access to water and nectar, and protection from wind.	**None.** Habitat lacking; the Project site is not within 1.5 miles of the ocean.
Valley elderberry longhorn beetle[3] (*Desmocerus californicus dimorphus*)	FT	Elderberry (*Sambucus* sp.) plants with stems > 1-inch diameter at ground level.	**None.** The Project site is outside of currently recognized range of this species.
Vernal pool fairy shrimp (*Branchinecta lynchi*)	FT	Vernal pools and ponds.	**None.** Habitat lacking; the Project site lacks vernal pools or ponds.
Vernal pool tadpole shrimp (*Lepidurus packardi*)	FE	Vernal pools, clay flats, alkaline pools, and ephemeral stock tanks.	**None.** Habitat lacking; the Project site is outside the current known range of this species.
Delta smelt (*Hypomesus transpacificus*)	FT, SE	Shallow, fresh, or slightly brackish backwater sloughs and edgewaters.	**None.** Habitat lacking; the Project site lacks connectivity to the aquatic habitat this species requires.
Blunt-nosed leopard lizard (*Gambelia sila*)	FE, SE	Upland scrub and sparsely vegetated grassland with small mammal burrows below 2400 feet elevation.	**None.** Habitat lacking; the Project site is outside the current known range of this species.

California red-legged frog (***Rana draytonii***)	FT, SSSC	Creeks, ponds, and marshes for breeding; burrows for upland refuge.	**None.** Habitat lacking; the Project site is outside the current known range of this species.
California tiger salamander (***Ambystoma californiense***)	FT, ST	Vernal pools or seasonal ponds for breeding; small mammal burrows for upland refugia in natural grasslands.	**None.** Habitat lacking; the Project site is outside the current known range of this species.
Foothill yellow-legged frog (***Rana boylii***)	SE, SSSC	Perennial streams and rivers with rocky substrates, and with open, sunny banks may be in forests, chaparral, or woodlands.	**None.** Habitat lacking; Deep Creek bisects the Project site but is not a perennial stream.
Giant garter snake (***Thamnophis gigas***)	FT, ST	Marshes, sloughs, drainage canals, irrigation ditches, and slow-moving creeks.	**None.** The Project site is outside the current known range of this species.
Swainson's hawk (***Buteo swainsoni***)	ST	Large trees for nesting with adjacent grasslands, alfalfa fields, or grain fields.	**Moderate.** The Project site contained potential nesting and foraging habitat; however, no nests have been documented within 5 miles of the Project site.
Tricolored blackbird (***Agelaius tricolor***)	ST	Large freshwater marshes, in dense stands of cattails or bulrushes and silage fields near dairies.	**None.** Habitat lacking; the Project site lacked freshwater marshes or silage fields.
Western yellow-billed cuckoo[3] (***Coccyzus americanus occidentalis***)	FT, SE	Open woodlands with dense, low vegetation along waterways, orchards, and dense leafy groves and thickets.	**None.** The Project site is outside the current known range of this species.

San Joaquin kit fox[3] **(*Vulpes macrotis mutica*)**	FE, ST	Grassland and fallowed agricultural lands adjacent to natural grasslands or upland scrub.	**Low.** Grassland habitat was present on the Project site. Although the Project site is outside the current known local range of this species (e.g., all nearby occurrence records are from the 1970s), dispersing individuals could use the site.
Tipton kangaroo rat **(*Dipodomys nitratoides nitratoides*)**	FE, SE	Grassland and upland scrub with sparse to moderate shrub cover and saline soils; also fallowed agricultural fields adjacent to natural grasslands or upland scrub.	**None.** Habitat lacking; the Project site is outside the current known range of this species.
State Species of Special Concern			
Northern leopard frog **(*Lithobates pipiens*)**	SSSC	Wet meadows, canals, bogs, marshes, and reservoirs in grassland, forest, and woodland.	**None.** Habitat lacking; the Project site is outside the current known local range of this species.
Northern California legless lizard[3] **(*Anniella pulchra*)**	SSSC	Moist, warm, loose soil with plant cover in beach dunes, chaparral, pine-oak woodlands, sandy areas, and stream terraces.	**Moderate.** Loose soil associated with Deep Creek provides habitat for this species. There are two CNDDB records of this species from within 5 miles of the Project site, including one from 0.6 miles northeast of the Project site.
Northwestern pond turtle[3] **(*Actinemys marmorata*)**	SSSC	Ponds, rivers, marshes, streams, and irrigation ditches, usually with aquatic vegetation and woody debris for basking and adjacent natural upland areas for egg	**None.** Habitat lacking; this species requires permanent or nearly permanent aquatic habitat. Deep Creek, which bisects the Project site, was dry at the time of

		laying.	the survey.
Western spadefoot (*Spea hammondii*)	SSSC	Rain pools for breeding and small mammal burrows or other suitable refugia for nonbreeding upland cover.	**None.** Habitat lacking; vernal pools or other ephemeral pools were absent from the Project site; no records from within 5 miles.
Burrowing owl (*Athene cunicularia*)	SSSC	Grassland and upland scrub with friable soil; agricultural or other developed and disturbed areas with ground squirrel burrows.	**Low.** The Project site contained grassland with friable soils and ground squirrel burrows; however, there are no CNDDB records from within 5 miles of the Project site.
American badger[3] (*Taxidea taxus*)	SSSC	Open areas including meadows, grasslands, and chaparral with less than 50% plant cover.	**Low.** Grassland habitat was present. There is one 1994 CNDDB record from 0.25 miles from the Project site.
Pallid bat[3] (*Antrozous pallidus*)	SSSC	Arid or semi-arid locations in rocky areas and sparsely vegetated grassland near water. Rock crevices, caves, mine shafts, bridges, building, and tree hollows for roosting.	**Moderate.** Trees in the Deep Creek riparian corridor and elsewhere on the Project site may provide roosting habitat for this species. There is one 2004 CNDDB record from within 5 miles of the Project site.
Western mastiff bat (*Eumops perotis californicus*)	SSSC	Roosts in crevices in face cliffs, tall buildings, trees, and tunnels in open semi-arid habitats.	**Low.** Trees in the Deep Creek riparian corridor and elsewhere on the Project site may provide roosting habitat for this species.
California Rare Plants			

Alkali-sink goldfields[3] (*Lasthenia chrysantha*)	1B.1	Vernal pools and wet saline flats below 320 feet elevation.	**None.** Habitat lacking; the Project site is above the known elevational range of this species.
Brittlescale[3] (*Atriplex depressa*)	1B.2	Alkaline or clay soils in chenopod scrub, meadows and seeps, playas, valley and foothill grassland, and vernal pools below 1000 feet elevation.	**None.** Grassland habitat was present; however, the Project site lacks alkaline or clay soils.
Calico monkeyflower[3] (*Diplacus pictus*)	1B.2	Bare, sunny, shrubby areas around granite outcrops in the southern Sierra Nevada mountains at 442–4100 feet elevation.	**None.** Habitat lacking; the Project site is below the known elevational range of this species.
California alkali grass (*Puccinellia simplex*)	1B.2	Scrub, meadows, seeps, grassland, vernal pools with saline soils, saline flats, and mineral springs below 3000 feet elevation.	**None.** Grassland habitat was present; however, the Project site lacks saline soils.
California satintail[3] (*Imperata brevifolia*)	2B.1	Mesic areas in chaparral or riparian scrub below 3985 feet elevation.	**None.** Habitat lacking; the Project site lacks chaparral or riparian scrub. Nearest record is of a vague 1895 CNDDB occurrence 4.5 miles from the Project site.
Coulter's goldfields (*Lasthenia glabrata ssp. coulteri*)	1B.1	Saltmarsh, playas, and vernal pools below 4000 feet elevation.	**None.** Habitat lacking; the Project site lacks saltmarsh, playas, and vernal pools.
Earlimart orache (*Atriplex cordulata var. erecticaulis*)	1B.2	Saline or alkaline soils in Central Valley and foothill grassland below 230 feet elevation.	**None.** Habitat lacking; the Project site is above the known elevational range of this species.
Lesser saltscale (*Atriplex minuscula*)	1B.1	Sandy alkaline soils in chenopod scrub, playa, and grassland in the San Joaquin Valley below 328	**None.** Grassland habitat was present; however, the Project site lacks alkaline

		feet elevation.	soils.
Recurved larkspur[3] **(*Delphinium recurvatum*)**	1B.2	Poorly drained, fine, alkaline soils in chenopod scrub, cismontane woodland, and valley and foothill grassland at 10–2800 feet elevation.	**None.** Grassland habitat was present; however, the Project site lacks alkaline soils.
Sanford's arrowhead (*Sagittaria sanfordii*)	1B.2	Ponds, sloughs, and ditches at sea level to 650 feet elevation.	**None.** Potential habitat was present in Deep Creek; however, no individuals were detected during the 3 March 2022 survey, and there are no occurrence records from within 5 miles of the Project site.
Spiny-sepaled button-celery[3] **(*Eryngium spinosepalum*)**	1B.2	Vernal pools and swales in valley and foothill grassland at 330–4200 feet elevation.	**None.** Habitat lacking; the Project site lacks vernal pools.
Subtle orache (*Atriplex subtilis*)	1B.2	Saline depressions below 230 feet elevation.	**None.** Habitat lacking; the Project site is above the known elevational range of this species.
Vernal pool smallscale (*Atriplex persistens*)	1B.2	Alkaline vernal pools in the Central Valley below 377 feet elevation.	**None.** Habitat lacking; the Project site lacks alkaline vernal pools.
Winter's sunflower (*Helianthus winteri*)	1B.2	Steep, south-facing grassy slopes, rock outcrops, and road cuts at 590–1509 feet elevation.	**None.** Habitat lacking; the Project site is below the known elevational range of this species.

Status[1]	Potential to Occur[2]	
FE = Federally listed Endangered	None:	Species or sign not observed; conditions unsuitable for occurrence.
FT = Federally listed Threatened	Low:	Neither species nor sign observed; conditions marginal for occurrence.
FP = State Fully Protected	Moderate:	Neither species nor sign observed; conditions suitable for occurrence.
FC = Federal Candidate of listing under the FESA	High:	Neither species nor sign observed; conditions highly suitable for occurrence.
SE = State listed Endangered	Present:	Species or sign observed; conditions suitable for occurrence.
ST = State listed Threatened		
SSSC = State Species of Special Concern		

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

Seven special-status species could occur on or near the Project site based on the presence of habitat and/or occurrence in the California Natural Diversity Database (CNDDB) records from within five miles. These seven species are described below.

Swainson's hawk (*Buteo swainsoni*, ST). Swainson's hawk is a state listed as threatened raptor in the family Accipitridae. It is a migratory breeding resident of Central California. It uses open areas including grassland, sparse shrubland, pasture, open woodland, and annual agricultural fields such as grain and alfalfa to forage on small mammals, birds, and reptiles. After breeding, it eats mainly insects,

especially grasshoppers. Swainson's hawks build small to medium-sized nests in medium to large trees near foraging habitat. The nesting season begins in March or April in Central California when this species returns to its breeding grounds from wintering areas in Mexico and Central and South America. Nest building commences within one to two weeks of arrival to the breeding area and lasts about one week. One to four eggs are laid and incubated for about 35 days. Young typically fledge in about 38–46 days and tend to leave the nest territory within 10 days of fledging. Swainson's hawks depart for the non-breeding grounds between August and September.

Although there are no records of Swainson's hawk from within 5 miles of the Project site, seven CNDDB records of Swainson's hawk, from 1994–2017, were found in the nine-quad search. Open grassland on the Project site provides potential foraging habitat for Swainson's hawk, and many potential nest trees were within 0.5 miles of the Project site. Therefore, the potential for this species to occur is moderate.

San Joaquin kit fox (*Vulpes macrotis mutica*, FE, ST). San Joaquin kit fox is a federally listed as endangered and state-listed as threatened member of the family Canidae. San Joaquin kit fox is primarily nocturnal and typically occupies valley grassland or mixed shrub/grassland habitats in low, rolling hills and valleys. San Joaquin kit fox uses grazed grasslands as well as grasslands with scattered structures such as power poles and wind turbines. This species also lives adjacent to, and forages in, tilled and fallow fields and irrigated row crops. However, large tracts of higher quality grassland or rangeland nearby is required to support the species. The diet of the San Joaquin kit fox varies geographically, seasonally, and annually, but consists primarily of rodents, rabbits, ground-nesting birds, and insects. Giant kangaroo rat (*Dipodomys ingens*) is a favored prey item.

San Joaquin kit fox requires underground dens to regulate its temperature and for shelter, reproduction, and predator avoidance. The species commonly modifies and uses dens constructed by other animals, such as ground squirrels and badgers, and will use human-made structures as well. Dens are usually made in loose-textured soils on slopes of less than 40 degrees, but the number of openings, entrance shape, and the slope of the ground on which they occur vary across the geographic range of the species. San Joaquin kit fox changes den locations often, typically using numerous dens each year. Koopman et al. (1998) estimated that a San Joaquin kit fox will use an average of about 12 dens over the course of a year and will often not use the same dens the following year. This species is subject to predation or competitive exclusion by other species such as coyote (*Canis latrans*), domestic dog (*Canis familiaris*), bobcat (*Felis rufus*), and nonnative red fox (*Vulpes vulpes*), as well as large raptors.

There are six CNDDB records of San Joaquin kit fox from within 5 miles of the Project site from 1975–1988. The Project site contained grassland that could provide habitat for this species. Although the Project site is outside the current known local range of this species, Deep Creek and its associated

riparian corridor may serve as a corridor for dispersing individuals. Therefore, the potential for San Joaquin kit fox to occur on or near the Project site is low.

Northern California legless lizard (*Anniella pulchra*, SSSC). Northern California legless lizard is a fossorial lizard in the family Anniellidae. Northern California legless lizard inhabits a range of land cover including coastal dune, valley-foothill, chaparral, and coastal scrub. Northern California legless lizard occurs primarily in areas with sandy or loose soils or where there is plenty of leaf litter. High soil moisture is an essential microhabitat requirement for the species. Northern California legless lizard primarily consumes insect larvae and adult beetles. Its activity is fossorial; it rarely travels above ground. Northern California legless lizard is live bearing with mating activities in late spring or early summer. It is common and widespread in the Coast Range but less common and patchily distribution everywhere else in California.

There are two CNDDB records of Northern California legless lizard from within 5 miles of the Project Site from 1934 and 2015. The 2015 CNDDB record is of two individuals on the Kaweah Oaks Preserve, approximately 0.6 miles northeast of the Project site. Sandy, friable soils near Deep Creek and dense, moist ground cover in the riparian forest north and south of the groundwater recharge basins provide habitat for this species on the Project site. The groundwater recharge basins are routinely disturbed, have firmer soil, and are unlikely to provide habitat for Northern California legless lizard. Therefore, the potential for this species to occur on the Project site is moderate.

Burrowing owl (*Athene cunicularia*, SSSC). Burrowing owl is a member of the family Strigidae recognized as a species of special concern by the CDFW. Burrowing owl depends on burrow systems excavated by other species such as California ground squirrel (*Otospermophilus beecheyi*) and American badger (*Taxidea taxus*). Burrowing owl uses burrows for protection from predators, weather, as roosting sites, and dwellings to raise young. It commonly perches outside burrows on mounds of soil or nearby fence posts. Prey types include insects, especially grasshoppers and crickets, small mammals, frogs, toads, and lizards. The nesting season begins in March, and incubation lasts 28–30 days. The female incubates the eggs while the male forages and delivers food items to the burrow-nest; young then fledge between 44 and 53 days after hatching. Adults can live up to 8 years in the wild.

Although there are no CNDDB occurrence records of burrowing owl from within 5 miles of the Project site, the banks of Deep Creek and the groundwater recharge basins in the Project site contained ground squirrel burrows that could support the species. Grassland on the Project site and the fallowed field north of the Project site could also provide foraging habitat. However, the habitat is routinely disturbed, and no sign of burrowing owl was detected during the 3 March 2022 reconnaissance survey. Therefore, the potential for this species to occur on the Project site is low.

American badger (*Taxidea taxus*, SSSC). American badger is a medium-sized fossorial carnivore in the family Mustelidae. It occurs throughout much of California. American badger resides primarily in open, early succession habitats such as arid and open shrubland, forest, and herbaceous habitat types with sparse vegetative cover and sandy soils. Friable soil is a key microhabitat requirement for this species, which digs burrows for shelter. American badger is carnivorous and preys on fossorial rodents. American badger has a large home range and is not known to migrate. The American badger breeding season spans summer to early fall. Once common in California, American badger is now considered a Species of Special Concern, primarily due to human encroachment including industrialized agriculture and urban development. Additional threats to American badger include vehicle strikes, disease, and secondary poisoning via rodenticides.

There is one 1994 CNDDB occurrence record of American badger from within 5 miles of the Project site. This record is from 0.25 miles north of the Project site. Although no badger sign was found during the 3 March 2022 reconnaissance survey, the Project site does provide habitat for American badger in the form of friable sandy soils with sparse cover. Therefore, the potential for this species to occur on the project site is low.

Pallid bat (*Antrozous pallidus*, SSSC). Pallid bat is a member of the family Vespertilionidae and is recognized as a Species of Special Concern by the CDFW. It is widespread in the western United States from southern British Columbia, Canada to northern Baja California, Mexico. In California, pallid bat is locally common year-round at low elevations, where it occupies dry, open areas in grassland, shrubland, woodland, and forest. Pallid bat is nocturnal and roosts during the day in caves, crevices in rocky outcrops, mines, and occasionally tree hollows and buildings; night roosts tend to be in more open areas including porches. It forages almost exclusively on the ground, where it preys on insects, arachnids, beetles, moths, and scorpions; few prey items are taken aerially. Pallid bat hibernates during winter, usually near a day roost that it occupies in summer.

There is one 2004 CNDDB occurrence record of pallid bat from within 5 miles of the Project site. The CNDDB occurrence is from a bridge crossing the St. Johns River approximately 2.4 miles northwest of the Project site. The Project site supports potential day roost habitat in the form of tree hollows and nearby bridges crossing Deep Creek. The Project site contains open areas and riparian forest that may provide foraging habitat. Therefore, the species has a moderate potential to occur on the Project site.

Western mastiff bat (Eumops perotis californicus, SSSC). Western mastiff bat is most common in the southern half of California, but its range extends almost to the Oregon border. This species forages in large, open areas in habitats such as desert washes, floodplains, conifer and deciduous woodlands, coastal scrub, grasslands, chaparral, and agricultural lands. Roosts include the undersides of large

slabs or boulders, trees, cliff faces, and cracks in buildings. This species typically selects roost sites high above the ground that allows a vertical drop of at least 10 feet to initiate flight.

There are no CNDDB occurrence records of western mastiff bat from within 5 miles of the Project site. However, the tall, mature trees on the Project site provide potential day roost habitat in the form of tree hollows. The Project site contains open areas and riparian forest that may provide foraging habitat. Therefore, the species has a low potential to occur on the Project site.

Nesting Birds and the Migratory Bird Treaty Act

Migratory birds could nest on or near the Project site. Bird species that may nest on or near the property include, but are not limited to, acorn woodpecker (*Melanerpes fromicivorus*), California scrub-jay (*Aphelocoma californica*), and red-tailed hawk (*Buteo jamaicensis*).

Regulated Habitats

Deep Creek bisects the Project site. As a stream in California, it is under the regulatory jurisdiction of the CDFW; as a potential surface water in California, it may be under the regulatory jurisdiction of the SWRCB; and as a potential tributary of the Tule River, it may be under the regulatory jurisdiction of the USACE. .

RESPONSES

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

Less than Significant Impact with Mitigation Incorporation. The proposed Project could substantially impact seven special-status species: Swainson's hawk, San Joaquin kit fox, Northern California legless lizard, burrowing owl, American badgers and roosing pallid and western mastiff bats. Construction disturbance could result in the incidental loss of these special-status species and such loss could constitute a significant impact. As such, implementation of **Mitigation Measures BIO-1 through BIO-6** will ensure that any impacts remain ***less than significant***.

Mitigation Measures:

BIO-1 Protect San Joaquin kit fox.

To the extent practicable, construction shall be scheduled to avoid the Swainson's hawk nesting season, which extends from March through August. If it is not possible to

schedule construction between September and February, a qualified biologist shall conduct surveys for Swainson's hawk in accordance with the Swainson's Hawk Technical Advisory Committee's Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley (SWTAC 2000). These methods require six surveys, three in each of the two survey periods, prior to project initiation. Surveys shall be conducted within a minimum 0.5-mile radius around the Project site. If an active Swainson's hawk nest is found within 0.5 miles of the Project site, and the qualified biologist determines that Project activities would disrupt the nesting birds, a construction-free buffer or limited operating period shall be implemented in consultation with the CDFW.

BIO-2 Protect San Joaquin kit fox.

To protect San Joaquin kit fox, a qualified biologist shall conduct a pre-construction survey within 30 days prior to the start of ground-disturbing activities to identify potential dens (burrows larger than 4 inches in diameter) in suitable land cover types on and within 250 feet of the Project site. If potential dens for San Joaquin kit fox are present, their disturbance and destruction shall be avoided. Exclusion zones shall be implemented based on the type of den and current use: Potential Den—50 feet; Known Den—100 feet; Natal or Pupping Den—to be determined on a case-by-case basis in coordination with USFWS and CDFW. All pipes greater than 4 inches in diameter stored on the construction site shall be capped and exit ramps shall be installed in trenches and other excavations to avoid direct mortality. When possible, construction shall be conducted outside of the breeding season from October 1 to November 30. If den avoidance is not possible, procedures in *U.S. Fish and Wildlife Service Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior or During Ground Disturbance* (USFWS 2011) shall be followed.

BIO-3 Protect Northern California legless lizard.

If construction activities will impact habitat for Northern California legless lizard (loose, friable soil or dense leaf litter), a qualified biologist shall conduct pre-construction surveys prior to initial ground disturbing activities. The qualified biologist shall conduct pre-construction surveys for legless lizards no more than 48 hours before initial ground disturbing activities in or near areas of sandy, friable soil or dense leaf litter. This survey shall include systematic subsurface searching using a rake. If Northern California legless lizards are found, a qualified biologist shall move individuals to nearby habitat off-site. Captured individuals shall be temporarily placed in a lidded,

vented box containing clean sand. Areas of moist and dry sand should be present in the box. Boxes should be kept out of direct sunlight and protected from temperatures over 72°F. The sand should be kept at temperatures under 66°F.

BIO-4 Protect burrowing owl.

Focused burrowing owl surveys shall be conducted to assess the presence/absence of burrowing owl in accordance with the *Staff Report on Burrowing Owl Mitigation* (CDFG 2012) and *Burrowing Owl Survey Protocol and Mitigation Guidelines* (CBOC 1997). These involve conducting four pre-construction survey visits. If a burrowing owl or sign of burrowing owl use (e.g., feathers, guano, pellets) is detected on or within 500 feet of the Project site, and the qualified biologist determines that Project activities would disrupt the owl(s), a construction-free buffer, limited operating period, or passive relocation shall be implemented in consultation with the CDFW.

BIO-5 Protect American Badgers.

Within 30 days prior to the start of construction or ground disturbing activities, a qualified biologist shall survey the Project site for American badger. If American badger is detected, the biologist shall passively relocate any individual out of the work area prior to construction if feasible. Potentially and active dens that would be directly impacted by construction activities shall be monitored for at least three consecutive nights using a wildlife-monitoring camera at the entrance. If no photos of badgers are captured after three nights, the den shall be excavated and backfilled by hand. In the event that passive relocation fails, the qualified biologist shall consult with the CDFW to explore other relocation options, which may include trapping.

BIO-6 Protect roosting pallid bat and western mastiff bats.

A pre-construction clearance survey shall be conducted by a qualified biologist to ensure that no roosting pallid bats or western mastiff bats will be disturbed during the implementation of the Project. A pre-construction clearance survey shall be conducted no more than 14 days prior to the initiation of construction activities. During this survey, the qualified biologist shall inspect all potential roosting habitat in and immediately adjacent to the impact areas. If an active roost is found close enough to the construction area to be disturbed by these activities, the qualified biologist shall determine the extent of a construction-free buffer to be established around the roost. If work cannot proceed without disturbing the roosting bats, work may need to be halted or redirected to other areas until the roost is no longer in use.

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

c. Have a substantial adverse effect on 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?

Less Than Significant Impact. There is no riparian habitat or other sensitive natural community located on the Project site. Although Deep Creek bisects the Project site, Davis Ditch borders outside of the site, no ground-moving activities will occur next to these waterways. As such, any impacts will be ***less than significant***.

Mitigation Measures: None required.

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

Less Than Significant Impact with Mitigation. The proposed Project has the potential to impede the use of nursery sites for native birds protected under the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code (CFGC). Migratory birds are expected to nest on and near the Project site. Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings or otherwise lead to nest abandonment. Disturbance that causes nest abandonment or loss of reproductive effort can be considered take under the MBTA and CFGC. Loss of fertile eggs or nesting birds, or any activities resulting in nest abandonment, could constitute a significant impact if the species is particularly rare in the region. Construction activities such as excavating, trenching, and grading that disturb a nesting bird on the Project site or immediately adjacent to the construction zone could also constitute a significant impact. As such, implementation of Mitigation Measure BIO-7 will reduce potential impacts to ***less than significant*** levels.

Mitigation Measure:

BIO-7

To the extent practicable, construction shall be scheduled to avoid the nesting season, which extends from February through August. If it is not possible to schedule construction between September and January, a pre-construction clearance survey for nesting birds shall be conducted by a qualified biologist to ensure that no active nests will be disturbed during the implementation of the Project. A pre-construction clearance survey shall be conducted by a qualified biologist no more than 10 days prior to the start of construction activities. This survey shall establish behavioral baseline of all identified nests. Once construction begins, a qualified biologist will continuously monitor nests to detect behavioral changes resulting from the Project. If behavioral changes occur, all work causing that change shall stop and CDFW shall be consulted for additional avoidance and minimization measures. If continuous monitoring of identified nests is not feasible, a minimum no-disturbance buffer of 250 feet around active nests of non-listed bird species and a 500-foot no-disturbance buffer around active nests of non-listed raptors shall be established. These buffers shall remain in place until the breeding season has ended or until a qualified biologist has determined that the birds have fledged and are no longer reliant upon the nest or on-site parental care for survival. Variance from these no-disturbance buffers is possible when there is compelling biological or ecological reason to do so. CDFW shall be notified in advance of implementing a variance.

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

No Impact. The County of Tulare's General Plan includes policies for the protection of biological resources. The proposed Project would not conflict with any of the adopted policies. There is ***no impact.***

Mitigation Measures: None are required.

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

No Impact. The proposed Project site is not within an area set aside for the conservation of habitat or sensitive plant or animal species pursuant to a Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. As such, there is ***no impact***.

Mitigation Measures: None are required.

V. CULTURAL RESOURCES

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a. Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☒	☐	☐
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☒	☐	☐
c. Disturb any human remains, including those interred outside of formal cemeteries?	☐	☒	☐	☐

ENVIRONMENTAL SETTING

The Project area consists of an existing recharge basin and the adjacent District-owned cattle pasture. The improvements should expand the water retention area to 36 acres and provide a maximum capacity of 108 acre-feet, a substantial increase from the current capacity of 60 acre-feet. The re-contouring of the existing basin will require surface excavation and ground disturbance.

A record search of site files and maps was conducted at the Southern San Joaquin Valley Archaeological Information Center (IC), California State University, Bakersfield (see Appendix D). A Sacred Lands File Request was also submitted to the Native American Heritage Commission (NAHC). These investigations determined that there have been three previous cultural resource studies in one portion of the east side of the project area. There have been eight studies conducted within the one-half mile radius. All studies from within thew project area are greater than five years in age and should be considered out of date for current projects.

There is one recorded resource within the project area: P-54-004886. There are two recorded resources within the one-half mile radius: P-54-004885, 005296. These resources consist of historic era ditches, canals, and properties. There are three informally recorded resources from within the one-half mile radius: Bridge #46- 19, House Pit/ Beads, Village Site. These resources consist of a historic era bridge, and prehistoric era sites. There are no recorded cultural resources within the project area or radius that are listed in the National Register of Historic Places, the California Register of Historical Resources, the

California Points of Historical Interest, California Inventory of Historic Resources, or the California State Historic Landmarks.

RESPONSES

a. Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?

b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

c. Disturb any human remains, including those interred outside of formal cemeteries?

Less Than Significant Impact With Mitigation. The Project area is disturbed, consisting of an active recharge basin. There are no known or visible cultural or archaeological resources, paleontological resources, or human remains that exist on the surface of the Project area.

Although no cultural or archaeological resources, paleontological resources or human remains have been identified in the project area, the possibility exists that such resources or remains may be discovered during Project site preparation, excavation and/or grading activities. Mitigation Measures CUL – 1 and CUL – 2 will be implemented to ensure that Project will result in ***less than significant impacts with mitigation***.

Mitigation Measures:

CUL – 1 Should evidence of prehistoric archeological resources be discovered during construction, the contractor shall halt all work within 25 feet of the find and the resource shall be evaluated by a qualified archaeologist. If evidence of any archaeological, cultural, and/or historical deposits is found, hand excavation and/or mechanical excavation shall proceed to evaluate the deposits for determination of significance as defined by the CEQA guidelines. The archaeologist shall submit reports, to the satisfaction of the District, describing the testing program and subsequent results. These reports shall identify any program mitigation that the project proponent shall complete in order to mitigate archaeological impacts (including resource recovery and/or avoidance testing and analysis, removal, reburial, and curation of archaeological resources).

CUL – 2 In order to ensure that the proposed project does not impact buried human remains during project construction, the District shall be responsible for on-going monitoring of project construction. If buried human remains are encountered during construction,

further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains shall be halted until the Tulare County coroner is contacted and the coroner has made the determinations and notifications required pursuant to Health and Safety Code Section 7050.5. If the coroner determines that Health and Safety Code Section 7050.5(c) require that he give notice to the Native American Heritage Commission, then such notice shall be given within 24 hours, as required by Health and Safety Code Section 7050.5(c). In that event, the NAHC will conduct the notifications required by Public Resources Code Section 5097.98. Until the consultations described below have been completed, the landowner shall further ensure that the immediate vicinity, according to generally accepted cultural or archaeological standards or practices where Native American human remains are located, is not disturbed by further development activity until the landowner has discussed and conferred with the Most Likely Descendants on all reasonable options regarding the descendants' preferences and treatments, as prescribed by Public Resources Code Section 5097.98(b). The NAHC will mediate any disputes regarding treatment of remains in accordance with Public Resources Code Section 5097.94(k). The landowner shall be entitled to exercise rights established by Public Resources Code Section 5097.98(e) if any of the circumstances established by that provision become applicable.

VI. ENERGY

Would the project:

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

ENVIRONMENTAL SETTING

California's total energy consumption is second-highest in the nation, but, in 2019, the state's per capita energy consumption ranked 48th, due in part to its mild climate and its energy efficiency programs. In 2021, California ranked fourth in the nation in conventional hydroelectric generation and first as a producer of electricity from solar, geothermal, and biomass resources.[7]

Energy usage is typically quantified using the British thermal unit (BTU). As a point of reference, the approximately amounts of energy contained in common energy sources are as follows:

Energy Source	BTUs[8]
Gasoline	120,429 per gallon
Natural Gas	1,037 per cubic foot
Electricity	3,412 per kilowatt-hour

California electrical consumption in 2019 was 7,789.6 trillion BTU[9], as provided in Table 4, while total electrical consumption by Tulare County in 2020 was 15.842 trillion BTU.[10]

[7] U.S. Energy Information Administration. Independent Statistics and Analysis. California Profile Overview. https://www.eia.gov/state/?sid=CA#tabs-1. Accessed March 2022.
[8] U.S. Energy Information Administration. Energy Units and Calculators Explained. https://www.eia.gov/energyexplained/index.php?page=about_energy_units. Accessed March 2022.
[9] U.S. Energy Information Administration. Independent Statistics and Analysis. California Profile Overview. https://www.eia.gov/state/?sid=CA#tabs-1. Accessed March 2022.
[10] California Energy Commission. Electricity Consumption by County. http://ecdms.energy.ca.gov/elecbycounty.aspx. Accessed March 2022.

Table 4 – 2016 California Energy Consumption[11]

End User	BTU of energy consumed (in trillions)	Percentage of total consumption
Residential	1,455.7	18.7
Commercial	1,468.1	18.8
Industrial	1,806.2	23.2
Transportation	3,059.6	39.3
Total	**7,789.6**	--

The California Department of Transportation (Caltrans) reports that approximately 35.8 million vehicles were registered in the state in 2020, resulting in a total estimated 332.0 billion vehicles miles traveled (VMT).[12]

Applicable Regulations

California Energy Code (Title 24, Part 6, Building Energy Efficiency Standards)

California Code of Regulations Title 24, Part 6 comprises the California Energy Code, which was adopted to ensure that building construction, system design and installation achieve energy efficiency. The California Energy Code was first established in 1978 by the CEC in response to a legislative mandate to reduce California's energy consumption, and apply to energy consumed for heating, cooling, ventilation, water heating, and lighting in new residential and non-residential buildings. The standards are updated periodically to increase the baseline energy efficiency requirements. The 2013 Building Energy Efficiency Standards focus on several key areas to improve the energy efficiency of newly constructed buildings and additions and alterations to existing buildings and include requirements to enable both demand reductions during critical peak periods and future solar electric and thermal system installations. Although it was not originally intended to reduce greenhouse gas (GHG) emissions, electricity production by fossil fuels results in GHG emissions and energy efficient buildings require less electricity. Therefore, increased energy efficiency results in decreased GHG emissions.

California Green Building Standards Code (Title 24, Part II, CALGreen)

The California Building Standards Commission adopted the California Green Buildings Standards Code (CALGreen in Part 11 of the Title 24 Building Standards Code) for all new construction statewide on July 17, 2008. Originally a volunteer measure, the code became mandatory in 2010 and the most

[11] U.S. Energy Information Administration. Independent Statistics and Analysis. California Profile Overview. https://www.eia.gov/state/?sid=CA#tabs-1. Accessed March 2022.
[12] Caltrans. June 2021. Caltrans Facts. https://dot.ca.gov/-/media/dot-media/programs/research-innovation-system-information/documents/caltrans-fact-booklets/2021-caltrans-facts-a11y.pdf. Accessed March 2022.

recent update (2019) will go into effect on January 1, 2020. CALGreen sets targets for energy efficiency, water consumption, dual plumbing systems for potable and recyclable water, diversion of construction waste from landfills, and use of environmentally sensitive materials in construction and design, including eco-friendly flooring, carpeting, paint, coatings, thermal insulation, and acoustical wall and ceiling panels. The 2019 CALGreen Code includes mandatory measures for non-residential development related to site development; water use; weather resistance and moisture management; construction waste reduction, disposal, and recycling; building maintenance and operation; pollutant control; indoor air quality; environmental comfort; and outdoor air quality. Mandatory measures for residential development pertain to green building; planning and design; energy efficiency; water efficiency and conservation; material conservation and resource efficiency; environmental quality; and installer and special inspector qualifications.

Clean Energy and Pollution Reduction Act (SB 350)

The Clean Energy and Pollution Reduction Act (SB 350) was passed by California Governor Brown on October 7, 2015, and establishes new clean energy, clean air, and greenhouse gas reduction goals for the year 2030 and beyond. SB 350 establishes a greenhouse gas reduction target of 40 percent below 1990 levels for the State of California, further enhancing the ability for the state to meet the goal of reducing greenhouse gas emissions by 80 percent below 1990 levels by the year 2050.

Renewable Portfolio Standard (SB 1078 and SB 107)

Established in 2002 under SB 1078, the state's Renewables Portfolio Standard (RPS) was amended under SB 107 to require accelerated energy reduction goals by requiring that by the year 2010, 20 percent of electricity sales in the state be served by renewable energy resources. In years following its adoption, Executive Order S-14-08 was signed, requiring electricity retail sellers to provide 33 percent of their service loads with renewable energy by the year 2020. In 2011, SB X1-2 was signed, aligning the RPS target with the 33 percent requirement by the year 2020. This new RPS applied to all state electricity retailers, including publicly owned utilities, investor-owned utilities, electrical service providers, and community choice aggregators. All entities included under the RPS were required to adopt the RPS 20 percent by year 2020 reduction goal by the end of 2013, adopt a reduction goal of 25 percent by the end of 2016, and meet the 33 percent reduction goal by the end of 2020. In addition, the Air Resources Board, under Executive Order S-21-09, was required to adopt regulations consistent with these 33 percent renewable energy targets.

RESPONSES

a. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Less Than Significant Impact. The proposed Project includes modification and expansion of an existing recharge basin to approximately 36 acres, providing a maximum capacity of 108 acre-feet. The Project at build-out may consume moderate amounts of energy in the short-term during Project construction; however, the basin and associated improvements are passive and will not require substantial amounts of energy during Project operation.

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

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

Mitigation Measures: None are required.

VII. GEOLOGY AND SOILS

Would the project:

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

	creating substantial direct or indirect risks to life or property?			
e.	Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒
f.	Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☒	☐

ENVIRONMENTAL SETTING

The Project site is situated along the eastern edge of the Great Valley of California, which is a flat basin extending northwest to southeast, approximately 450 miles long and 50 miles wide. The Farmersville area is geologically comprised of low alluvial fans of the Kaweah River system, which includes several smaller distributary creeks that stretch across the floor of the valley.

There are no known active earthquake faults in the Project vicinity or the immediate surrounding areas. According to the Farmersville General Plan, the nearest active faults to affect the community are the Owens Valley Fault, approximately 65 miles to the east, and the San Andreas Fault, approximately 70 miles to the southwest.

RESPONSES

a-i. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

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

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

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

Less Than Significant Impact. The proposed project site is not located in an earthquake fault zone as delineated by the 1972 Alquist-Priolo Earthquake Fault Zoning Map Act. The nearest known potentially active fault is the Owens Valley Fault, located over approximately 65 miles east of the site. No active faults have been mapped within the project boundaries, so there is no potential for fault rupture. It is anticipated that the proposed Project site would be subject to some ground acceleration and ground shaking associated with seismic activity during its design life. The Project site would be engineered and constructed in strict accordance with the earthquake resistant design requirements contained in the latest edition of the California Building Code (CBC) for seismic zone III, as well as Title 24 of the California Administrative Code, and therefore would avoid potential seismically induced hazards on planned structures. The impact of seismic hazards on the project would be ***less than significant.***

Mitigation Measures: None are required.

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

Less than Significant Impact. The proposed Project will modify and expand an existing recharge basin. The Project site has a generally flat topography and is in an established agricultural zone outside of a nearby urban area. Project features would not result in loss of topsoil, as the soil excavated during the recontouring process will make up the slopes on the outer edges of the basin. No soil will be removed. The basin will be designed and sloped to minimize any resulting soil erosion. Therefore, the impact is ***less than significant***.

Mitigation Measures: None are required.

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

Less than Significant Impact. As described in Responses (a.iii) and (a.iv) above, the proposed Project would require a grade change on the edges of the basin; however, specific design parameters will prevent any landslides, lateral spreading, subsidence, liquification or collapse of the recharge basin or the surrounding areas. Any impacts would be ***less than significant.***

Mitigation Measures: None are required.

d. Be located on expansive soil, as defined in Table 18-1-B of the most recently adopted Uniform Building Code creating substantial risks to life or property?

Less than Significant Impact. See Responses (c) and (a-ii). The impact is ***less than significant***.

Mitigation Measures: None are required.

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

No Impact. The proposed Project does not include the installation of a septic system. Therefore, there would be ***no impact.***

Mitigation Measures: None are required.

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

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

Mitigation Measures: None are required.

VIII. GREENHOUSE GAS EMISSIONS

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

ENVIRONMENTAL SETTING

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

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

RESPONSES

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

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

Less Than Significant Impact. The U.S. Environmental Protection Agency published a rule for the mandatory reporting of greenhouse gases from sources that in general emit 25,000 metric tons or more of carbon dioxide (CO2) per year. As shown in the modeling results (Appendix B), Project construction will produce the following CO2:

2022 Basin Expansion	656.47 MT/yr
2023 Basin Expansion	1,494.98 MT/yr
2024 Basin Expansion	1,478.05 MT/yr
2025 Basin Expansion	996.10 MT/yr
2026 Basin Expansion	7.64 MT/yr
Total Project CO2 Construction Emissions	4,633.24 MT/yr

This represents approximately 18.5 percent of the reporting threshold. As such, any impacts resulting from conflicting a GHG plan, policy, or regulation, or significantly impacting the environment as a result of project development is considered ***less than significant.***

Mitigation Measures: None are required.

IX. HAZARDS AND HAZARDOUS MATERIALS

Would the project:

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

IX. HAZARDS AND HAZARDOUS MATERIALS **Would the project:**	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
response plan or emergency evacuation plan?				
g. Expose people or structures either directly or indirectly to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☐	☒

ENVIRONMENTAL SETTING

The area immediately surrounding the proposed Project consists of agricultural and some rural-residential uses. The site currently consists of existing recharge basins and open ground.

RESPONSES

a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Less than Significant Impact. This impact is associated with hazards caused by the routine transport, use, or disposal of hazardous materials or through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. Proposed Project construction activities may involve the use and transport of hazardous materials. These materials may include fuels, oils, mechanical fluids, and other chemicals used during construction. Transportation, storage, use, and disposal of hazardous materials during construction activities would be required to comply with applicable federal, state, and local statutes and regulations. Compliance would ensure that human health and the environment are not exposed to hazardous materials. In addition, the Project would be required to comply with the National Pollutant Discharge Elimination System (NPDES) permit program through the submission and implementation of a Stormwater Pollution Prevention Plan during construction activities to prevent contaminated runoff from leaving the project site. Therefore, no significant impacts would occur during construction activities.

The operational phase of the proposed Project would occur after construction is completed. The proposed Project includes land uses that are considered compatible with the surrounding uses. None of these land uses routinely transport, use, or dispose of hazardous materials, or present a reasonably foreseeable release of hazardous materials, with the potential exception of common commercial grade hazardous materials such as household and commercial cleaners, paint, etc. The proposed Project would not create a significant hazard through the routine transport, use, or disposal of hazardous materials, nor would a significant hazard to the public or to the environment through the reasonably foreseeable upset and accidental conditions involving the likely release of hazardous materials into the environment occur. Therefore, the proposed Project will not create a significant hazard to the public or the environment and any impacts would be ***less than significant***.

Mitigation Measures: None are required.

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

No Impact. No schools are located within 0.25 mile of the Project site. This condition precludes the possibility of activities associated with the proposed Project exposing schools within a 0.25-mile radius of the project site to hazardous materials. ***No impact*** would occur.

Mitigation Measures: None are required.

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

No Impact. The proposed Project site is not located on a list of hazardous materials sites complied pursuant to Government Code Section 65962.5 (Geotracker and DTSC Envirostor databases – accessed in March 2022).[13] There are no hazardous materials sites that impact the Project. As such, ***no impacts*** would occur that would create a significant hazard to the public or the environment.

Mitigation Measures: None are required.

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[13] California Department of Toxic Substances Control. Envirostor Database. http://www.envirostor.dtsc.ca.gov/public/map/?myaddress=farmersville+ca. Accessed March 2022.

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?

Less than Significant Impact. There are no private airstrips in the Project vicinity. The Exeter Airport is located 5.7 miles southeast of the site. The proposed site is located outside the Airport Land Use Plan's Safety Zones associated with the Exeter Airport.[14] The proposed land use would not substantially contribute to the severity of an aircraft accident nor result in a substantial safety hazard for people residing or working in the Project area. Thus, any impacts are ***less than significant***.

Mitigation Measures: None are required.

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

No Impact. The Project will not interfere with any adopted emergency response or evacuation plan. There is ***no impact.***

Mitigation Measures: None are required.

g. Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

No Impact. There are no wildlands on or near the Project site. There is ***no impact***.

Mitigation Measures: None are required.

[14] Tulare County Comprehensive Airport Land Use Plan. December 2012. https://tularecounty.ca.gov/rma/rma-documents/planning-documents/tulare-county-comprehensive-airport-land-use-plan/. Accessed March 2022.

X. HYDROLOGY AND WATER QUALITY

Would the project:

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

X. HYDROLOGY AND WATER QUALITY

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☒	☐
e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☒	☐

ENVIRONMENTAL SETTING

The Project is located within the Greater Kaweah Groundwater Sustainability Agency (GKGSA) service area, which lies within the Kaweah Subbasin of the San Joaquin Valley Basin. The Paregien Basin Recharge Expansion Project is located near the center of the Kaweah Subbasin, to the east of the City of Visalia and the Mid-Kaweah GSA.

In general, groundwater flows across the GKGSA in a southwesterly direction and to local cones of depression during the irrigation season. A single aquifer is present in the eastern half of the Subbasin but is split into two aquifers by the Corcoran Clay in the western half. Groundwater quality data are available for public water supply wells across the GKGSA area and from a limited sampling of domestic wells. Several legacy constituents of concern were identified due to concentrations near maximum contaminant levels (MCLs) or due to increasing trends in concentration, most notably arsenic, nitrate, certain volatile organics, and 1,2,3-trichloropropane (1,2,3 TCP).

Land subsidence has occurred throughout much of the GKGSA area, and the Kaweah Subbasin in general but data are limited in scale and frequency. The largest amounts of subsidence occurred along the western and southwestern portions of the GKGSA area. Greater amounts of subsidence are believed to have occurred beyond the Kaweah Subbasin to the west and south. Subsidence will occur when groundwater extraction decreases the water pressure in the aquifers (sand and gravel layers) and causes groundwater to flow out of the aquitards (clay layers). The lower water pressure in the clay layers allows the clay layers to compress which results in land subsidence. Sudden and variable land subsidence can damage infrastructure, including roads, bridges, canals, pipelines, and buildings. As

much as 10 feet of subsidence has occurred in the northwestern GKGSA area since 1950 and as much as 20 feet in the southwestern GKGSA area.

A water budget was developed for a 21-year period (1997-2017) and provides estimates of the physical net movement of water in and out of the GKGSA area on an annual basis, based on a 3-dimensional groundwater water model that was calibrated for the subbasin. During that period, average groundwater storage was estimated to be a net loss of 34.6 thousand acre-feet (TAF) per year due to a combination of natural percolation, water management activities within the GKGSA, and influences from neighboring GSAs both in the Kaweah Subbasin and in neighboring subbasins. The range of storage change was -337 to 512 TAF per year during water year conditions that varied from the most-dry to most-wet with a median index that could be classified as moderately dry.

RESPONSES

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

Less Than Significant Impact. The Project has the potential to impact water quality standards and/or waste discharge requirements during construction (temporary impacts) and operation. Impacts are discussed below.

Construction

Although the proposed Project site is relatively small in scale, grading, excavation and loading activities associated with construction activities could temporarily increase runoff, erosion, and sedimentation. Construction activities also could result in soil compaction and wind erosion effects that could adversely affect soils and reduce the revegetation potential at construction sites and staging areas.

Three general sources of potential short-term construction-related stormwater pollution associated with the proposed project are: 1) the handling, storage, and disposal of construction materials containing pollutants; 2) the maintenance and operation of construction equipment; and 3) earth moving activities which, when not controlled, may generate soil erosion and transportation, via storm runoff or mechanical equipment. Generally, routine safety precautions for handling and storing construction materials may effectively mitigate the potential pollution of stormwater by these materials. These same types of common sense, "good housekeeping" procedures can be extended to non-hazardous stormwater pollutants such as sawdust and other solid wastes.

Poorly maintained vehicles and heavy equipment leaking fuel, oil, antifreeze, or other fluids on the construction site are also common sources of stormwater pollution and soil contamination. In addition,

grading activities can greatly increase erosion processes. Two general strategies are recommended to prevent construction silt from entering local water conveyance systems. First, erosion control procedures should be implemented for those areas that must be exposed. Secondly, the area should be secured to control offsite migration of pollutants. These Best Management Practices (BMPs) would be required in the Stormwater Pollution Prevention Plan (SWPPP) to be prepared prior to commencement of Project construction. When properly designed and implemented, these "good-housekeeping" practices are expected to reduce short-term construction-related impacts to less than significant.

In accordance with the National Pollution Discharge Elimination System (NPDES) Stormwater Program, the Project will be required to comply with existing regulatory requirements to prepare a SWPPP designed to control erosion and the loss of topsoil to the extent practicable using BMPs that the Regional Water Quality Control Board (RWQCB) has deemed effective in controlling erosion, sedimentation, runoff during construction activities. The specific controls are subject to the review and approval by the RWQCB and are an existing regulatory requirement.

Operation

KDWCD would divert surface water from the Kaweah River as well as from the Friant-Kern Canal via an existing CVP contract to the expanded groundwater recharge basin. These water sources are considered to have good water quality and as such, they would not decrease the quality of surface or groundwater but rather enhance it. Therefore, any impacts are ***less than significant.***

Mitigation Measures: None are required.

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

Less than Significant Impact. Once operating, the proposed Project would enhance a recharge basin, providing an additional approximately 1,440 AF/YR of groundwater recharge to the aquifer. The additional recharge of good quality water would supplement the local primary aquifer, slowing the decline of groundwater levels and increasing the underlying groundwater levels and storage. The recharged surface water would add volume to the sustainable yield that otherwise would have been less efficiently recharged or would have exited the system. Capturing and recharging these surface water supplies to groundwater storage would improve water supply reliability and planning for future droughts or other water shortages. Any impacts would be ***less than significant***.

Mitigation Measures: None are required.

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

i. result in substantial erosion or siltation on- or offsite;

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

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

iv. impede or redirect flood flows?

The proposed Project will be required to comply with existing regulatory requirements to prepare a SWPPP during construction, which will limit on or offsite erosion or siltation. Expanding the Paregien Basin is anticipated to provide approximately 50 AF of additional capacity which can aid in flood protection for the City of Farmersville during periods of high flows. KDWCD utilizes the current depression in natural topography to route floodwaters from Deep Creek. The expanded basin will provide increased capacity for diverting water to mitigate flooding risks downstream.

The Project would not otherwise degrade water quality. The Project will have a ***less than significant impact.***

Mitigation Measures: None required.

d. In flood hazard, tsunami or seiche zones, risk release of pollutants due to project inundation?

e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Less than Significant Impact.

As stated above, the District would prepare a SWPPP. The selected general contractor would be required to submit a Notice of Intent to comply with the General Permit order to discharge storm water associated with construction activity (WQ Order No. 2009-0009 DWQ) with the State Water Resources Control Board. Other than the proposed recontouring and modification of the existing recharge basin, no additional land alterations would be undertaken which would result in a change in either the rate of

or volume of runoff. The purpose is to increase the basin's capacity and create an area where flows not normally contributory to the area, or generated from rainfall on-site, are detained for recharge purposes. This would be accomplished with no modification of site drainage patterns or change to drainage pathways or volumes. The rainfall amounts normally percolate into the soil mantle, which would continue to occur after project implementation. The balance of the flows to be directed to the basins would be primarily entitlement flows of the Kaweah River held by the District and directed to the site for recharge purposes. No site drainage pattern changes would result from the modification of the resulting basin.

Project implementation will not conflict with any water quality control plans or sustainable groundwater management plan. Therefore, any impacts are ***less than significant***.

Mitigation Measures: None are required.

XI. LAND USE AND PLANNING

Would the project:

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

ENVIRONMENTAL SETTING

The proposed Project site is northeast of the City of Farmersville in Tulare County. The proposed basin expansion area is located in an agricultural area outside the City. The Project site is currently comprised of an existing recharge basin, see Figure 2 – Aerial Map. The site is zoned AE-40 (Exclusive Agriculture, minimum parcel size 40-acres) by the County.

RESPONSES

a. Physically divide an established community?

No Impact. The construction and operation of the Project would not cause any land use changes in the surrounding vicinity nor would it divide an established community, as the recharge basin use has previously been approved and is considered an acceptable under the current zoning and land use designation. ***No impacts*** would occur as a result of this Project.

Mitigation Measures: None are required.

b. Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the General Plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

No Impact. The proposed Project includes the modification and expansion of an existing recharge basin. The immediate vicinity of the proposed Project site is comprised of agricultural and rural residential land uses. The area is highly disturbed with agricultural, rural residential uses with SR 198 immediately north of the site. The proposed Project has no characteristics that would physically divide the City of Farmersville or the surrounding community. Access to the existing surrounding establishments will remain.

The proposed recharge basin expansion would not conflict with current zoning in and around the Project site. Therefore, there is ***no impact.***

Mitigation Measures: None are required.

XII. MINERAL RESOURCES

Would the project:

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

ENVIRONMENTAL SETTING

There are no known mineral resources within the planning area. The closest significant mineral resources consist of sand and gravel deposits along the Kaweah River northeast of Farmersville, near the Sierra Nevada foothills.[15]

RESPONSES

a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

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

No Impact. There are no known mineral resources in the proposed Project area and the site is not included in a State classified mineral resource zone. Therefore, there is ***no impact***.

Mitigation Measures: None are required.

[15] City of Farmersville General Plan. Conservation, Open Space, Parks and Recreation Element. Page 4-5.

XIII. NOISE

Would the project:

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

ENVIRONMENTAL SETTING

The Project site is located outside the City of Farmersville in an agricultural area, see Figure 2 – Site Aerial.

RESPONSES

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

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

Less than Significant Impact.

Short-term (Construction) Noise Impacts

Proposed Project construction related activities will involve temporary noise sources. Typical construction related equipment include graders, trenchers, small tractors and excavators. During the proposed Project construction, noise from construction related activities will contribute to the noise environment in the immediate vicinity. Activities involved in construction will generate maximum noise levels, as indicated in Table 5, ranging from 79 to 91 dBA at a distance of 50 feet, without feasible noise control (e.g., mufflers) and ranging from 75 to 80 dBA at a distance of 50 feet, with feasible noise controls.

Table 5
Typical Construction Noise Levels

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

The distinction between short-term construction noise impacts and long-term operational noise impacts is a typical one in both CEQA documents and local noise ordinances, which generally recognize the reality that short-term noise from construction is inevitable and cannot be mitigated beyond a certain level. Thus, local agencies frequently tolerate short-term noise at levels that they would not accept for permanent noise sources. A more severe approach would be impractical and might preclude the kind of construction activities that are to be expected from time to time in urban environments. Most residents of urban areas recognize this reality and expect to hear construction activities on occasion.

Long-term (Operational) Noise Impacts

The primary source of on-going noise from the proposed Project will be minimal as both the recharge basin is passive in nature and will not create any on-site noise. As such, any impacts would be ***less than significant***.

Mitigation Measures: None are required.

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

No Impact. The Project is located within the Tulare County Comprehensive Airport Land Use Plan but is located outside any associated CNEL contours. Therefore, there is ***no impact***.

Mitigation Measures: None are required.

XIV. POPULATION AND HOUSING

Would the project:

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

ENVIRONMENTAL SETTING

The nearby City of Farmersville's 2000 population was 8,737. The Farmersville General Plan has found that the population tends to increase by approximately 3.4% per year. Projected population growth for the Farmersville and the surrounding community is as high as 20,155 persons by 2025, with 17,854 persons being a more conservative low-end projection.[16]

The proposed basin expansion project is located in an agricultural area northeast of the City of Farmersville limits.

RESPONSESs

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)?

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

[16] City of Farmersville General Plan. Land Use Element. Pages 2-2 – 2-4.

No Impact. There are no new homes associated with the proposed Project and there are no residential structures currently on-site. The proposed Project would be a public utilities operation that would temporarily provide construction jobs in the Farmersville area, which could be readily filled by the existing employment base, given the County's existing unemployment rates. The proposed Project will not affect any regional population, housing, or employment projections anticipated by County policy documents. There is ***no impact***.

Mitigation Measures: None are required.

XV. PUBLIC SERVICES

Would the project:

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

ENVIRONMENTAL SETTING

The proposed Project site is located in an area that is already served by public service systems. The City of Farmersville Volunteer Fire Department provides the city and the surrounding area with fire protection services. The Fire Department is approximately 2.1 miles southwest of the proposed Project basin expansion site. The Farmersville Police Department is located at the same facility as the Fire Department, which is 2.1 miles southwest of the proposed Project basin expansion site. The Farmersville Unified School District and Tulare County Office of Education serves the Project area and the City provides several types of parks and other public facilities.

RESPONSES

a. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the

construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

Fire protection?

Less than Significant Impact. The proposed Project site will continue to be served by the City of Farmersville Volunteer Fire Department, which is approximately 2.1 miles southwest of the proposed Project basin expansion site. No additional fire personnel or equipment is anticipated, as the site is already served by the Fire Station. The impact is ***less than significant***.

Police Protection?

Less than Significant Impact. The proposed Project will continue to be served by the City of Farmersville Police Department. No additional police personnel or equipment is anticipated. The impact is ***less than significant.***

Schools?

No Impact. The direct increase in demand for schools is normally associated with new residential projects that bring new families with school-aged children to a region. The proposed Project does not contain any residential uses. The proposed Project, therefore, would not result in an influx of new students in the Project area and is not expected to result in an increased demand upon District resources and would not require the construction of new facilities. There is ***no impact***.

Parks?

No Impact. The Project would not result in an increase in demand for parks and recreation facilities because it would not result in an increase in population. Accordingly, the proposed Project would have ***no impacts*** on parks.

Other public facilities?

No Impact. The proposed Project is within the land use and growth projections identified in the City's General Plan and other infrastructure studies. The Project, therefore, would not result in increased demand for, or impacts on, other public facilities such as library services. Accordingly, ***no impact*** would occur.

Mitigation Measures: None are required.

XVI. RECREATION

Would the project:

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

ENVIRONMENTAL SETTING

The City of Farmersville currently has five developed park sites and one undeveloped (City-owned) park site, totaling 19.5 acres. These parks contained many recreational elements open to the public including but not limited to grass fields, baseball diamonds, picnic tables, barbeques, and play equipment. In addition to the City's parks, the athletic fields on the campuses of Farmersville's school district provides recreational opportunities after school hours.

RESPONSES

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

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

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

Mitigation Measures: None are required.

XVII. TRANSPORTATION/ TRAFFIC

Would the project:

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

ENVIRONMENTAL SETTING

The proposed Project is located in Tulare County in the San Joaquin Valley, within close proximity of the northeasterly limits of the City of Farmersville. The proposed Project site is just south of State Route (SR) 198 on Assessor's Parcel Numbers 111-230-010, 111-230-015 and 111-190-027.

RESPONSES

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

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

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

d. Result in inadequate emergency access?

Less Than Significant Impact. The Kaweah Delta Water Conservation District intends to modify and expand an existing recharge basin. There would be no permanent staff to remain posted onsite. Once constructed, there would be no additional traffic generated as District staff already access the site for regular maintenance activities. There will be no change to the existing local roadways as a result of Project implementation and as such, emergency access will not be impacted, nor will the site plan increase hazards to the local roadways. Therefore, this impact is ***less than significant***.

Mitigation Measures: None are required.

XVIII. TRIBAL CULTURAL RESOURCES

Would the project:

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

RESPONSES

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

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

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

Less than Significant Impact. A Tribal Cultural Resource (TCR) is defined under Public Resources Code section 21074 as a site, feature, place, cultural landscape that is geographically defined in terms of size and scope, sacred place, and object with cultural value to a California Native American tribe that are either included and that is listed or eligible for inclusion in the California Register of Historic Resources or in a local register of historical resources, or if the District, acting as the Lead Agency, supported by substantial evidence, chooses at its discretion to treat the resource as a TCR. As discussed above, under Section V, Cultural Resources, criteria (b) and (d), no known archeological resources, ethnographic sites or Native American remains are located on the proposed Project site. As discussed under criterion (b) implementation of Mitigation Measure CUL-1 would reduce impacts to unknown archaeological deposits, including TCRs, to a less than significant level. As discussed under criterion (d), compliance with California Health and Safety Code Section 7050.5 would reduce the likelihood of disturbing or discovering human remains, including those of Native Americans.

An opportunity to request consultation has been provided to Native American tribes listed by the Native American Heritage Commission during the CEQA process as required by AB 52. No responses have been received to date. Any impacts to TCR would be considered ***less than significant***.

Mitigation Measures: No additional measures are required.

XIX. UTILITIES AND SERVICE SYSTEMS

Would the project:

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

ENVIRONMENTAL SETTING

Allied Disposal, a private contractor, provides solid waste pickup and recycling services for Farmersville and the surrounding community, including waste generators in the Project area. Solid

waste is hauled to the Tulare County landfill, near Woodville. Some waste may be re-directed to the Visalia Landfill, north of Visalia on Road 80. The Farmersville Wastewater Treatment Plant is located on 25 acres southwest of the City's urban development area.

RESPONSES

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

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

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

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

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

Less than Significant Impact. The proposed Project includes the modification and expansion of an existing recharge basin. The proposed Project would not require service for sewage disposal, water, or solid waste disposal. Rather, the area's water recharge capabilities will be greatly improved upon completion of the Project. Any impacts would be ***less than significant***.

Mitigation Measures: None are required.

XX. WILDFIRE

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

ENVIRONMENTAL SETTING

Human activities such as smoking, debris burning, and equipment operation are the major causes of wildland fires. Within Tulare County, over 1,029,130 acres (33% of the total area) are classified as "Very High" fire threat and approximately 454,680 acres (15% of the total area) are classified as "High" fire threat. The portion of the county that transitions from the valley floor into the foothills and mountains is characterized by high to very high threat of wildland fires.[17] The City of Farmersville and the surrounding areas are located further west and are not considered a part of this fire threat area. The

[17] Tulare County General Plan Background Report. February 2010. Page 8-21.

proposed Project basin expansion site is relatively flat in an area actively utilized with primarily agricultural uses.

RESPONSES

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

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

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

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

Less Than Significant Impact. The proposed Project is located in an area developed with agricultural uses, which precludes the risk of wildfire. The area is flat in nature which would limit the risk of downslope flooding and landslides, and limit any wildfire spread. As such, any wildfire risk to the project structures or people would be ***less than significant.***

Mitigation Measures: None are required.

XXI. MANDATORY FINDINGS OF SIGNIFICANCE

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a. Does the project have the potential to 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?	☐	☒	☐	☐
b. Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☐	☒	☐
c. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

RESPONSES

a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict

the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

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

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

Less than Significant Impact. CEQA Guidelines Section 15064(i) states that a Lead Agency shall consider whether the cumulative impact of a project is significant and whether the effects of the project are cumulatively considerable. The assessment of the significance of the cumulative effects of a project must, therefore, be conducted in connection with the effects of past projects, other current projects, and probable future projects. Due to the nature of the Project and consistency with environmental policies, incremental contributions to impacts are considered less than cumulatively considerable. The proposed Project would not contribute substantially to adverse cumulative conditions, or create any substantial indirect impacts (i.e., increase in population could lead to an increase need for housing, increase in traffic, air pollutants, etc.). The impact is ***less than significant***.

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

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

LIST OF PREPARERS

Crawford & Bowen Planning, Inc.

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

Colibri Ecological Consulting, LLC

- Jeff N. Davis, Principal Scientist

Persons and Agencies Consulted

Kaweah Delta Water Conservation District

- Larry Dotson, Senior Engineer

California Historical Resources Information System

- Jeremy E. David, Assistant Coordinator

Appendix A

Project Plans

KAWEAH DELTA WATER CONSERVATION DISTRICT

FARMERSVILLE CALIFORNIA

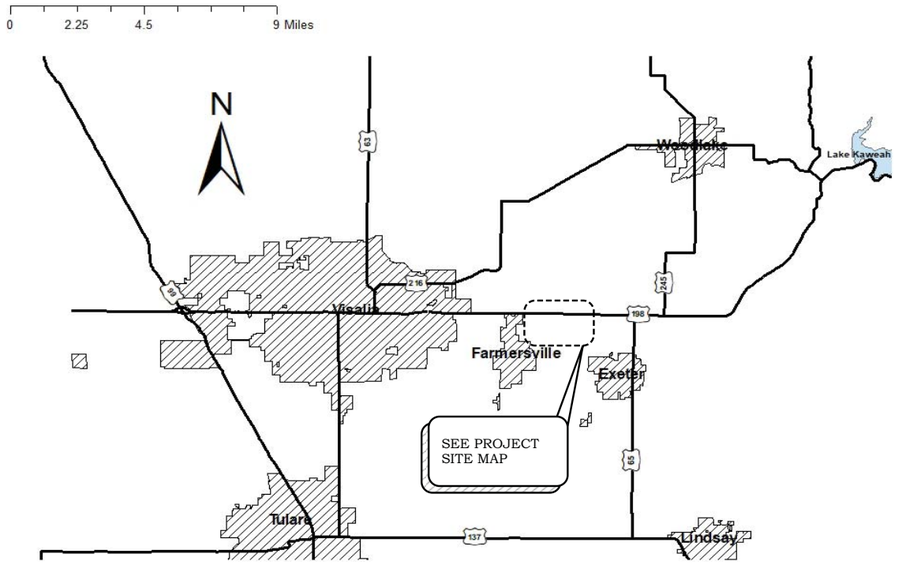
LOCATION MAP
PAREGIEN BASINS PHASE II

APRIL 2022

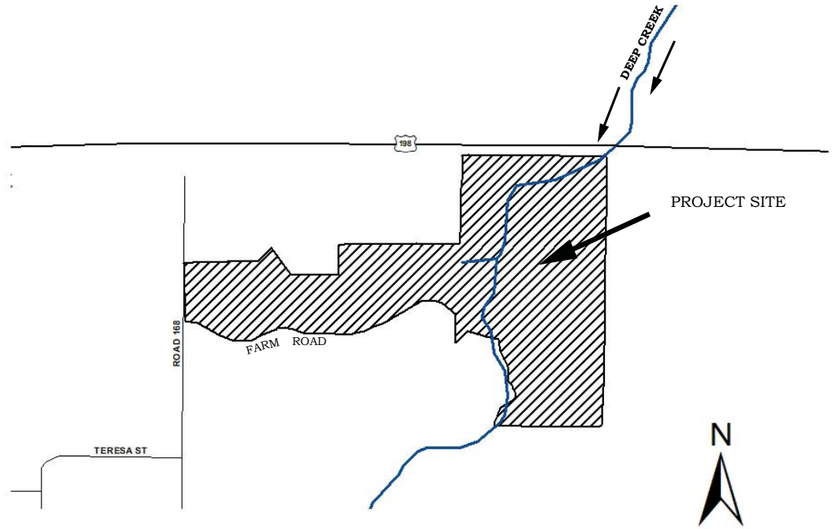
STATE OF CALIFORNIA

DRAWING LIST

TITLE	DRAWING NUMBER
LOCATION MAP	L1
BASINS PHASE II PROJECT SITE	A1
PAREGIEN PROJECT SITE BOUNDARY	A2
PAREGIEN CAMERON PROJECT SITE BOUDARY	A3
WEST BASIN HORIZONTAL CONTROL PLAN	B1
WEST BASIN GRADING PLAN 1	B2
WEST BASIN GRADING PLAN 2	B3
EAST BASIN HORIZONTAL CONTROL PLAN	C1
EAST BASIN GRADING PLAN 1	C2
EAST BASIN GRADING PLAN 2	C3
SOUTH BASIN HORIZONTAL CONTROL PLAN	D1
SOUTH BASIN GRADING PLAN 1	D2
SOUTH BASIN GRADING PLAN 2	D3
PAREGIEN CROSS SECTIONS	E1
PAREGIEN CAMERON PROJECT SITE BOUNDARY	F1
CAMERON BASIN HORIZONTAL CONTROL PLAN	G1
CAMERON BASIN GRADING PLAN 1	G2
CAMERON BASIN GRADING PLAN 2	G3
PAREGIEN CAMERON CROSS SECTIONS	H1



VICINITY MAP



PROJECT SITE MAP

KAWEAH DELTA Water Conservation DISTRICT

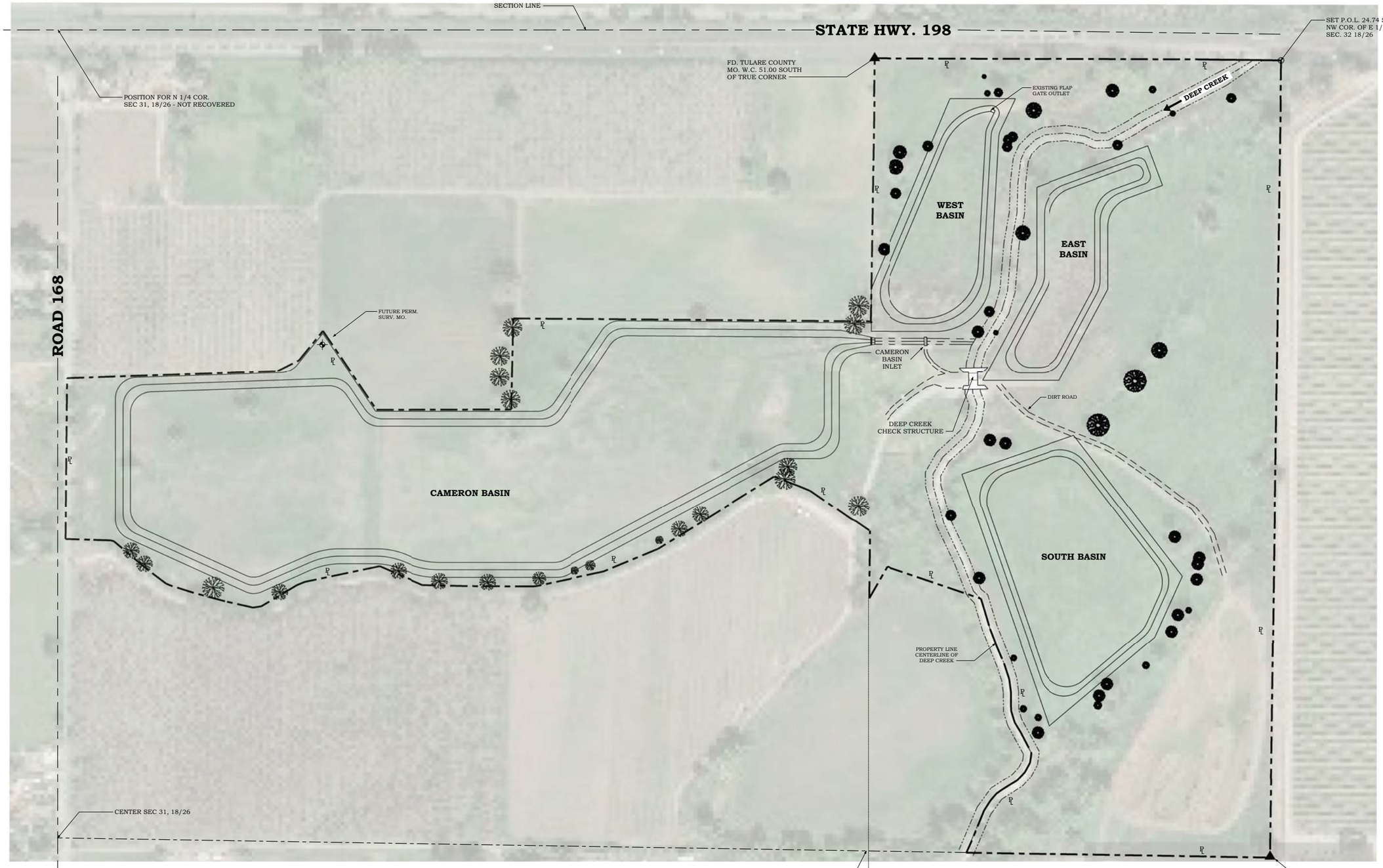
PAREGIEN BASINS PHASE II

LOCATION MAP

REVISIONS		
	MM/DD/YY	REMARKS
1	__/__/__	...
2	__/__/__	...
3	__/__/__	...
4	__/__/__	...
5	__/__/__	...

01

L



NOTES:

PROPERTY LINE PL

0 75' 187'-6" 375'

KAWEAH DELTA Water Conservation DISTRICT

PAREGIEN BASINS PROJECT PHASE II

PAREGIEN PROJECT SITE MAP

REVISIONS		
	MM/DD/YY	REMARKS
1	__/__/__	...
2	__/__/__	...
3	__/__/__	...
4	__/__/__	...
5	__/__/__	...

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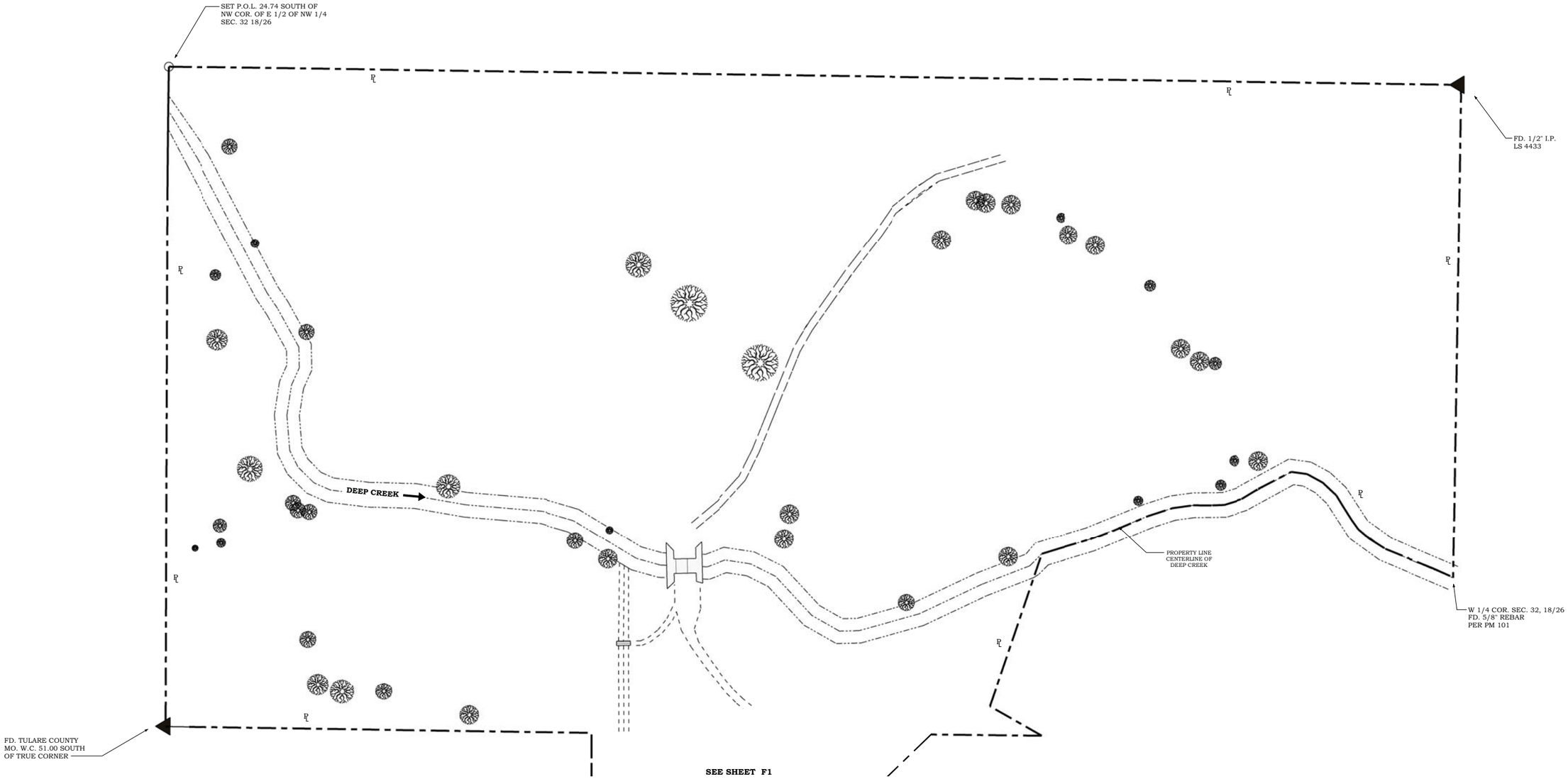
A



NOTES:

PROPERTY LINE ℄

N

Scale: 1" : 100'

0 25 50 125

KAWEAH DELTA Water Conservation DISTRICT

PAREGIEN BASINS PROJECT PHASE II

PAREGIEN PROJECT SITE BOUNDARY

REVISIONS

	MM/DD/YY	REMARKS
1	__/__/__	...
2	__/__/__	...
3	__/__/__	...
4	__/__/__	...
5	__/__/__	...

02

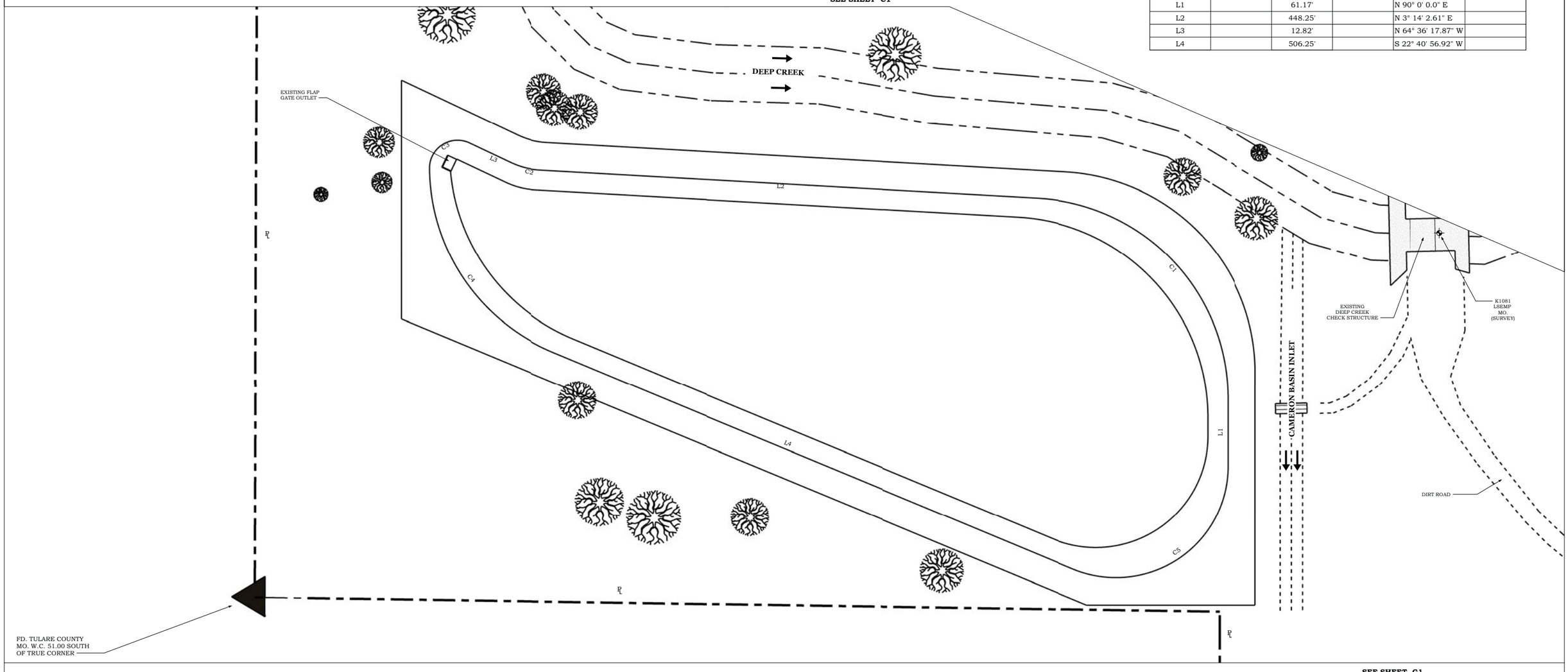
A

NOTES:

PROPERTY LINE ℄

LINE & CURVE TABLE					
NUMBERS	RADIUS	LENGTH	DELTA	LINE/CHORD DIRECTION	A VALUE
C1	180.00'	247.27'	86° 46' 12"	N 46° 37' 1.3" E	
C2	70.00'	26.90'	22° 9' 36"	N 14° 18' 52.37" E	
C3	25.00'	41.93'	114° 1' 48"	N 30° 54' 39.6" W	
C4	180.00'	198.53'	67° 7' 48"	S 56° 8' 59.67" W	
C5	100.00'	166.47'	112° 40' 48"	S 33° 39' 31.54" E	
L1		61.17'		N 90° 0' 0.0" E	
L2		448.25'		N 3° 14' 2.61" E	
L3		12.82'		N 64° 36' 17.87" W	
L4		506.25'		S 22° 40' 56.92" W	

SEE SHEET C1



SEE SHEET G1

N

Scale: 1" : 40'

0 10 20 50

KAWEAH DELTA Water Conservation DISTRICT

PAREGIEN BASINS PROJECT PHASE II

WEST BASIN HORIZONTAL CONTROL PLAN

REVISIONS		
	MM/DD/YY	REMARKS
1	__/__/__	---
2	__/__/__	---
3	__/__/__	---
4	__/__/__	---
5	__/__/__	---

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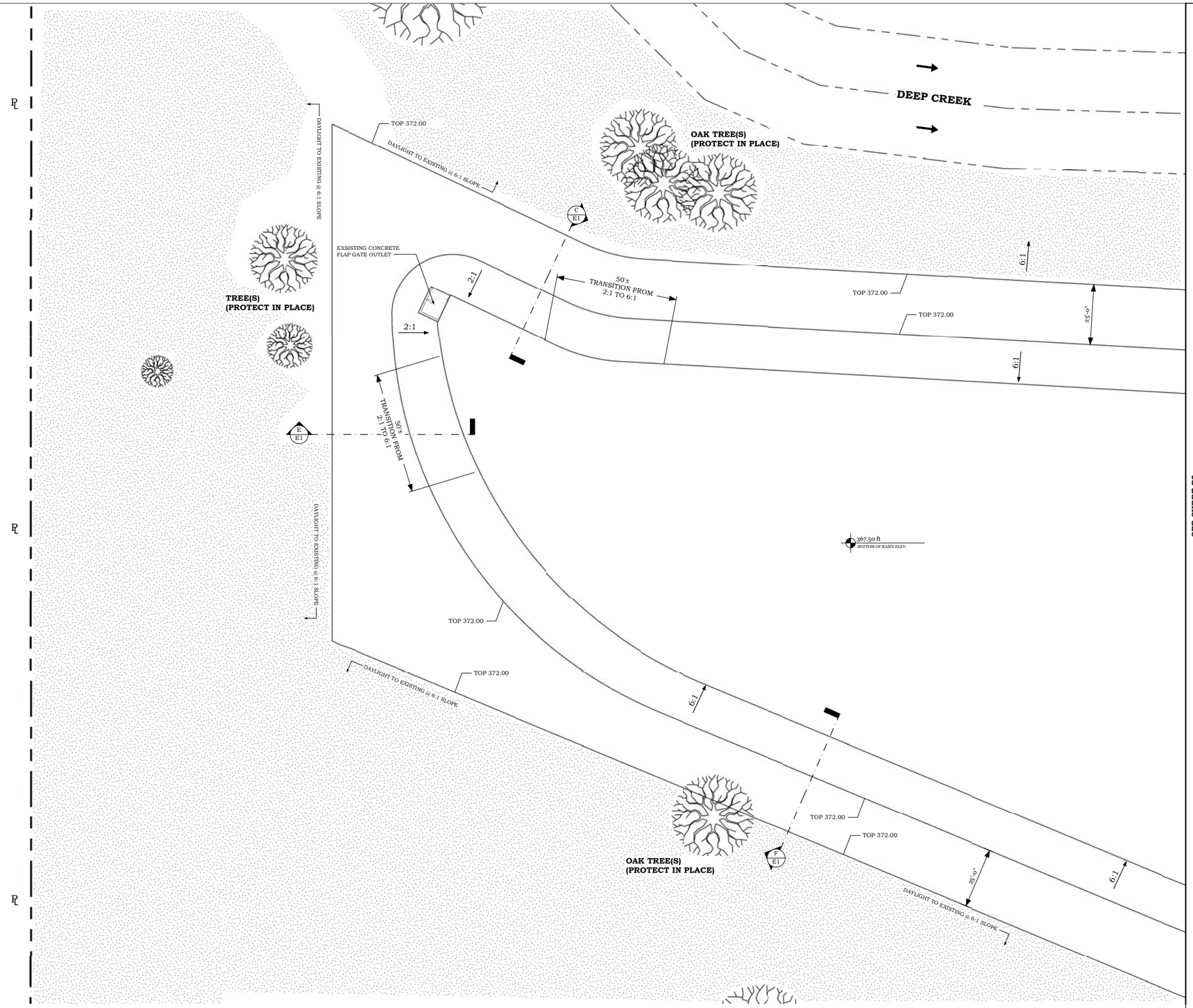
B



HATCH LEGEND

NATIVE HABITAT

PROPERTY LINE

NOTES:

TOE VARIES @ ELEVATION 367.50±

TOP OF BANK @ 372.00 MIN.

DAYLIGHT TO EXISTING ELEVATION WHEN POSSIBLE.

Scale: 1" : 20'

0 10 25 50

KAWEAH DELTA WATER CONSERVATION DISTRICT

PAREGIEN BASINS PROJECT PHASE II

WEST BASIN GRADING PLAN 1

REVISIONS		
	MM/DD/YY	REMARKS
1	__/__/__	...
2	__/__/__	...
3	__/__/__	...
4	__/__/__	...
5	__/__/__	...

02

B

HATCH LEGEND

NATIVE HABITAT

NOTES:

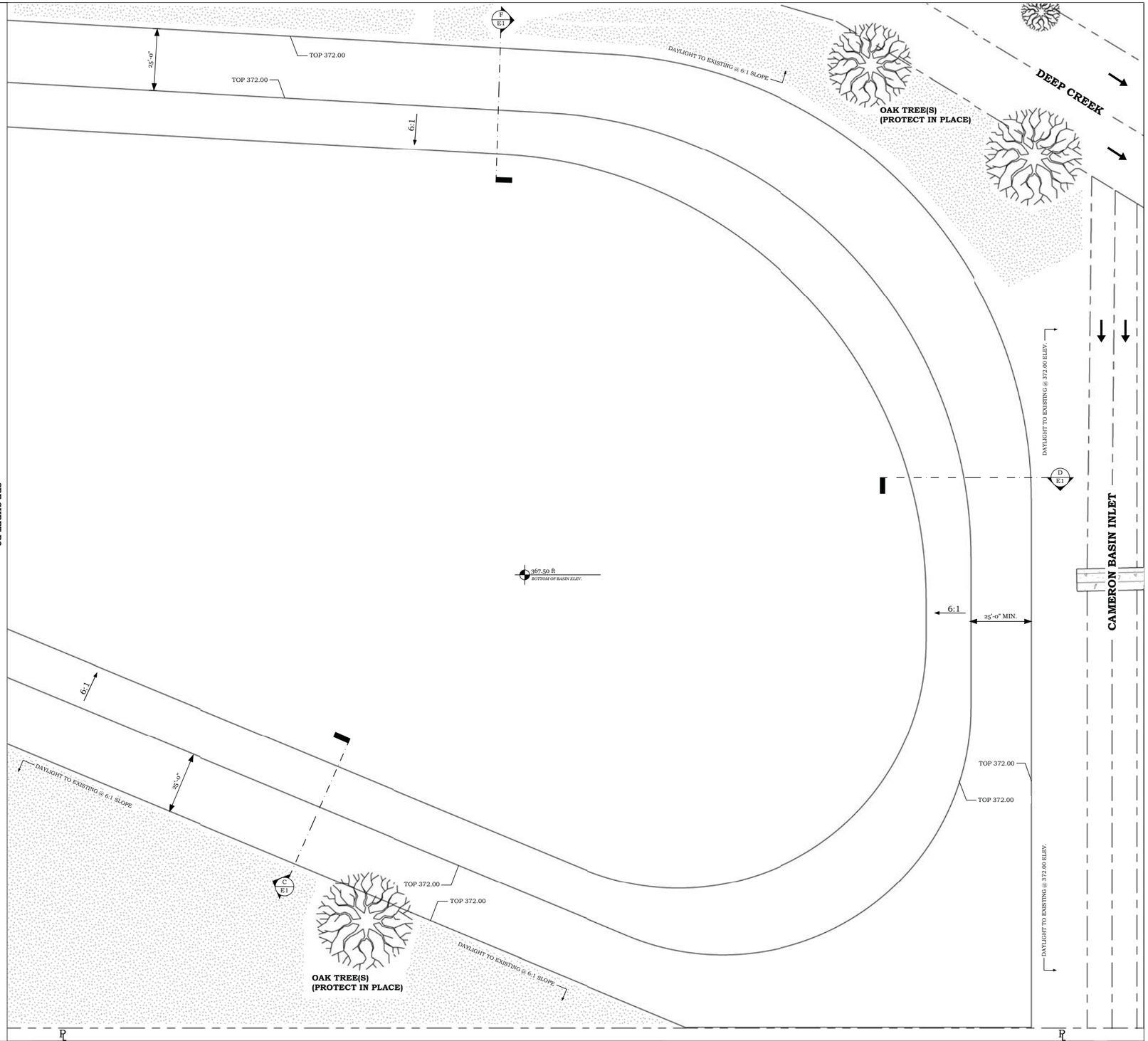
TOE VARIES @ ELEVATION 367.50±

TOP OF BANK @ 372.00 MIN.

DAYLIGHT TO EXISTING ELEVATION WHEN POSSIBLE.

PROPERTY LINE

SEE SHEET E2



N

Scale: 1" : 20'

0 10 25 50

KAWEAH DELTA Water Conservation DISTRICT

PAREGIEN BASINS PROJECT PHASE II

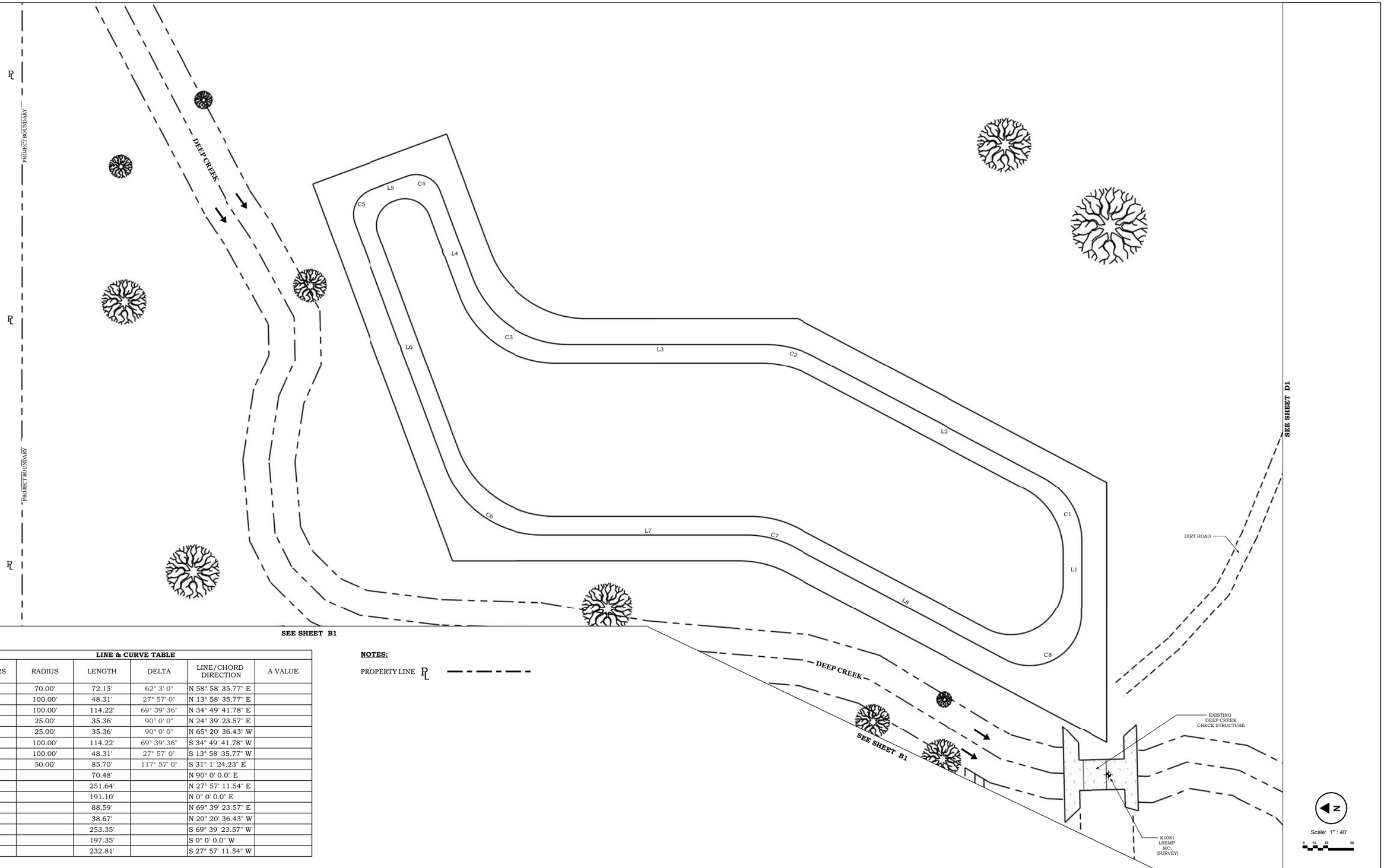
WEST BASIN GRADING PLAN 2

REVISIONS

	MM/DD/YY	REMARKS
1	__/__/__	...
2	__/__/__	...
3	__/__/__	...
4	__/__/__	...
5	__/__/__	...

03

B



SEE SHEET B1

LINE & CURVE TABLE					
NUMBERS	RADIUS	LENGTH	DELTA	LINE/CHORD DIRECTION	A VALUE
C1	70.00'	72.15'	62° 3' 0"	N 58° 58' 35.77" E	
C2	100.00'	48.31'	27° 57' 0"	N 13° 58' 35.77" E	
C3	100.00'	114.22'	69° 39' 36"	N 34° 49' 41.78" E	
C4	25.00'	35.36'	90° 0' 0"	N 24° 39' 23.57" E	
C5	25.00'	35.36'	90° 0' 0"	N 65° 20' 36.43" W	
C6	100.00'	114.22'	69° 39' 36"	S 34° 49' 41.78" W	
C7	100.00'	48.31'	27° 57' 0"	S 13° 58' 35.77" W	
C8	50.00'	85.70'	117° 57' 0"	S 31° 1' 24.23" E	
L1		70.48'		N 90° 0' 0.0" E	
L2		251.64'		N 27° 57' 11.54" E	
L3		191.10'		N 0° 0' 0.0" E	
L4		88.59'		N 69° 39' 23.57" E	
L5		38.67'		N 20° 20' 36.43" W	
L6		253.35'		S 69° 39' 23.57" W	
L7		197.35'		S 0° 0' 0.0" W	
L8		232.81'		S 27° 57' 11.54" W	

NOTES:

PROPERTY LINE ℄

KAWEAH DELTA Water Conservation DISTRICT

PAREGIEN BASINS PROJECT PHASE II

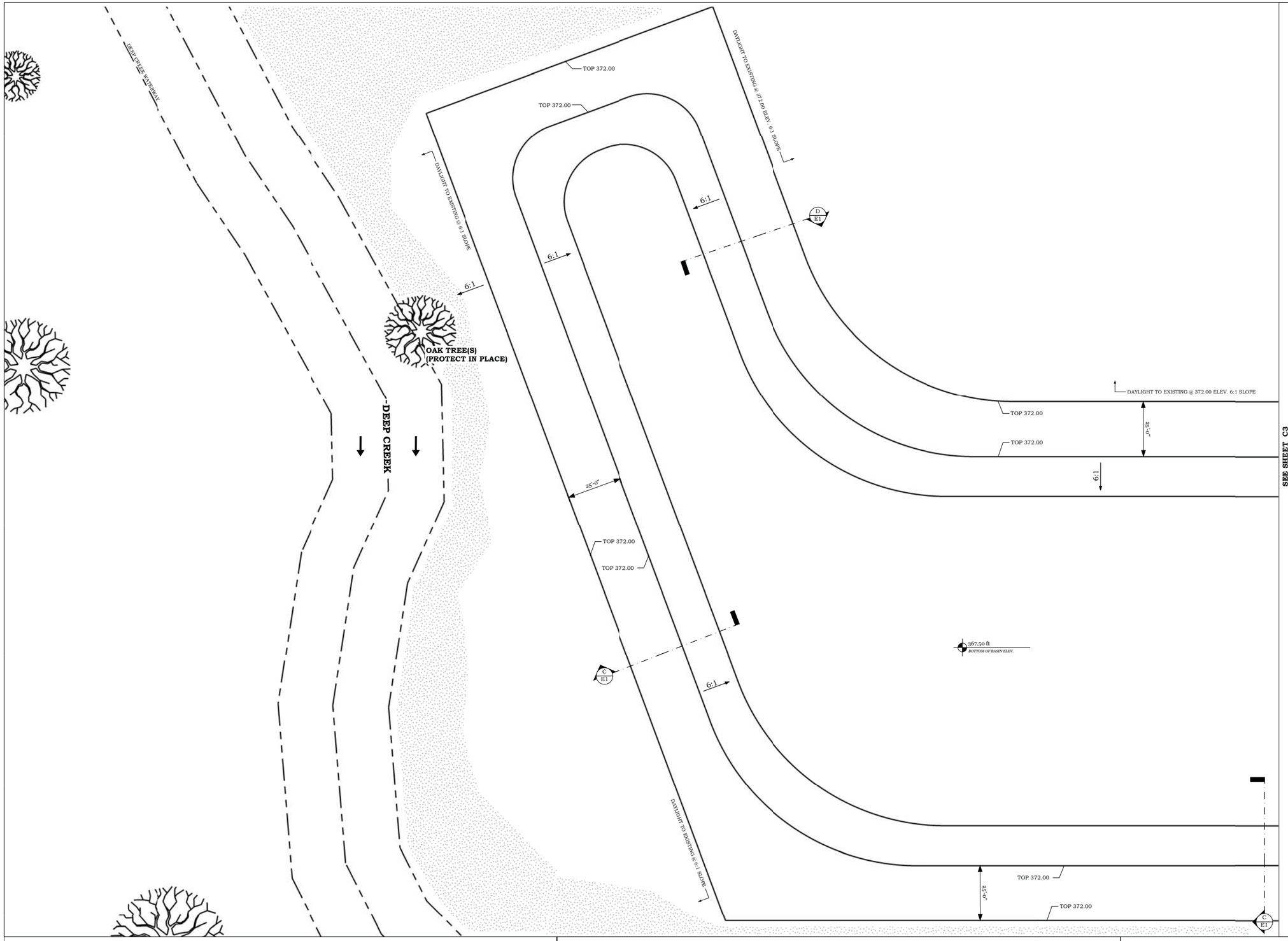
EAST BASIN HORIZONTAL CONTROL PLAN

REVISIONS

	MM/DD/YY	REMARKS
1	__/__/__	...
2	__/__/__	...
3	__/__/__	...
4	__/__/__	...
5	__/__/__	...

01

C



HATCH LEGEND

NATIVE HABITAT

NOTES:

TOE VARIES @ ELEVATION 367.50±

TOP OF BANK @ 372.00 MIN.

DAYLIGHT TO EXISTING ELEVATION WHEN POSSIBLE.

N

Scale: 1" : 20'

0 10 25 50

KAWEAH DELTA Water Conservation DISTRICT

PAREGIEN BASINS PROJECT PHASE II

EAST BASIN GRADING PLAN 1

REVISIONS		
	MM/DD/YY	REMARKS
1	__/__/__	...
2	__/__/__	...
3	__/__/__	...
4	__/__/__	...
5	__/__/__	...

02

C

HATCH LEGEND

NATIVE HABITAT

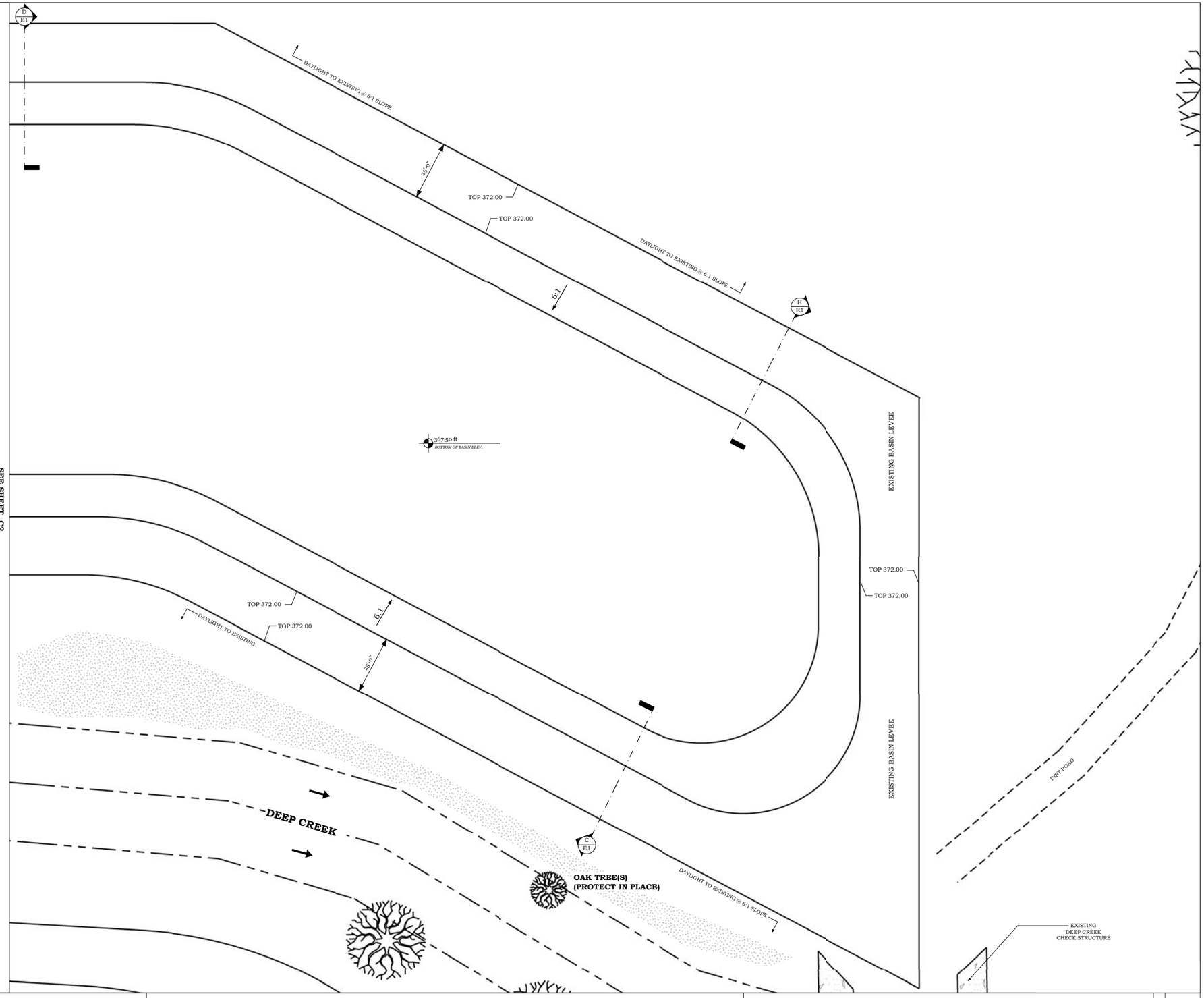
NOTES:

TOE VARIES @ ELEVATION 367.50±

TOP OF BANK @ 372.00 MIN.

DAYLIGHT TO EXISTING ELEVATION WHEN POSSIBLE.

SEE SHEET C2



N

Scale: 1" : 20'

0 10 25 50

KAWEAH DELTA Water Conservation DISTRICT

PAREGIEN BASINS PROJECT PHASE II

EAST BASIN GRADING PLAN 2

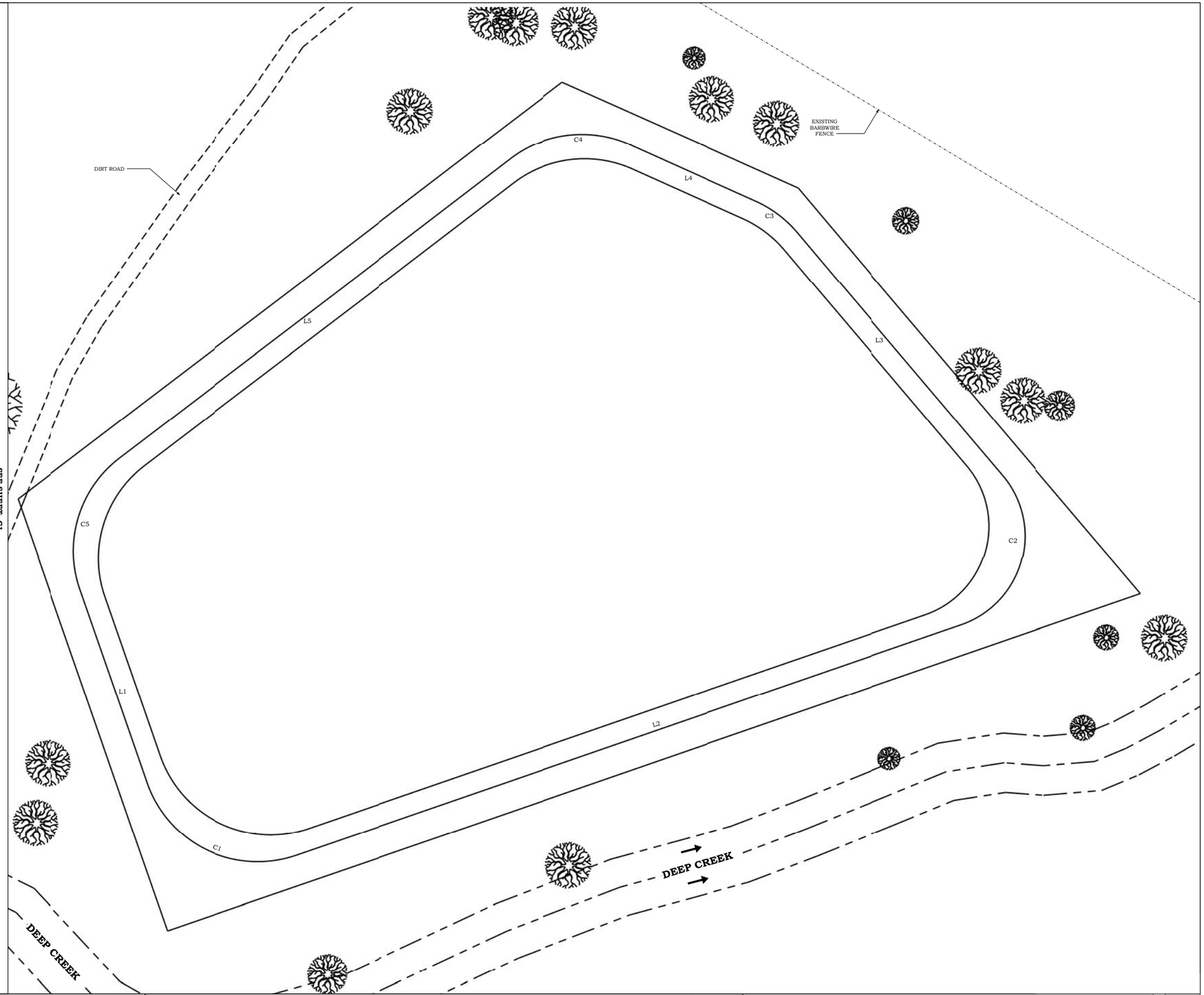
REVISIONS

	MM/DD/YY	REMARKS
1	__/__/__	...
2	__/__/__	...
3	__/__/__	...
4	__/__/__	...
5	__/__/__	...

03

C

LINE & CURVE TABLE					
NUMBERS	RADIUS	LENGTH	DELTA	LINE/CHORD DIRECTION	A VALUE
C1	100.00'	141.42'	90° 0' 0"	S 25° 54' 4.43" W	
C2	80.00'	131.89'	111° 2' 24"	S 74° 37' 13.69" E	
C3	100.00'	44.49'	25° 42' 36"	N 37° 0' 15.85" E	
C4	100.00'	102.36'	61° 34' 12"	N 6° 37' 59.7" W	
C5	100.00'	117.10'	71° 40' 48"	N 73° 15' 29.23" W	
L1		174.42'		S 70° 54' 4.43" W	
L2		600.40'		S 19° 5' 55.57" E	
L3		270.98'		N 49° 51' 28.2" E	
L4		117.75'		N 24° 9' 3.5" E	
L5		419.94'		N 37° 25' 2.89" W	



N

Scale: 1" : 40'

0 10 25 50

KAWEAH DELTA Water Conservation DISTRICT

PAREGIEN BASINS PROJECT PHASE II

SOUTH BASIN HORIZONTAL CONTROL PLAN

REVISIONS		
	MM/DD/YY	REMARKS
1	__/__/__	...
2	__/__/__	...
3	__/__/__	...
4	__/__/__	...
5	__/__/__	...

01

D

HATCH LEGEND

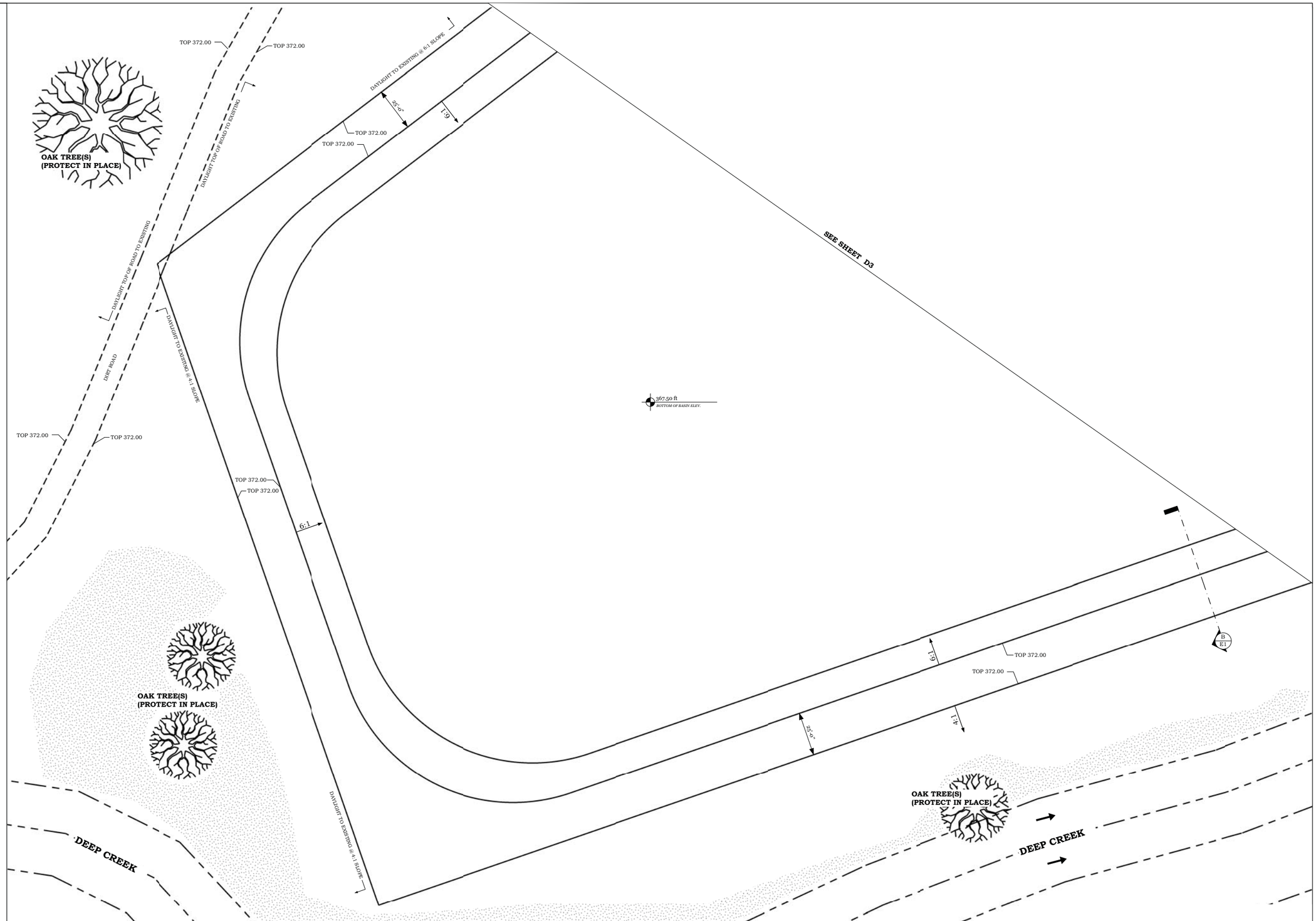
NATIVE HABITAT

NOTES:

TOE VARIES @ ELEVATION 367.50±

TOP OF BANK @ 372.00 MIN.

DAYLIGHT TO EXISTING ELEVATION WHEN POSSIBLE.



KAWEAH DELTA Water Conservation DISTRICT

PAREGIEN BASINS PROJECT PHASE II

SOUTH BASIN GRADING PLAN 2

REVISIONS

	MM/DD/YY	REMARKS
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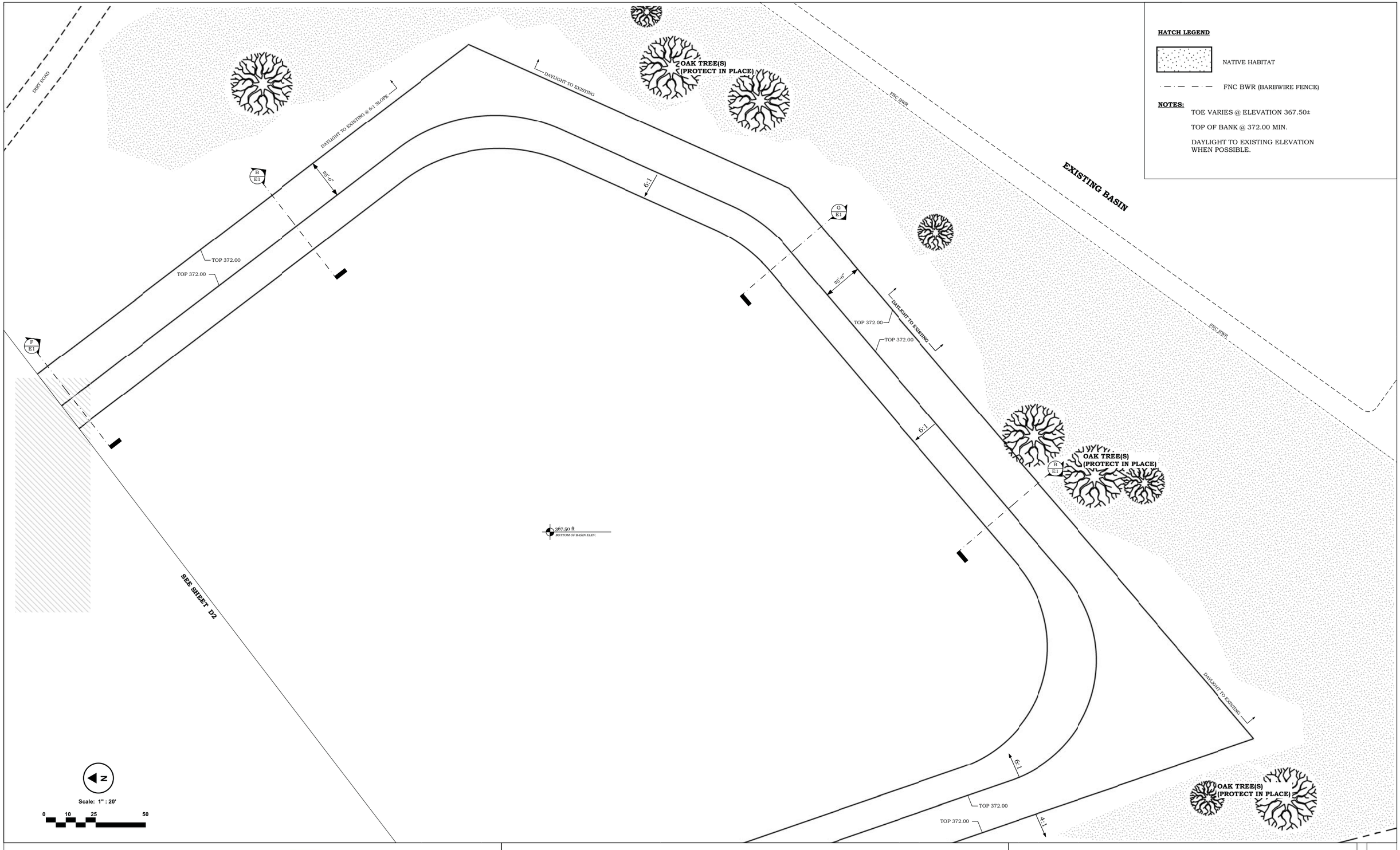

HATCH LEGEND

NATIVE HABITAT

FNC BWR (BARBWIRE FENCE)

NOTES:

TOE VARIES @ ELEVATION 367.50±

TOP OF BANK @ 372.00 MIN.

DAYLIGHT TO EXISTING ELEVATION WHEN POSSIBLE.

KAWEAH DELTA WATER CONSERVATION DISTRICT

PAREGIEN BASINS PROJECT PHASE II

SOUTH BASIN GRADING PLAN 2

REVISIONS		
	MM/DD/YY	REMARKS
1	__/__/__	...
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3	__/__/__	...
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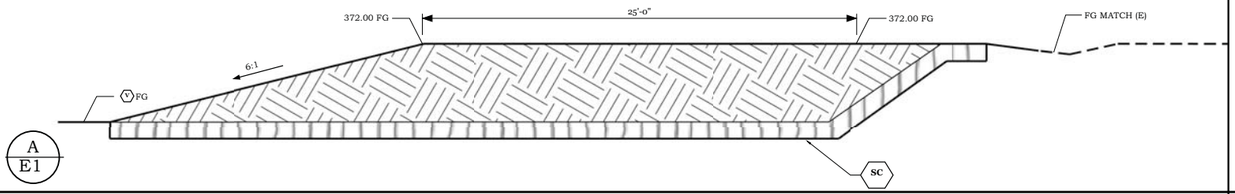
5	__/__/__	...

03

D



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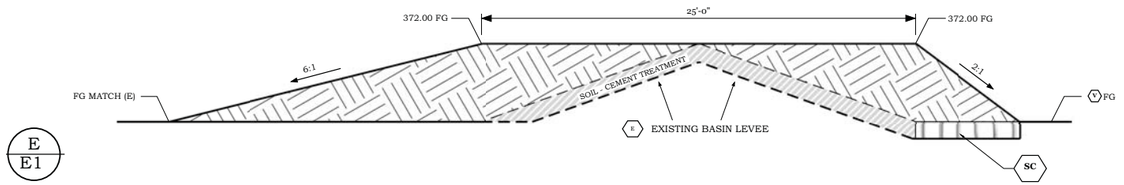
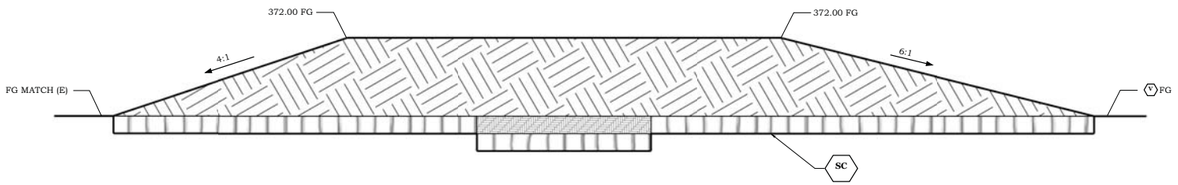
E1



E
E1



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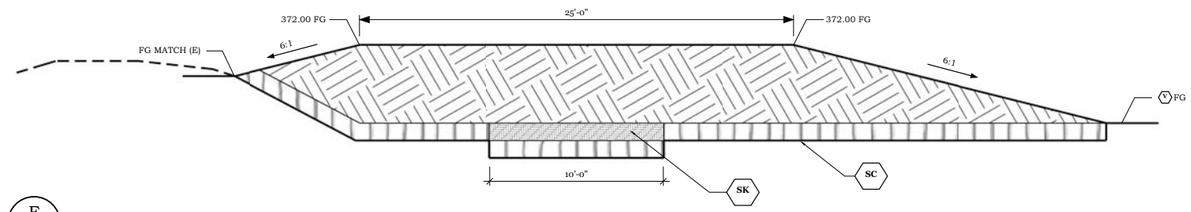
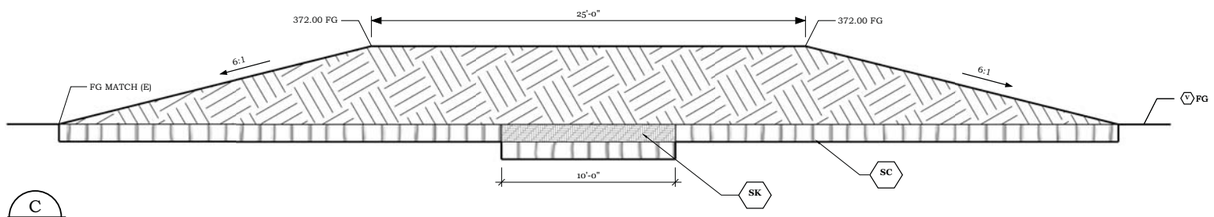
E1



F
E1



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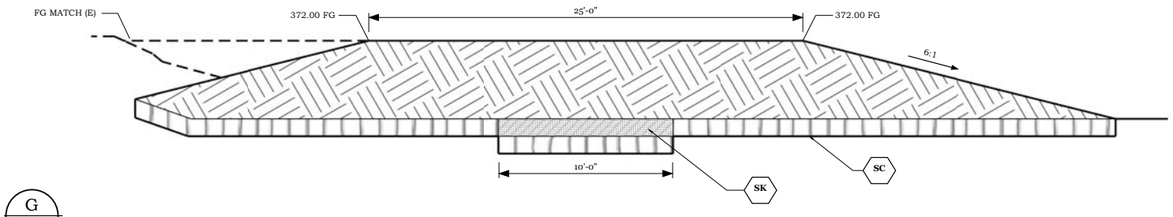
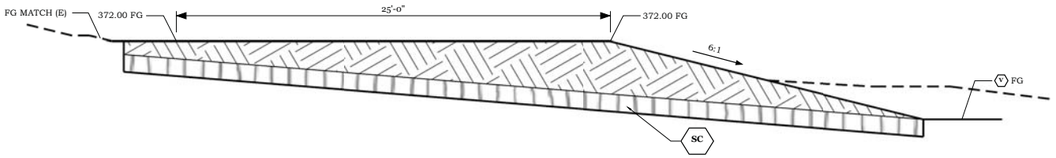
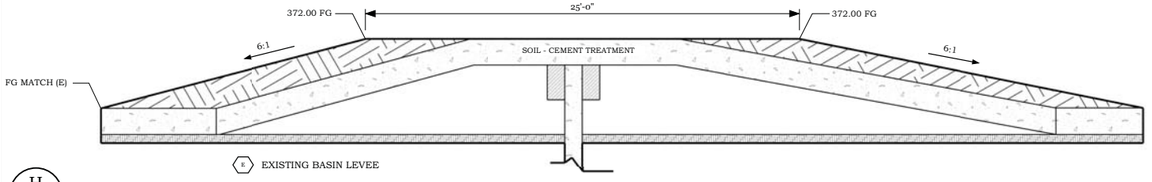
E1



G
E1



D
E1



H
E1

NOTES:

V BASIN BOTTOM FG VARIES @ 367.50 ±

BASIN TOP OF BANK @ 372.00

E EXISTING BASIN LEVEES NOT TO BE MODIFIED DURING CONSTRUCTION UNLESS INDICATED IN CROSS-SECTION

MIN. 90% COMPACTION

FINISHED EARTH

1.0' DEEP SUBGRAGE KEYWAY. KEYWAY WIDTH TO MATCH WIDTH OF EARTH SCRAPER.

SC SCARIFY AND COMPACT AT LEAST 8 INCHES BELOW SUBGRADE ELEVATION AND FINISHED GRADE.

SK CONSTRUCT SUBGRADE KEY WHEREVER FINISHED GRADE REQUIRES 2.0' OR MORE FILL ABOVE EXISTING GRADE.

KAWEAH DELTA Water Conservation DISTRICT

PAREGIEN BASINS PROJECT PHASE II

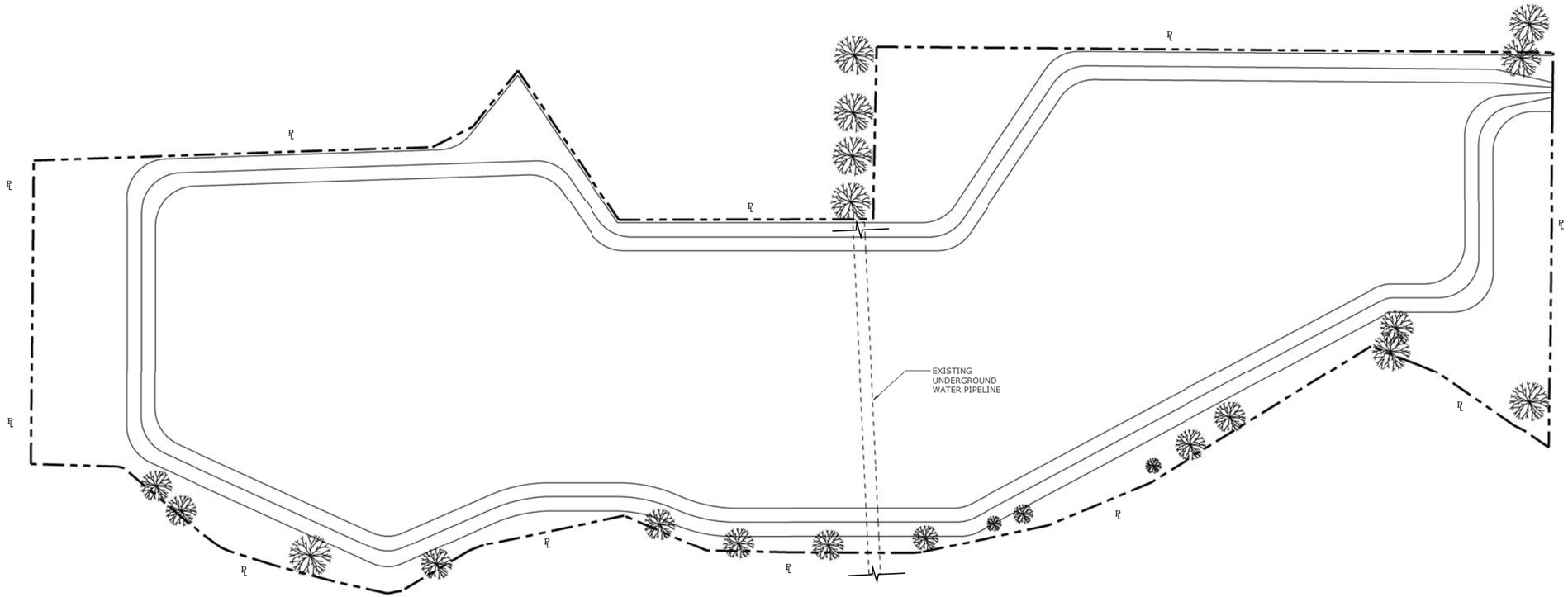
PAREGIEN CROSS SECTIONS

REVISIONS

	MM/DD/YY	REMARKS
1	__/__/__	...
2	__/__/__	...
3	__/__/__	...
4	__/__/__	...
5	__/__/__	...

01

E



NOTES:

PROPERTY LINE

N

Scale: 1" : 100'

0 25 50 125

KAWEAH DELTA Water Conservation DISTRICT

PAREGIEN BASINS PHASE II

CAMERON BASIN PROJECT SITE BOUNDARY

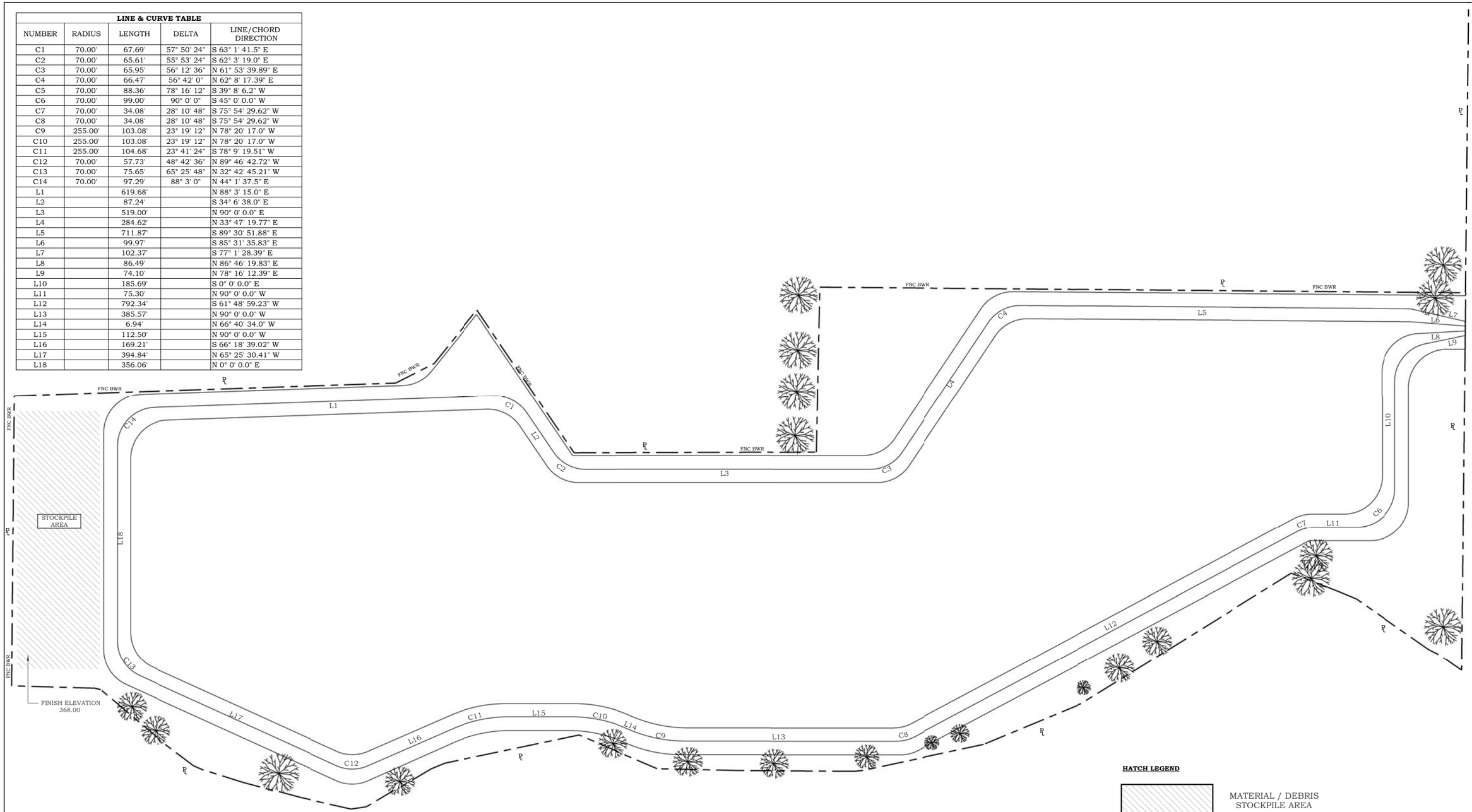
REVISIONS		
	MM/DD/YY	REMARKS
1	__/__/__	...
2	__/__/__	...
3	__/__/__	...
4	__/__/__	...
5	__/__/__	...

01

F

LINE & CURVE TABLE

NUMBER	RADIUS	LENGTH	DELTA	LINE/CHORD DIRECTION
C1	70.00'	67.69'	57° 50' 24"	S 63° 1' 41.5" E
C2	70.00'	65.61'	55° 53' 24"	S 62° 3' 19.0" E
C3	70.00'	65.95'	56° 12' 36"	N 61° 53' 39.89" E
C4	70.00'	66.47'	56° 42' 0"	N 62° 8' 17.39" E
C5	70.00'	88.36'	78° 16' 12"	S 39° 8' 6.2" W
C6	70.00'	99.00'	90° 0' 0"	S 45° 0' 0.0" W
C7	70.00'	34.08'	28° 10' 48"	S 75° 54' 29.62" W
C8	70.00'	34.08'	28° 10' 48"	S 75° 54' 29.62" W
C9	255.00'	103.08'	23° 19' 12"	N 78° 20' 17.0" W
C10	255.00'	103.08'	23° 19' 12"	N 78° 20' 17.0" W
C11	255.00'	104.68'	23° 41' 24"	S 78° 9' 19.51" W
C12	70.00'	57.73'	48° 42' 36"	N 89° 46' 42.72" W
C13	70.00'	75.65'	65° 25' 48"	N 32° 42' 45.21" W
C14	70.00'	97.29'	88° 3' 0"	N 44° 1' 37.5" E
L1		619.68'		N 88° 3' 15.0" E
L2		87.24'		S 34° 6' 38.0" E
L3		519.00'		N 90° 0' 0.0" E
L4		284.62'		N 33° 47' 19.77" E
L5		711.87'		S 89° 30' 51.88" E
L6		99.97'		S 85° 31' 35.83" E
L7		102.37'		S 77° 1' 28.39" E
L8		86.49'		N 86° 46' 19.83" E
L9		74.10'		N 78° 16' 12.39" E
L10		185.69'		S 0° 0' 0.0" E
L11		75.30'		N 90° 0' 0.0" W
L12		792.34'		S 61° 48' 59.23" W
L13		385.57'		N 90° 0' 0.0" W
L14		6.94'		N 66° 40' 34.0" W
L15		112.50'		N 90° 0' 0.0" W
L16		169.21'		S 66° 18' 39.02" W
L17		394.84'		N 65° 25' 30.41" W
L18		356.06'		N 0° 0' 0.0" E



KAWEAH DELTA Water Conservation DISTRICT

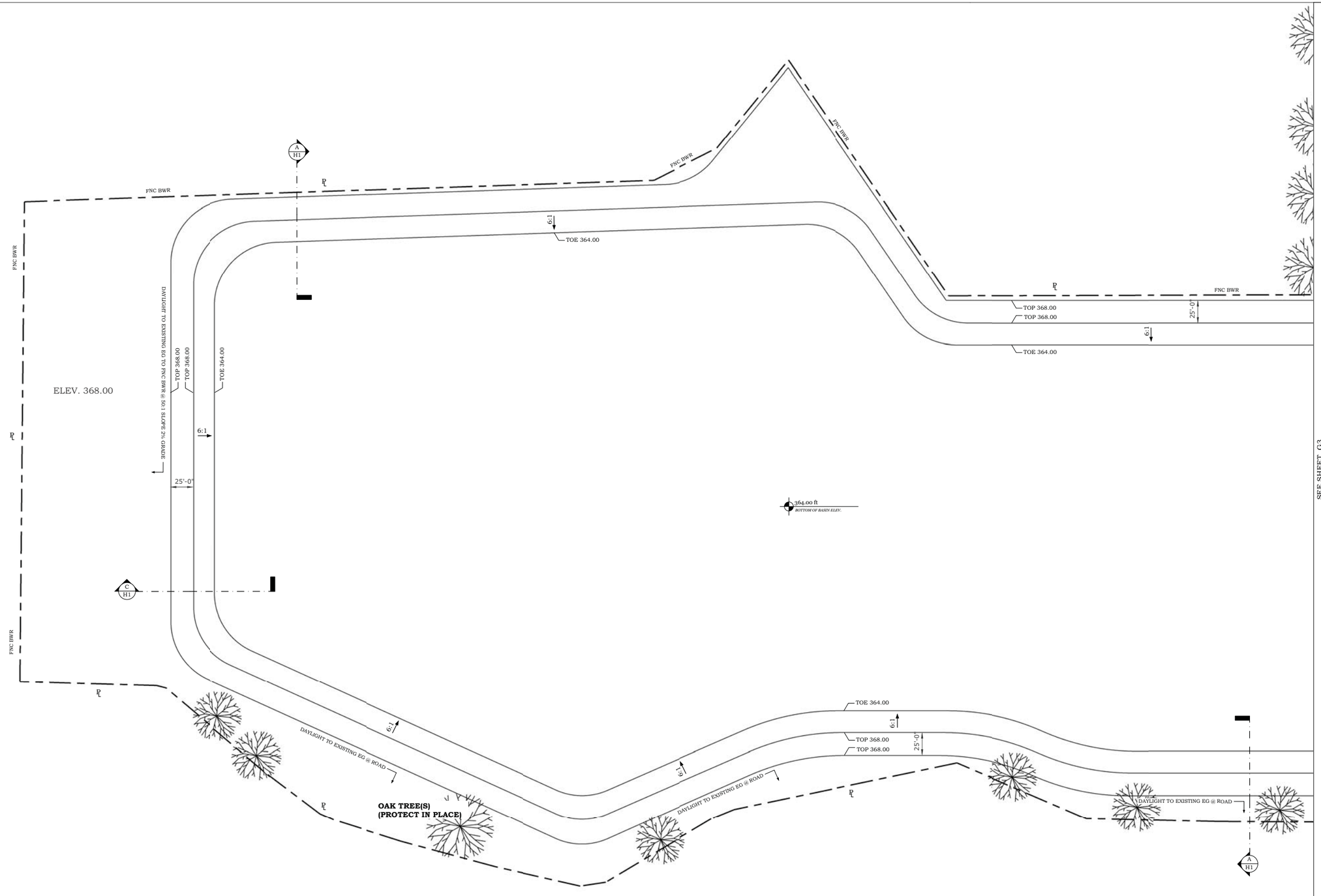
PAREGIEN BASINS PHASE II

CAMERON BASIN HORIZONTAL CONTROL PLAN

REVISIONS		
	MM/DD/YY	REMARKS
1	__/__/__	...
2	__/__/__	...
3	__/__/__	...
4	__/__/__	...
5	__/__/__	...

10

G



KAWEAH DELTA WATER CONSERVATION DISTRICT

PAREGIEN BASINS PHASE II

CAMERON BASIN GRADING PLAN 1

REVISIONS		
	MM/DD/YY	REMARKS
1	__/__/__	...
2	__/__/__	...
3	__/__/__	...
4	__/__/__	...
5	__/__/__	...

02

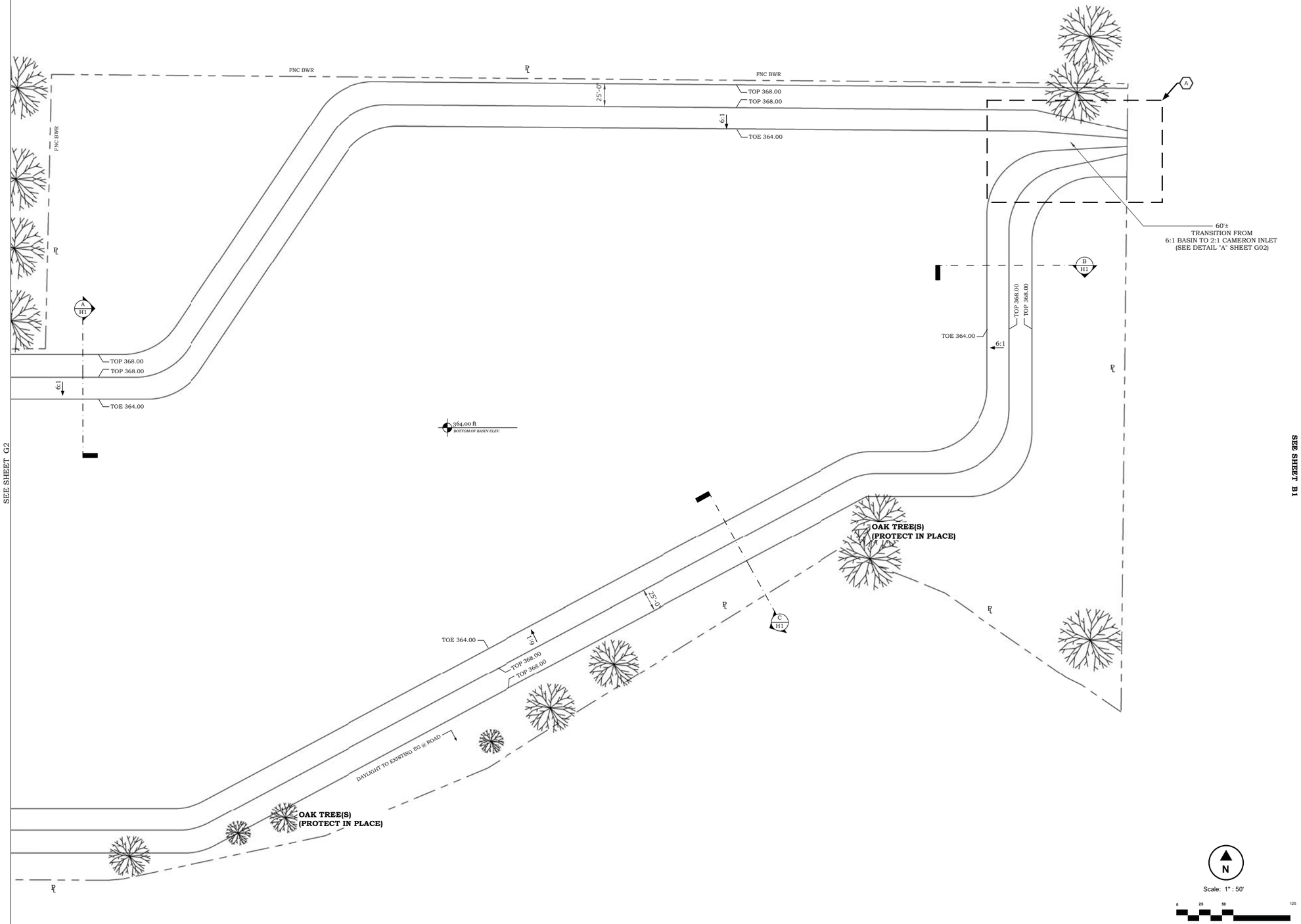
G

NOTES:

PROPERTY LINE ℄

DETAIL "A"

(A) 60'± LENGTH TO TRANSITION FROM 6:1 TO 2:1 SLOPE MERGING CAMERON BASIN WITH CAMERON BASIN INLET (APPROX. 1:1 CHANGE EVERY 20'±)



KAWEAH DELTA Water Conservation DISTRICT

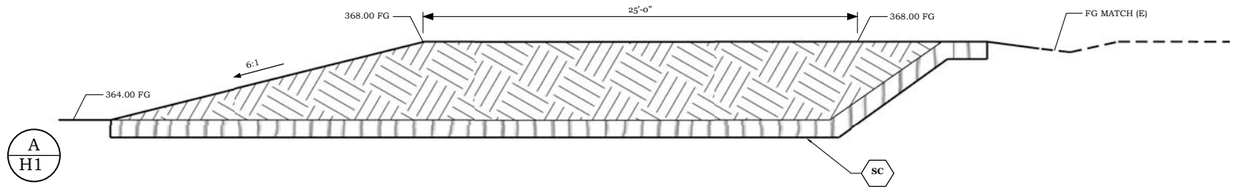
PAREGIEN BASINS PHASE II

CAMERON BASIN GRADING PLAN 2

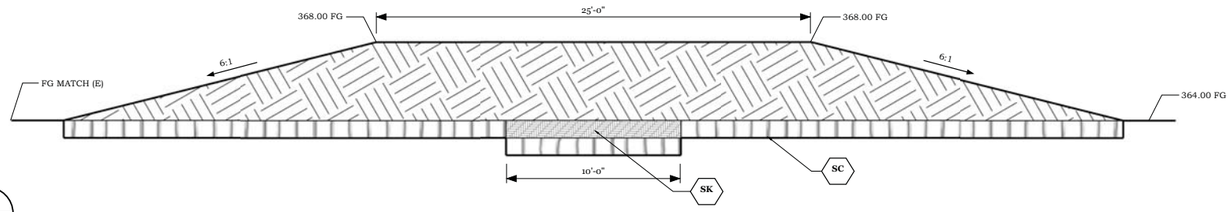
REVISIONS		
	MM/DD/YY	REMARKS
1	__/__/__	---
2	__/__/__	---
3	__/__/__	---
4	__/__/__	---
5	__/__/__	---

03

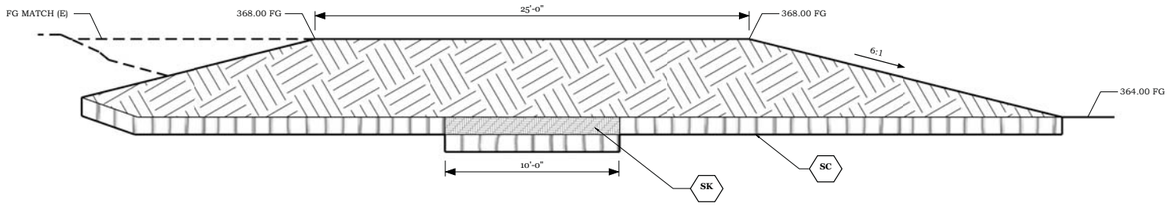
G



A
H1



B
H1



C
H1

NOTES:

(V) BASIN BOTTOM FG @ 364.00

BASIN TOP OF BANK @ 368.00

MIN. 90% COMPACTION

FINISHED EARTH

1.0' DEEP SUBGRADE KEYWAY. KEYWAY WIDTH TO MATCH WIDTH OF EARTH SCRAPER.

(SC) SCARIFY AND COMPACT AT LEAST 8 INCHES BELOW SUBGRADE ELEVATION AND FINISHED GRADE.

(SK) CONSTRUCT SUBGRADE KEY WHEREVER FINISHED GRADE REQUIRES 2.0' OR MORE FILL ABOVE EXISTING GRADE.

KAWEAH DELTA Water Conservation DISTRICT

PAREGIEN BASINS PHASE II

CAMERON BASIN GRADING PLAN 1

REVISIONS

	MM/DD/YY	REMARKS
1	__/__/__	...
2	__/__/__	...
3	__/__/__	...
4	__/__/__	...
5	__/__/__	...

01

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Appendix B

CalEEMod Output Files

Paregien Basin Recharge Expansion Project, KDWCD - San Joaquin Valley Unified APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Paregien Basin Recharge Expansion Project, KDWCD

San Joaquin Valley Unified APCD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	36.00	Acre	36.00	1,568,160.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	45
Climate Zone	7			**Operational Year**	2024
Utility Company					
CO2 Intensity (lb/MWhr)	0	**CH4 Intensity (lb/MWhr)**	0	**N2O Intensity (lb/MWhr)**	0

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Proposed expansion project will perform re-contouring of existing natural grades of the available retention areas to provide a more uniform basin shape for water control and storage. The retention area will increase from 20 acres to 36 acres.

Land Use - Recontouring of the water retention area of the Paragien Basin is represented here by the Land Use Subtype 'Other Non-Asphalt Surface' under Parking Land Use.

Table Name	Column Name	Default Value	New Value

2.0 Emissions Summary

Paregien Basin Recharge Expansion Project, KDWCD - San Joaquin Valley Unified APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.3717	3.4133	2.9349	7.3000e-003	0.8324	0.1425	0.9749	0.3407	0.1320	0.4727	0.0000	656.4662	656.4662	0.1257	0.0239	666.7373
2023	0.5101	3.5272	4.6904	0.0162	0.9065	0.1041	1.0106	0.2461	0.0981	0.3441	0.0000	1,494.9806	1,494.9806	0.0917	0.1128	1,530.8789
2024	0.4786	3.4103	4.5401	0.0160	0.9134	0.0935	1.0069	0.2479	0.0880	0.3360	0.0000	1,478.0521	1,478.0521	0.0901	0.1108	1,513.3190
2025	0.5570	2.3292	3.2730	0.0108	0.6031	0.0647	0.6678	0.1636	0.0607	0.2243	0.0000	996.0968	996.0968	0.0744	0.0689	1,018.4750
2026	0.0930	0.0101	0.0333	8.0000e-005	7.9100e-003	4.2000e-004	8.3400e-003	2.1000e-003	4.2000e-004	2.5200e-003	0.0000	7.6490	7.6490	2.5000e-004	1.5000e-004	7.7000
Maximum	**0.5570**	**3.5272**	**4.6904**	**0.0162**	**0.9134**	**0.1425**	**1.0106**	**0.3407**	**0.1320**	**0.4727**	**0.0000**	**1,494.9806**	**1,494.9806**	**0.1257**	**0.1128**	**1,530.8789**

Paregien Basin Recharge Expansion Project, KDWCD - San Joaquin Valley Unified APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.1 Overall Construction

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.3717	3.4133	2.9349	7.3000e-003	0.8324	0.1425	0.9749	0.3407	0.1320	0.4727	0.0000	656.4657	656.4657	0.1257	0.0239	666.7369
2023	0.5101	3.5272	4.6904	0.0162	0.9065	0.1041	1.0106	0.2461	0.0981	0.3441	0.0000	1,494.9803	1,494.9803	0.0917	0.1128	1,530.8785
2024	0.4786	3.4103	4.5401	0.0160	0.9134	0.0935	1.0069	0.2479	0.0880	0.3360	0.0000	1,478.0517	1,478.0517	0.0901	0.1108	1,513.3186
2025	0.5570	2.3292	3.2730	0.0108	0.6031	0.0647	0.6678	0.1636	0.0607	0.2243	0.0000	996.0965	996.0965	0.0744	0.0689	1,018.4747
2026	0.0930	0.0101	0.0333	8.0000e-005	7.9100e-003	4.2000e-004	8.3400e-003	2.1000e-003	4.2000e-004	2.5200e-003	0.0000	7.6490	7.6490	2.5000e-004	1.5000e-004	7.7000
Maximum	**0.5570**	**3.5272**	**4.6904**	**0.0162**	**0.9134**	**0.1425**	**1.0106**	**0.3407**	**0.1320**	**0.4727**	**0.0000**	**1,494.9803**	**1,494.9803**	**0.1257**	**0.1128**	**1,530.8785**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**3-17-2022**	**6-16-2022**	0.9970	0.9970
2	**6-17-2022**	**9-16-2022**	1.3550	1.3550
3	**9-17-2022**	**12-16-2022**	1.2549	1.2549
4	**12-17-2022**	**3-16-2023**	1.0391	1.0391
5	**3-17-2023**	**6-16-2023**	1.0157	1.0157
6	**6-17-2023**	**9-16-2023**	1.0118	1.0118
7	**9-17-2023**	**12-16-2023**	1.0209	1.0209

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8	**12-17-2023**	**3-16-2024**	0.9868	0.9868
9	**3-17-2024**	**6-16-2024**	0.9701	0.9701
10	**6-17-2024**	**9-16-2024**	0.9662	0.9662
11	**9-17-2024**	**12-16-2024**	0.9758	0.9758
12	**12-17-2024**	**3-16-2025**	0.9306	0.9306
13	**3-17-2025**	**6-16-2025**	0.9237	0.9237
14	**6-17-2025**	**9-16-2025**	0.7421	0.7421
15	**9-17-2025**	**12-16-2025**	0.3731	0.3731
16	**12-17-2025**	**3-16-2026**	0.1772	0.1772
		Highest	1.3550	1.3550

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	0.1341	0.0000	3.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	6.4000e-004	6.4000e-004	0.0000	0.0000	6.9000e-004
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	**0.1341**	**0.0000**	**3.3000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**6.4000e-004**	**6.4000e-004**	**0.0000**	**0.0000**	**6.9000e-004**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	0.1341	0.0000	3.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	6.4000e-004	6.4000e-004	0.0000	0.0000	6.9000e-004
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	**0.1341**	**0.0000**	**3.3000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**6.4000e-004**	**6.4000e-004**	**0.0000**	**0.0000**	**6.9000e-004**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	3/17/2022	5/25/2022	5	50	
2	Site Preparation	Site Preparation	5/26/2022	7/6/2022	5	30	
3	Grading	Grading	7/7/2022	10/19/2022	5	75	

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4	Building Construction	Building Construction	10/20/2022	8/20/2025	5	740	
5	Paving	Paving	8/21/2025	11/5/2025	5	55	
6	Architectural Coating	Architectural Coating	11/6/2025	1/21/2026	5	55	

Acres of Grading (Site Preparation Phase): 45

Acres of Grading (Grading Phase): 225

Acres of Paving: 36

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 94,090 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Cranes	1	7.00	231	0.29
Demolition	Excavators	3	8.00	158	0.38
Grading	Excavators	2	8.00	158	0.38
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Grading	Graders	1	8.00	187	0.41
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45

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	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	659.00	257.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	132.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2022

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	0.0660	0.6430	0.5149	9.7000e-004		0.0311	0.0311		0.0289	0.0289	0.0000	84.9756	84.9756	0.0239	0.0000	85.5723
Total	**0.0660**	**0.6430**	**0.5149**	**9.7000e-004**		**0.0311**	**0.0311**		**0.0289**	**0.0289**	**0.0000**	**84.9756**	**84.9756**	**0.0239**	**0.0000**	**85.5723**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Demolition - 2022

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	1.2800e-003	9.0000e-004	0.0102	3.0000e-005	3.0000e-003	2.0000e-005	3.0100e-003	8.0000e-004	2.0000e-005	8.1000e-004	0.0000	2.4772	2.4772	8.0000e-005	8.0000e-005	2.5023
Total	**1.2800e-003**	**9.0000e-004**	**0.0102**	**3.0000e-005**	**3.0000e-003**	**2.0000e-005**	**3.0100e-003**	**8.0000e-004**	**2.0000e-005**	**8.1000e-004**	**0.0000**	**2.4772**	**2.4772**	**8.0000e-005**	**8.0000e-005**	**2.5023**

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	0.0660	0.6430	0.5149	9.7000e-004		0.0311	0.0311		0.0289	0.0289	0.0000	84.9755	84.9755	0.0239	0.0000	85.5722
Total	**0.0660**	**0.6430**	**0.5149**	**9.7000e-004**		**0.0311**	**0.0311**		**0.0289**	**0.0289**	**0.0000**	**84.9755**	**84.9755**	**0.0239**	**0.0000**	**85.5722**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Demolition - 2022

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	1.2800e-003	9.0000e-004	0.0102	3.0000e-005	3.0000e-003	2.0000e-005	3.0100e-003	8.0000e-004	2.0000e-005	8.1000e-004	0.0000	2.4772	2.4772	8.0000e-005	8.0000e-005	2.5023
Total	**1.2800e-003**	**9.0000e-004**	**0.0102**	**3.0000e-005**	**3.0000e-003**	**2.0000e-005**	**3.0100e-003**	**8.0000e-004**	**2.0000e-005**	**8.1000e-004**	**0.0000**	**2.4772**	**2.4772**	**8.0000e-005**	**8.0000e-005**	**2.5023**

3.3 Site Preparation - 2022

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					0.2949	0.0000	0.2949	0.1515	0.0000	0.1515	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0476	0.4963	0.2955	5.7000e-004		0.0242	0.0242		0.0223	0.0223	0.0000	50.1591	50.1591	0.0162	0.0000	50.5647
Total	**0.0476**	**0.4963**	**0.2955**	**5.7000e-004**	**0.2949**	**0.0242**	**0.3191**	**0.1515**	**0.0223**	**0.1738**	**0.0000**	**50.1591**	**50.1591**	**0.0162**	**0.0000**	**50.5647**

Paregien Basin Recharge Expansion Project, KDWCD - San Joaquin Valley Unified APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Site Preparation - 2022

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	9.2000e-004	6.5000e-004	7.3500e-003	2.0000e-005	2.1600e-003	1.0000e-005	2.1700e-003	5.7000e-004	1.0000e-005	5.8000e-004	0.0000	1.7836	1.7836	6.0000e-005	6.0000e-005	1.8017
Total	**9.2000e-004**	**6.5000e-004**	**7.3500e-003**	**2.0000e-005**	**2.1600e-003**	**1.0000e-005**	**2.1700e-003**	**5.7000e-004**	**1.0000e-005**	**5.8000e-004**	**0.0000**	**1.7836**	**1.7836**	**6.0000e-005**	**6.0000e-005**	**1.8017**

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					0.2949	0.0000	0.2949	0.1515	0.0000	0.1515	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0476	0.4963	0.2955	5.7000e-004		0.0242	0.0242		0.0223	0.0223	0.0000	50.1590	50.1590	0.0162	0.0000	50.5646
Total	**0.0476**	**0.4963**	**0.2955**	**5.7000e-004**	**0.2949**	**0.0242**	**0.3191**	**0.1515**	**0.0223**	**0.1738**	**0.0000**	**50.1590**	**50.1590**	**0.0162**	**0.0000**	**50.5646**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Site Preparation - 2022

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	9.2000e-004	6.5000e-004	7.3500e-003	2.0000e-005	2.1600e-003	1.0000e-005	2.1700e-003	5.7000e-004	1.0000e-005	5.8000e-004	0.0000	1.7836	1.7836	6.0000e-005	6.0000e-005	1.8017
Total	**9.2000e-004**	**6.5000e-004**	**7.3500e-003**	**2.0000e-005**	**2.1600e-003**	**1.0000e-005**	**2.1700e-003**	**5.7000e-004**	**1.0000e-005**	**5.8000e-004**	**0.0000**	**1.7836**	**1.7836**	**6.0000e-005**	**6.0000e-005**	**1.8017**

3.4 Grading - 2022

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					0.3451	0.0000	0.3451	0.1370	0.0000	0.1370	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1359	1.4566	1.0891	2.3300e-003		0.0613	0.0613		0.0564	0.0564	0.0000	204.5048	204.5048	0.0661	0.0000	206.1583
Total	**0.1359**	**1.4566**	**1.0891**	**2.3300e-003**	**0.3451**	**0.0613**	**0.4064**	**0.1370**	**0.0564**	**0.1934**	**0.0000**	**204.5048**	**204.5048**	**0.0661**	**0.0000**	**206.1583**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Grading - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.5700e-003	1.8100e-003	0.0204	5.0000e-005	6.0000e-003	3.0000e-005	6.0300e-003	1.5900e-003	3.0000e-005	1.6200e-003	0.0000	4.9545	4.9545	1.7000e-004	1.5000e-004	5.0046
Total	**2.5700e-003**	**1.8100e-003**	**0.0204**	**5.0000e-005**	**6.0000e-003**	**3.0000e-005**	**6.0300e-003**	**1.5900e-003**	**3.0000e-005**	**1.6200e-003**	**0.0000**	**4.9545**	**4.9545**	**1.7000e-004**	**1.5000e-004**	**5.0046**

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					0.3451	0.0000	0.3451	0.1370	0.0000	0.1370	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1359	1.4566	1.0891	2.3300e-003		0.0613	0.0613		0.0564	0.0564	0.0000	204.5045	204.5045	0.0661	0.0000	206.1580
Total	**0.1359**	**1.4566**	**1.0891**	**2.3300e-003**	**0.3451**	**0.0613**	**0.4064**	**0.1370**	**0.0564**	**0.1934**	**0.0000**	**204.5045**	**204.5045**	**0.0661**	**0.0000**	**206.1580**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Grading - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.5700e-003	1.8100e-003	0.0204	5.0000e-005	6.0000e-003	3.0000e-005	6.0300e-003	1.5900e-003	3.0000e-005	1.6200e-003	0.0000	4.9545	4.9545	1.7000e-004	1.5000e-004	5.0046
Total	**2.5700e-003**	**1.8100e-003**	**0.0204**	**5.0000e-005**	**6.0000e-003**	**3.0000e-005**	**6.0300e-003**	**1.5900e-003**	**3.0000e-005**	**1.6200e-003**	**0.0000**	**4.9545**	**4.9545**	**1.7000e-004**	**1.5000e-004**	**5.0046**

3.5 Building Construction - 2022

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	0.0444	0.4060	0.4255	7.0000e-004		0.0210	0.0210		0.0198	0.0198	0.0000	60.2486	60.2486	0.0144	0.0000	60.6094
Total	**0.0444**	**0.4060**	**0.4255**	**7.0000e-004**		**0.0210**	**0.0210**		**0.0198**	**0.0198**	**0.0000**	**60.2486**	**60.2486**	**0.0144**	**0.0000**	**60.6094**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2022

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	0.0145	0.3668	0.1056	1.4000e-003	0.0443	4.0800e-003	0.0484	0.0128	3.9000e-003	0.0167	0.0000	134.1768	134.1768	8.7000e-004	0.0201	140.1929
Worker	0.0586	0.0413	0.4665	1.2300e-003	0.1370	7.7000e-004	0.1378	0.0364	7.1000e-004	0.0371	0.0000	113.1862	113.1862	3.8600e-003	3.5200e-003	114.3313
Total	**0.0731**	**0.4081**	**0.5721**	**2.6300e-003**	**0.1813**	**4.8500e-003**	**0.1861**	**0.0492**	**4.6100e-003**	**0.0538**	**0.0000**	**247.3630**	**247.3630**	**4.7300e-003**	**0.0236**	**254.5242**

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	0.0444	0.4060	0.4255	7.0000e-004		0.0210	0.0210		0.0198	0.0198	0.0000	60.2485	60.2485	0.0144	0.0000	60.6093
Total	**0.0444**	**0.4060**	**0.4255**	**7.0000e-004**		**0.0210**	**0.0210**		**0.0198**	**0.0198**	**0.0000**	**60.2485**	**60.2485**	**0.0144**	**0.0000**	**60.6093**

Paregien Basin Recharge Expansion Project, KDWCD - San Joaquin Valley Unified APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2022

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	0.0145	0.3668	0.1056	1.4000e-003	0.0443	4.0800e-003	0.0484	0.0128	3.9000e-003	0.0167	0.0000	134.1768	134.1768	8.7000e-004	0.0201	140.1929
Worker	0.0586	0.0413	0.4665	1.2300e-003	0.1370	7.7000e-004	0.1378	0.0364	7.1000e-004	0.0371	0.0000	113.1862	113.1862	3.8600e-003	3.5200e-003	114.3313
Total	**0.0731**	**0.4081**	**0.5721**	**2.6300e-003**	**0.1813**	**4.8500e-003**	**0.1861**	**0.0492**	**4.6100e-003**	**0.0538**	**0.0000**	**247.3630**	**247.3630**	**4.7300e-003**	**0.0236**	**254.5242**

3.5 Building Construction - 2023

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	0.2045	1.8700	2.1117	3.5000e-003		0.0910	0.0910		0.0856	0.0856	0.0000	301.3462	301.3462	0.0717	0.0000	303.1383
Total	**0.2045**	**1.8700**	**2.1117**	**3.5000e-003**		**0.0910**	**0.0910**		**0.0856**	**0.0856**	**0.0000**	**301.3462**	**301.3462**	**0.0717**	**0.0000**	**303.1383**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2023

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	0.0369	1.4768	0.4524	6.7400e-003	0.2215	9.5500e-003	0.2311	0.0640	9.1300e-003	0.0731	0.0000	645.8710	645.8710	2.7500e-003	0.0966	674.7371
Worker	0.2688	0.1804	2.1263	5.9700e-003	0.6849	3.6200e-003	0.6885	0.1820	3.3300e-003	0.1854	0.0000	547.7634	547.7634	0.0173	0.0161	553.0035
Total	**0.3056**	**1.6572**	**2.5787**	**0.0127**	**0.9065**	**0.0132**	**0.9196**	**0.2461**	**0.0125**	**0.2585**	**0.0000**	**1,193.6345**	**1,193.6345**	**0.0200**	**0.1128**	**1,227.7406**

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	0.2045	1.8700	2.1117	3.5000e-003		0.0910	0.0910		0.0856	0.0856	0.0000	301.3458	301.3458	0.0717	0.0000	303.1380
Total	**0.2045**	**1.8700**	**2.1117**	**3.5000e-003**		**0.0910**	**0.0910**		**0.0856**	**0.0856**	**0.0000**	**301.3458**	**301.3458**	**0.0717**	**0.0000**	**303.1380**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2023

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	0.0369	1.4768	0.4524	6.7400e-003	0.2215	9.5500e-003	0.2311	0.0640	9.1300e-003	0.0731	0.0000	645.8710	645.8710	2.7500e-003	0.0966	674.7371
Worker	0.2688	0.1804	2.1263	5.9700e-003	0.6849	3.6200e-003	0.6885	0.1820	3.3300e-003	0.1854	0.0000	547.7634	547.7634	0.0173	0.0161	553.0035
Total	**0.3056**	**1.6572**	**2.5787**	**0.0127**	**0.9065**	**0.0132**	**0.9196**	**0.2461**	**0.0125**	**0.2585**	**0.0000**	**1,193.6345**	**1,193.6345**	**0.0200**	**0.1128**	**1,227.7406**

3.5 Building Construction - 2024

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	0.1928	1.7611	2.1179	3.5300e-003		0.0803	0.0803		0.0756	0.0756	0.0000	303.7223	303.7223	0.0718	0.0000	305.5179
Total	**0.1928**	**1.7611**	**2.1179**	**3.5300e-003**		**0.0803**	**0.0803**		**0.0756**	**0.0756**	**0.0000**	**303.7223**	**303.7223**	**0.0718**	**0.0000**	**305.5179**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2024

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	0.0362	1.4892	0.4447	6.6800e-003	0.2233	9.7000e-003	0.2330	0.0645	9.2800e-003	0.0738	0.0000	640.4401	640.4401	2.6500e-003	0.0958	669.0469
Worker	0.2497	0.1600	1.9775	5.8200e-003	0.6902	3.4500e-003	0.6936	0.1834	3.1800e-003	0.1866	0.0000	533.8897	533.8897	0.0156	0.0150	538.7543
Total	**0.2858**	**1.6492**	**2.4222**	**0.0125**	**0.9134**	**0.0132**	**0.9266**	**0.2479**	**0.0125**	**0.2604**	**0.0000**	**1,174.3297**	**1,174.3297**	**0.0183**	**0.1108**	**1,207.8011**

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	0.1928	1.7611	2.1179	3.5300e-003		0.0803	0.0803		0.0756	0.0756	0.0000	303.7220	303.7220	0.0718	0.0000	305.5175
Total	**0.1928**	**1.7611**	**2.1179**	**3.5300e-003**		**0.0803**	**0.0803**		**0.0756**	**0.0756**	**0.0000**	**303.7220**	**303.7220**	**0.0718**	**0.0000**	**305.5175**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2024

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	0.0362	1.4892	0.4447	6.6800e-003	0.2233	9.7000e-003	0.2330	0.0645	9.2800e-003	0.0738	0.0000	640.4401	640.4401	2.6500e-003	0.0958	669.0469
Worker	0.2497	0.1600	1.9775	5.8200e-003	0.6902	3.4500e-003	0.6936	0.1834	3.1800e-003	0.1866	0.0000	533.8897	533.8897	0.0156	0.0150	538.7543
Total	**0.2858**	**1.6492**	**2.4222**	**0.0125**	**0.9134**	**0.0132**	**0.9266**	**0.2479**	**0.0125**	**0.2604**	**0.0000**	**1,174.3297**	**1,174.3297**	**0.0183**	**0.1108**	**1,207.8011**

3.5 Building Construction - 2025

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	0.1135	1.0350	1.3350	2.2400e-003		0.0438	0.0438		0.0412	0.0412	0.0000	192.4932	192.4932	0.0453	0.0000	193.6244
Total	**0.1135**	**1.0350**	**1.3350**	**2.2400e-003**		**0.0438**	**0.0438**		**0.0412**	**0.0412**	**0.0000**	**192.4932**	**192.4932**	**0.0453**	**0.0000**	**193.6244**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2025

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	0.0224	0.9404	0.2759	4.1600e-003	0.1415	6.1400e-003	0.1476	0.0409	5.8800e-003	0.0467	0.0000	398.3875	398.3875	1.6100e-003	0.0595	416.1663
Worker	0.1465	0.0900	1.1603	3.5600e-003	0.4373	2.0800e-003	0.4394	0.1162	1.9100e-003	0.1181	0.0000	326.8178	326.8178	8.9300e-003	8.8400e-003	329.6744
Total	**0.1689**	**1.0303**	**1.4361**	**7.7200e-003**	**0.5787**	**8.2200e-003**	**0.5870**	**0.1571**	**7.7900e-003**	**0.1649**	**0.0000**	**725.2054**	**725.2054**	**0.0105**	**0.0684**	**745.8407**

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	0.1135	1.0350	1.3350	2.2400e-003		0.0438	0.0438		0.0412	0.0412	0.0000	192.4929	192.4929	0.0453	0.0000	193.6242
Total	**0.1135**	**1.0350**	**1.3350**	**2.2400e-003**		**0.0438**	**0.0438**		**0.0412**	**0.0412**	**0.0000**	**192.4929**	**192.4929**	**0.0453**	**0.0000**	**193.6242**

Paregien Basin Recharge Expansion Project, KDWCD - San Joaquin Valley Unified APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2025

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	0.0224	0.9404	0.2759	4.1600e-003	0.1415	6.1400e-003	0.1476	0.0409	5.8800e-003	0.0467	0.0000	398.3875	398.3875	1.6100e-003	0.0595	416.1663
Worker	0.1465	0.0900	1.1603	3.5600e-003	0.4373	2.0800e-003	0.4394	0.1162	1.9100e-003	0.1181	0.0000	326.8178	326.8178	8.9300e-003	8.8400e-003	329.6744
Total	**0.1689**	**1.0303**	**1.4361**	**7.7200e-003**	**0.5787**	**8.2200e-003**	**0.5870**	**0.1571**	**7.7900e-003**	**0.1649**	**0.0000**	**725.2054**	**725.2054**	**0.0105**	**0.0684**	**745.8407**

3.6 Paving - 2025

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	0.0252	0.2360	0.4009	6.3000e-004		0.0115	0.0115		0.0106	0.0106	0.0000	55.0530	55.0530	0.0178	0.0000	55.4981
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0252**	**0.2360**	**0.4009**	**6.3000e-004**		**0.0115**	**0.0115**		**0.0106**	**0.0106**	**0.0000**	**55.0530**	**55.0530**	**0.0178**	**0.0000**	**55.4981**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Paving - 2025

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	1.1000e-003	6.8000e-004	8.7500e-003	3.0000e-005	3.3000e-003	2.0000e-005	3.3100e-003	8.8000e-004	1.0000e-005	8.9000e-004	0.0000	2.4647	2.4647	7.0000e-005	7.0000e-005	2.4863
Total	**1.1000e-003**	**6.8000e-004**	**8.7500e-003**	**3.0000e-005**	**3.3000e-003**	**2.0000e-005**	**3.3100e-003**	**8.8000e-004**	**1.0000e-005**	**8.9000e-004**	**0.0000**	**2.4647**	**2.4647**	**7.0000e-005**	**7.0000e-005**	**2.4863**

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	0.0252	0.2360	0.4009	6.3000e-004		0.0115	0.0115		0.0106	0.0106	0.0000	55.0529	55.0529	0.0178	0.0000	55.4980
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0252**	**0.2360**	**0.4009**	**6.3000e-004**		**0.0115**	**0.0115**		**0.0106**	**0.0106**	**0.0000**	**55.0529**	**55.0529**	**0.0178**	**0.0000**	**55.4980**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Paving - 2025

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	1.1000e-003	6.8000e-004	8.7500e-003	3.0000e-005	3.3000e-003	2.0000e-005	3.3100e-003	8.8000e-004	1.0000e-005	8.9000e-004	0.0000	2.4647	2.4647	7.0000e-005	7.0000e-005	2.4863
Total	**1.1000e-003**	**6.8000e-004**	**8.7500e-003**	**3.0000e-005**	**3.3000e-003**	**2.0000e-005**	**3.3100e-003**	**8.8000e-004**	**1.0000e-005**	**8.9000e-004**	**0.0000**	**2.4647**	**2.4647**	**7.0000e-005**	**7.0000e-005**	**2.4863**

3.7 Architectural Coating - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.2379					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.4200e-003	0.0229	0.0362	6.0000e-005		1.0300e-003	1.0300e-003		1.0300e-003	1.0300e-003	0.0000	5.1065	5.1065	2.8000e-004	0.0000	5.1135
Total	**0.2413**	**0.0229**	**0.0362**	**6.0000e-005**		**1.0300e-003**	**1.0300e-003**		**1.0300e-003**	**1.0300e-003**	**0.0000**	**5.1065**	**5.1065**	**2.8000e-004**	**0.0000**	**5.1135**

3.7 Architectural Coating - 2025

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	7.0700e-003	4.3400e-003	0.0560	1.7000e-004	0.0211	1.0000e-004	0.0212	5.6100e-003	9.0000e-005	5.7000e-003	0.0000	15.7742	15.7742	4.3000e-004	4.3000e-004	15.9120
Total	**7.0700e-003**	**4.3400e-003**	**0.0560**	**1.7000e-004**	**0.0211**	**1.0000e-004**	**0.0212**	**5.6100e-003**	**9.0000e-005**	**5.7000e-003**	**0.0000**	**15.7742**	**15.7742**	**4.3000e-004**	**4.3000e-004**	**15.9120**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.2379					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.4200e-003	0.0229	0.0362	6.0000e-005		1.0300e-003	1.0300e-003		1.0300e-003	1.0300e-003	0.0000	5.1065	5.1065	2.8000e-004	0.0000	5.1135
Total	**0.2413**	**0.0229**	**0.0362**	**6.0000e-005**		**1.0300e-003**	**1.0300e-003**		**1.0300e-003**	**1.0300e-003**	**0.0000**	**5.1065**	**5.1065**	**2.8000e-004**	**0.0000**	**5.1135**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.7 Architectural Coating - 2025

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	7.0700e-003	4.3400e-003	0.0560	1.7000e-004	0.0211	1.0000e-004	0.0212	5.6100e-003	9.0000e-005	5.7000e-003	0.0000	15.7742	15.7742	4.3000e-004	4.3000e-004	15.9120
Total	**7.0700e-003**	**4.3400e-003**	**0.0560**	**1.7000e-004**	**0.0211**	**1.0000e-004**	**0.0212**	**5.6100e-003**	**9.0000e-005**	**5.7000e-003**	**0.0000**	**15.7742**	**15.7742**	**4.3000e-004**	**4.3000e-004**	**15.9120**

3.7 Architectural Coating - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0892					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.2800e-003	8.5900e-003	0.0136	2.0000e-005		3.9000e-004	3.9000e-004		3.9000e-004	3.9000e-004	0.0000	1.9149	1.9149	1.0000e-004	0.0000	1.9176
Total	**0.0905**	**8.5900e-003**	**0.0136**	**2.0000e-005**		**3.9000e-004**	**3.9000e-004**		**3.9000e-004**	**3.9000e-004**	**0.0000**	**1.9149**	**1.9149**	**1.0000e-004**	**0.0000**	**1.9176**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.7 Architectural Coating - 2026

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.4700e-003	1.4600e-003	0.0197	6.0000e-005	7.9100e-003	4.0000e-005	7.9500e-003	2.1000e-003	3.0000e-005	2.1400e-003	0.0000	5.7341	5.7341	1.5000e-004	1.5000e-004	5.7824
Total	**2.4700e-003**	**1.4600e-003**	**0.0197**	**6.0000e-005**	**7.9100e-003**	**4.0000e-005**	**7.9500e-003**	**2.1000e-003**	**3.0000e-005**	**2.1400e-003**	**0.0000**	**5.7341**	**5.7341**	**1.5000e-004**	**1.5000e-004**	**5.7824**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0892					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.2800e-003	8.5900e-003	0.0136	2.0000e-005		3.9000e-004	3.9000e-004		3.9000e-004	3.9000e-004	0.0000	1.9149	1.9149	1.0000e-004	0.0000	1.9176
Total	**0.0905**	**8.5900e-003**	**0.0136**	**2.0000e-005**		**3.9000e-004**	**3.9000e-004**		**3.9000e-004**	**3.9000e-004**	**0.0000**	**1.9149**	**1.9149**	**1.0000e-004**	**0.0000**	**1.9176**

Paregien Basin Recharge Expansion Project, KDWCD - San Joaquin Valley Unified APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.7 Architectural Coating - 2026

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.4700e-003	1.4600e-003	0.0197	6.0000e-005	7.9100e-003	4.0000e-005	7.9500e-003	2.1000e-003	3.0000e-005	2.1400e-003	0.0000	5.7341	5.7341	1.5000e-004	1.5000e-004	5.7824
Total	**2.4700e-003**	**1.4600e-003**	**0.0197**	**6.0000e-005**	**7.9100e-003**	**4.0000e-005**	**7.9500e-003**	**2.1000e-003**	**3.0000e-005**	**2.1400e-003**	**0.0000**	**5.7341**	**5.7341**	**1.5000e-004**	**1.5000e-004**	**5.7824**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	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

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Non-Asphalt Surfaces	9.50	7.30	7.30	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	0.511221	0.052103	0.170611	0.160645	0.028932	0.007649	0.013284	0.025916	0.000654	0.000315	0.023645	0.001472	0.003552

Paregien Basin Recharge Expansion Project, KDWCD - San Joaquin Valley Unified APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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

Paregien Basin Recharge Expansion Project, KDWCD - San Joaquin Valley Unified APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	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	0.1341	0.0000	3.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	6.4000e-004	6.4000e-004	0.0000	0.0000	6.9000e-004
Unmitigated	0.1341	0.0000	3.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	6.4000e-004	6.4000e-004	0.0000	0.0000	6.9000e-004

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0327					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1014					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.0000e-005	0.0000	3.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	6.4000e-004	6.4000e-004	0.0000	0.0000	6.9000e-004
Total	**0.1341**	**0.0000**	**3.3000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**6.4000e-004**	**6.4000e-004**	**0.0000**	**0.0000**	**6.9000e-004**

Paregien Basin Recharge Expansion Project, KDWCD - San Joaquin Valley Unified APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	0.0327					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1014					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.0000e-005	0.0000	3.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	6.4000e-004	6.4000e-004	0.0000	0.0000	6.9000e-004
Total	**0.1341**	**0.0000**	**3.3000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**6.4000e-004**	**6.4000e-004**	**0.0000**	**0.0000**	**6.9000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	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**

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

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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 C

Biological Resource Evaluation

BIOLOGICAL RESOURCE EVALUATION

March 2022

Paregien Basin Recharge Expansion Project
TULARE COUNTY, CALIFORNIA

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Executive Summary

The project applicant proposes to enhance the groundwater recharge capacity of four existing basins in northeastern Farmersville, Tulare County, California. The proposed project (Project) will recontour four existing groundwater recharge basins on an approximately 98-acre parcel bisected by Deep Creek, a distributary of the Kaweah River.

To evaluate whether the Project may affect biological resources under California Environmental Quality Act (CEQA) purview, we (1) obtained lists of special-status species from the United States Fish and Wildlife Service, the California Department of Fish and Wildlife, and the California Native Plant Society; (2) reviewed other relevant background information such as aerial images and topographic maps; and (3) conducted a field reconnaissance survey at the Project site.

This biological resource evaluation summarizes (1) existing biological conditions on the Project site, (2) the potential for special-status species and regulated habitats to occur on or near the Project site, (3) the potential impacts of the proposed Project on biological resources and regulated habitats, and (4) measures to reduce those potential impacts to less-than-significant levels under CEQA.

We concluded the Project could affect seven special-status wildlife species: the state-listed as threatened Swainson's hawk (*Buteo swainsoni*), the federally listed as endangered and state-listed as threatened San Joaquin kit fox (*Vulpes macrotis mutica*), the state species of special concern Northern California legless lizard (*Anniella pulchra*), the state species of special concern burrowing owl (*Athene cunicularia*), the state species of special concern American badger (*Taxidea taxus*), the state species of special concern pallid bat (*Antrozous pallidus*), and the state species of special concern western mastiff bat (*Eumops perotis californicus*). Nesting migratory birds could also be impacted. However, impacts to all species can be reduced to less-than-significant levels with mitigation.

Abbreviations

Abbreviation	Definition
CCR	California Code of Regulations
CDFG	California Department of Fish and Game
CDFW	California Department of Fish and Wildlife
CESA	California Endangered Species Act
CEQA	California Environmental Quality Act
CFGC	California Fish and Game Code
CFR	Code of Federal Regulations
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
FC	Federal Candidate for listing under the FESA
FE	Federally listed as Endangered
FESA	Federal Endangered Species Act
FP	State Fully Protected
FT	Federally listed as Threatened
MBTA	Migratory Bird Treaty Act
NRCS	Natural Resources Conservation Science
SE	State listed as Endangered
SSSC	State Species of Special Concern
ST	State listed as Threatened
SWRCB	State Water Resources Control Board
USACE	United States Army Corps of Engineers
USC	United States Code
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey

1.0 Introduction

1.1 Background

The project applicant proposes to enhance the recharging capacity of four existing groundwater recharge basins (the Project) bordering the northeast corner of Farmersville, Tulare County, California. The 98-acre Project site currently supports non-native grassland, riparian forest, and riverine (Deep Creek) land covers.

The purpose of this biological resource evaluation is to assess whether the Project will affect protected biological resources pursuant to California Environmental Quality Act (CEQA) guidelines. Such resources include species of plants or animals listed or proposed for listing under the Federal Endangered Species Act (FESA) or the California Endangered Species Act (CESA) as well as those covered under the Migratory Bird Treaty Act (MBTA), the California Native Plant Protection Act, and various other sections of California Fish and Game Code (CFGC). This biological resource evaluation also addresses Project-related impacts to regulated habitats, which are those under the jurisdiction of the United States Army Corps of Engineers (USACE), State Water Resources Control Board (SWRCB), or California Department of Fish and Wildlife (CDFW).

1.2 Project Description

The Project will enhance the recharge capacity and capability of an existing groundwater retention site. The Project property is split by Deep Creek, which is a natural channel distributary from the Kaweah River that runs through the City of Farmersville. The Project intends to expand existing basins in a location known to have excellent groundwater recharging capabilities. The Project will involve re-contouring existing natural grades of available retention areas to provide a more uniform basin shape for water control and storage. The re-contoured areas are proposed to provide a uniform depth of 3 feet across all the areas and thereby increase the overall retention capacity by approximately 80 percent and provide sufficient hydraulic pressures to facilitate optimum percolation rates. The noted improvements should expand the water retention area to approximately 36 acres and provide a maximum capacity of 108 acre-feet, up from the current capacity of 60 acre-feet. The expansion is anticipated to generate 1440 acre-feet per year of recharge in addition to flood protection and environmental benefits.

The need for the Project stems largely from declining groundwater levels and degrading groundwater quality in the area. This Project will provide additional groundwater recharge to replenish the groundwater aquifer and use existing surface supplies from the Kaweah River.

1.3 Project Location

The approximately 98-acre Project site is east of Road 168 and south of State Route 198 in northeast Farmersville, Tulare County, California (Figure 1). The Project site consists of four groundwater recharge basins: Cameron Basin, East Basin, South Basin, and West Basin (Figure 2). Each groundwater recharge basin is surrounded by an earthen berm. A series of canals, ditches, and floodgates connect the groundwater recharge basins to Deep Creek. The Project site is accessed from Road 168 through a private dirt road approximately 0.7 miles north of Walnut Street.

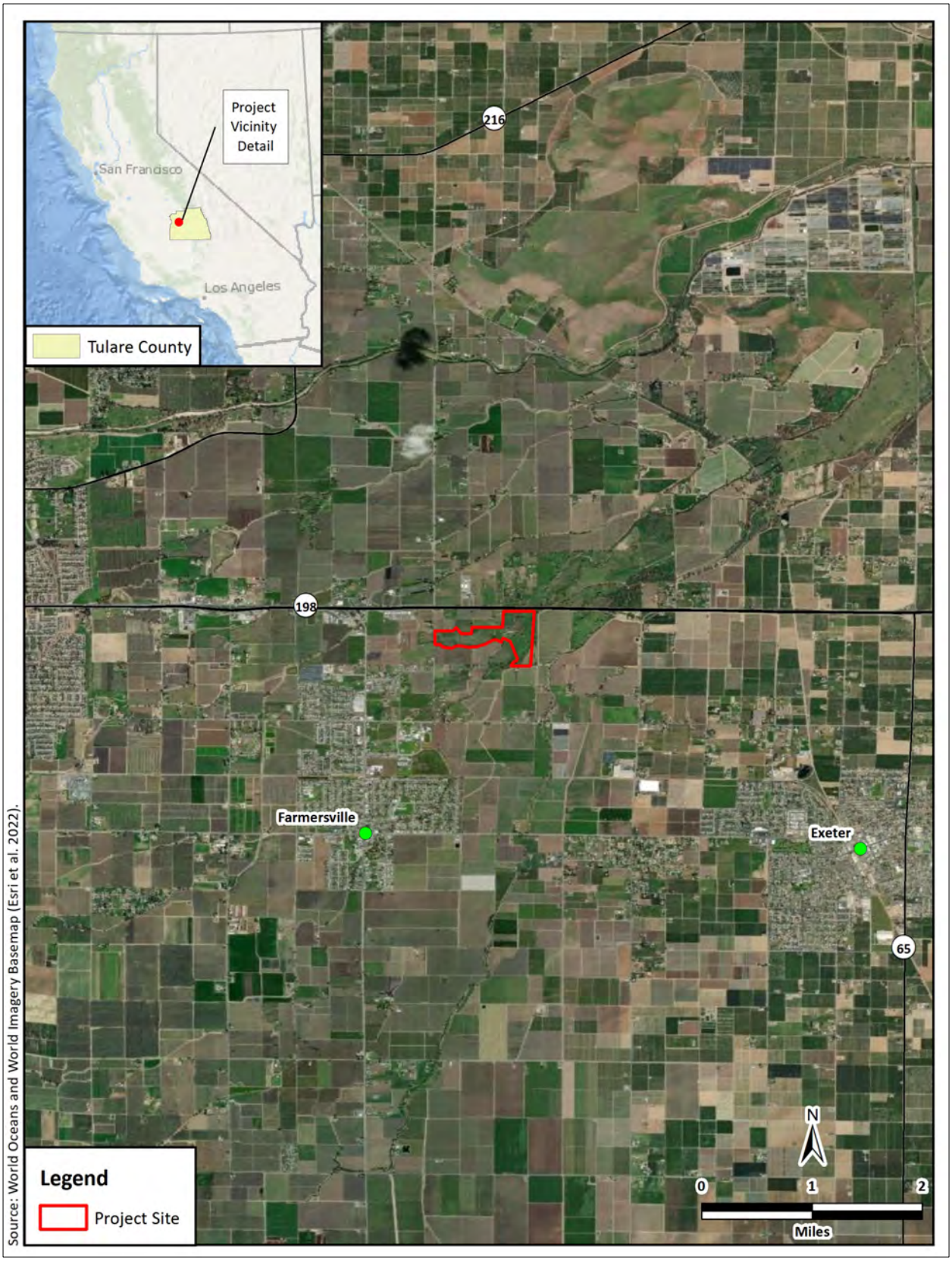

Figure 1. Project site vicinity map.

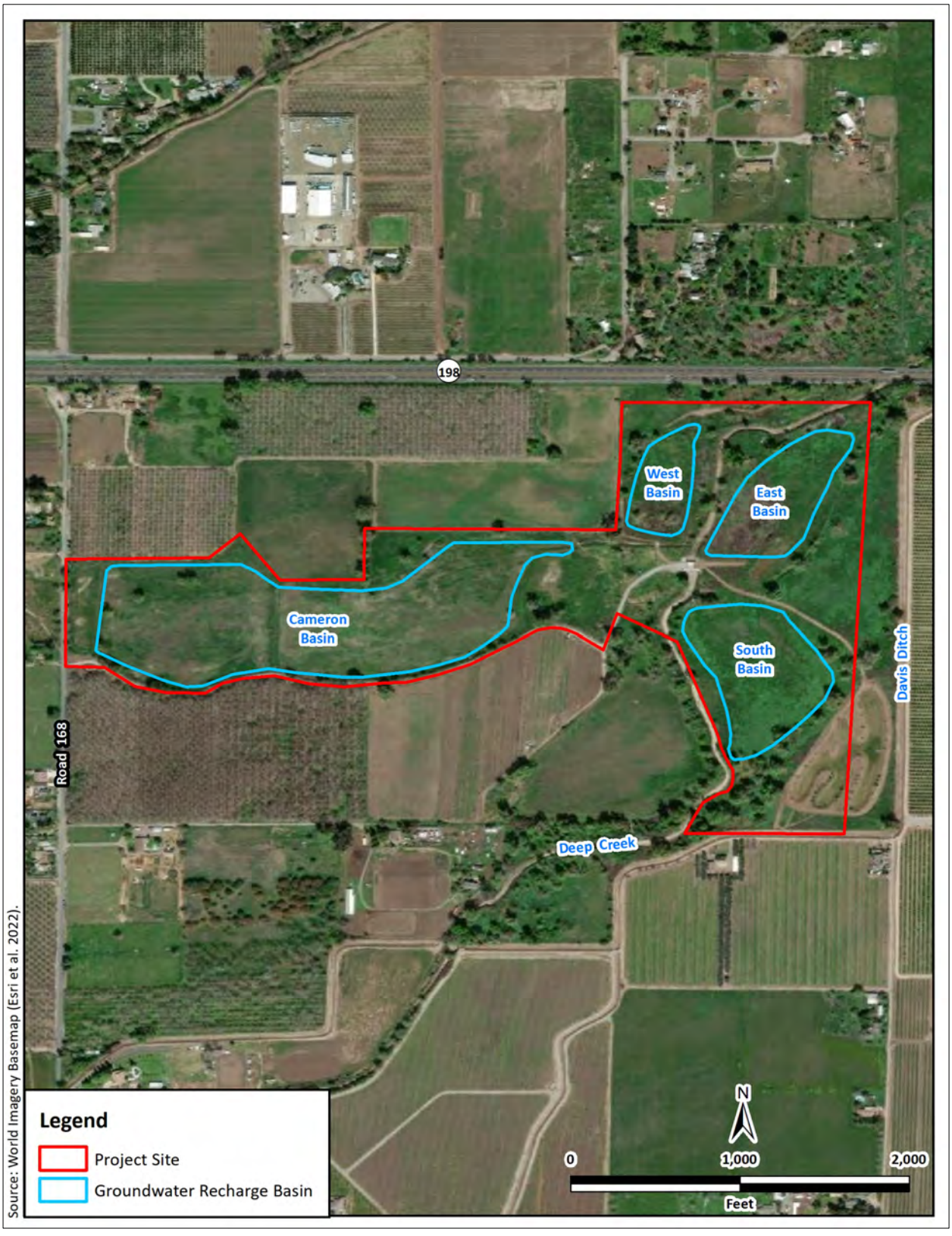

Figure 2. Project site map.

1.4 Regulatory Framework

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

1.4.1 State Requirements

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

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

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

California Native Plant Society (CNPS) inventories the native flora of California and ranks species according to rarity (CNPS 2022). Plants with Rare Plant Ranks 1A, 1B, 2A, or 2B are considered special-status species under CEQA.

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

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

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

***Porter-Cologne Water Quality Control Act*.** The Porter-Cologne Water Quality Control Act (California Water Code § 13000 et. sec.) was established in 1969 and entrusts the SWRCB and nine Regional Water Quality Control Boards (collectively Water Boards) with the responsibility to preserve and enhance all beneficial uses of California's diverse waters. The Act grants the Water Boards authority to establish water quality objectives and regulate point- and nonpoint-source pollution discharge to the state's surface and ground waters. Under the auspices of the United States Environmental Protection Agency, the Water Boards are responsible for certifying, under Section 401 of the federal Clean Water Act, that activities affecting waters of the United States comply California water quality standards. The Porter-Cologne Water Quality Control Act addresses all "waters of the State," which are more broadly defined than waters of the Unites States. Waters of the State include any surface water or groundwater, including saline waters, within the boundaries of the state. They include artificial as well as natural water bodies and federally jurisdictional and federally non-jurisdictional waters. The Water Boards may issue a Waste Discharge Requirement permit for projects that will affect only federally non-jurisdictional waters of the State.

1.4.2 Federal Requirements

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

Migratory Bird Treaty Act. The federal MBTA (16 USC § 703, Supp. I, 1989) prohibits killing, possessing, trading, or other forms of take of migratory birds except in accordance with regulations prescribed by the Secretary of the Interior. "Take" is defined as the pursuing, hunting, shooting, capturing, collecting, or killing of birds, their nests, eggs, or young (16 USC § 703 and § 715n). This act encompasses whole birds, parts of birds, and bird nests and eggs. The MBTA specifically protects migratory bird nests from possession, sale, purchase, barter transport, import, and export, and take. For nests, the definition of take per 50 CFR 10.12 is to collect. The MBTA does not include a definition of an "active nest." However, the "Migratory Bird Permit Memorandum" issued by the USFWS in 2003 and updated in 2018 clarifies the MBTA in that regard and states that the removal of nests, without eggs or birds, is legal under the MBTA, provided no possession (which is interpreted as holding the nest with the intent of retaining it) occurs during the destruction (USFWS 2018).

United States Army Corps of Engineers Jurisdiction. Areas meeting the regulatory definition of "waters of the United States" (jurisdictional waters) are subject to the jurisdiction of the USACE under provisions of Section 404 of the Clean Water Act (1972) and Section 10 of the Rivers and Harbors Act (1899). These waters may include all waters used, or potentially used, for interstate commerce, including all waters subject to the ebb and flow of the tide, all interstate waters, all other waters (intrastate lakes, rivers, streams, mudflats, sandflats, playa lakes, natural ponds, etc.), all impoundments of waters otherwise defined as waters of the United States, tributaries of waters otherwise defined as waters of the United States, the territorial seas, and wetlands adjacent to waters of the United States (33 CFR part 328.3). Wetlands on non-agricultural lands are identified using the *Corps of Engineers Wetlands Delineation Manual* and related Regional Supplement (USACE 1987 and 2008). Construction activities, including direct removal, filling, hydrologic disruption, or other means in jurisdictional waters are regulated by the USACE. The placement of dredged or fill material into such waters must comply with permit requirements of

the USACE. No USACE permit will be effective in the absence of state water quality certification pursuant to Section 401 of the Clean Water Act. The SWRCB is the state agency (together with the Regional Water Quality Control Boards) charged with implementing water quality certification in California.

2.0 Methods

2.1 Desktop Review

As a framework for the evaluation and reconnaissance survey, we obtained an official USFWS species list for the Project (USFWS 2022a, Appendix A). In addition, we searched the California Natural Diversity Database (CNDDB, CDFW 2022, Appendix B) and the CNPS Inventory of Rare and Endangered Plants (CNPS 2022, Appendix C) for records of special-status plant and animal species from the vicinity of the Project site. Regional lists of special-status species were compiled using CNDDB and CNPS database searches confined to the Exeter 7.5-minute United States Geological Survey (USGS) topographic quadrangle, which encompasses the Project site, and the eight surrounding quadrangles (Woodlake, Tulare, Rocky Hill, Cairns Corner, Visalia, Lindsay, Monson, and Ivanhoe). A local list of special-status species was compiled using CNDDB records from within 5 miles of the Project site. Species that lacked a CEQA-recognized special-status designation by state or federal regulatory agencies or public interest groups were omitted from the final list. Species for which the Project site does not provide habitat were eliminated from further consideration. We also reviewed aerial imagery from Google Earth (Google 2022) and other sources, USGS topographic maps, the Web Soil Survey (NRCS 2022), the National Wetlands Inventory (USFWS 2022b), and relevant literature.

2.2 Reconnaissance Survey

Colibri Senior Scientist Ryan Slezak and Colibri Associate Scientist Kristine Harman conducted a field reconnaissance survey of the Project site on 3 March 2022. The Project site and a 50-foot buffer surrounding the Project site (Figure 3) were walked and thoroughly inspected to evaluate and document the potential for the area to support state or federally protected resources. All plants except those under cultivation or planted in residential areas and all vertebrate wildlife species observed within the survey area were identified and documented. The survey area was evaluated for the presence of regulated habitats, including lakes, streams, and other waters using methods described in the *Wetlands Delineation Manual* and regional supplement (USACE 1987, 2008) and as defined by the CDFW (https://www.wildlife.ca.gov/conservation/lsa) or under the Porter-Cologne Water Quality Control Act. An additional buffer of 0.5 miles around the Project site was inspected for potential nesting habitat for special-status raptors. The 0.5-mile buffer was surveyed by driving public roads and identifying the presence of large trees or other potentially suitable substrates for nesting raptors as well as open areas that could provide foraging habitat.

2.3 Significance Criteria

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

a) Substantially reduce the habitat of a fish or wildlife species,
b) Cause a fish or wildlife population to drop below self-sustaining levels,
c) Threaten to eliminate a plant or animal community, or
d) Substantially reduce the number or restrict the range of a rare or endangered plant or animal.

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

e) 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;

f) 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;

g) 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;

h) 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;

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

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

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

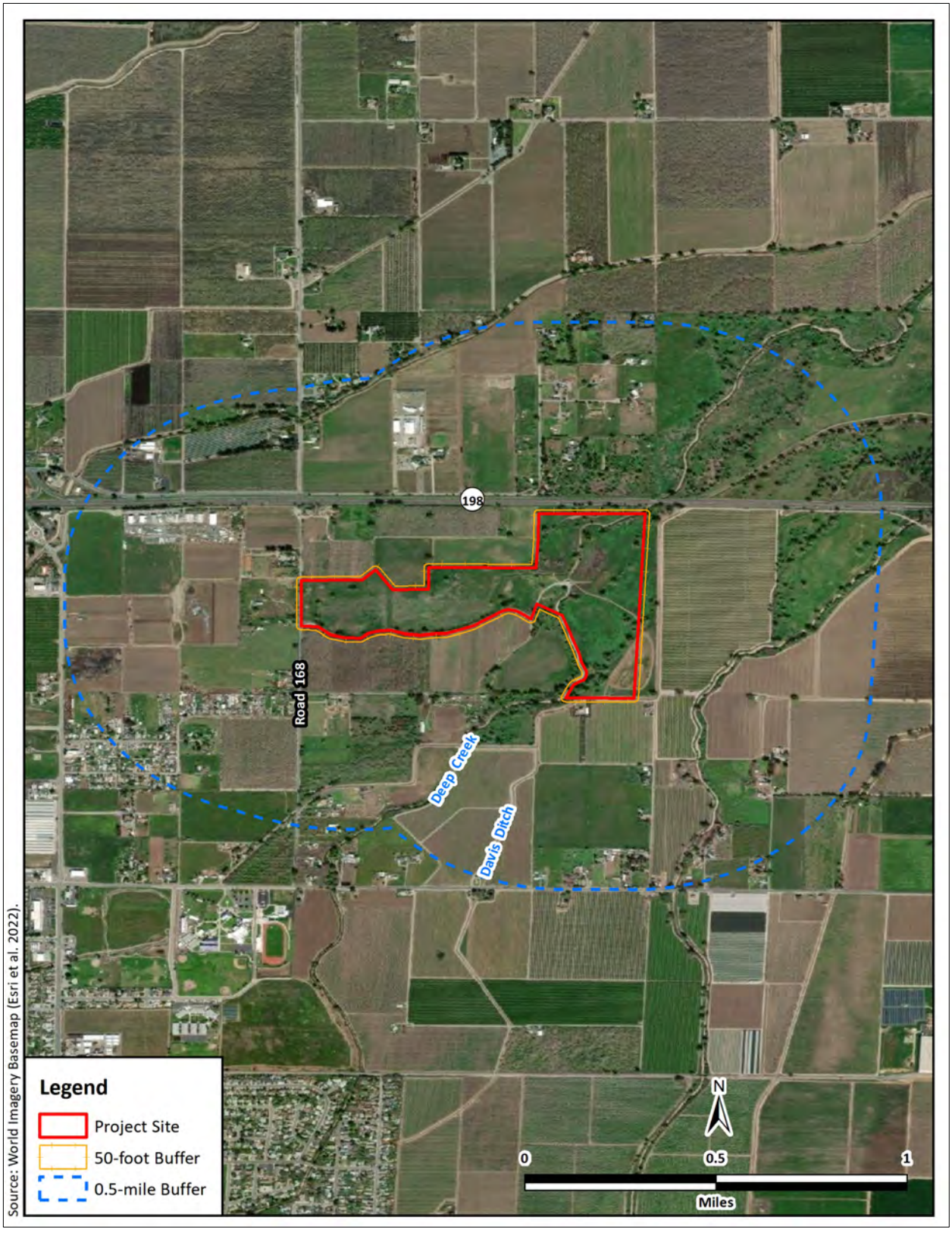

Figure 3. Reconnaissance survey area map.

3.0 Results

3.1 Desktop Review

The USFWS species list for the Project included nine species listed as threatened or endangered under the FESA (USFWS 2022a, Table 1, Appendix A). Of those nine species, only San Joaquin kit fox (*Vulpes macrotis mutica* – FE, ST) has the potential to occur on or near the Project site. The remaining eight species have been excluded from further consideration due to either (1) the lack of habitat, (2) the Project site being outside the current range of the species, or (3) the presence of development that would otherwise preclude occurrence (Table 1). As identified in the species list, the Project site does not occur in USFWS-designated or proposed critical habitat for any species (USFWS 2022a, Appendix A).

Searching the CNDDB for records of special-status species from the Exeter 7.5-minute USGS topographic quad and the eight surrounding quads produced 210 records of 47 species (Table 1, Appendix B). Of those 47 species, eight are not given further consideration because they are not CEQA-recognized as special-status species by state or federal regulatory agencies or public interest groups or are considered extirpated in California (Appendix B). Of the remaining 39 species, 14 are known from within 5 miles of the Project site (Table 1, Figure 4). Of those species, only the Northern California legless lizard (*Anniella pulchra* – SSSC), American badger (*Taxidea taxus* – SSSC), pallid bat (*Antrozous pallidus* – SSSC), and San Joaquin kit fox could occur on or near the Project site (Table 1). In addition, Swainson's hawk (*Buteo swainsoni* – ST), burrowing owl (*Athene cunicularia* – SSSC), and western mastiff bat (*Eumops perotis californicus* – SSSC) were identified in the nine-quad search and could occur on or near the Project site (Table 1).

Searching the CNPS inventory of rare and endangered plants of California yielded 27 species (CNPS 2022, Appendix C), 21 of which have a CRPR of 1 or 2 (Table 1). None of these species are expected to occur on or near the Project site due to either (1) lack of habitat, (2) the Project site being outside the current range of the species, or (3) lack of detection during the 3 March 2022 survey (Table 1).

The Project site is underlain by Grangeville sandy loam, 0 to 2 percent slopes and Nord find sandy loam, 0 to 2 percent slopes (NCRS 2022). The Project site is at 364–375 feet above mean sea level (Google 2022).

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

Species	Status[1]	Habitat	Potential to Occur[2]
Federally and State-Listed Endangered or Threatened Species			
California jewelflower (*Caulanthus californicus*)	FE, SE, 1B.1	Chenopod scrub, pinyon and juniper woodland, and valley and foothill grassland at 150–3300 feet elevation.	**None.** Grassland habitat was present; however, the Project site is routinely disturbed and managed for groundwater retention, and there are no occurrence records from within 5 miles of the Project site.
Greene's tuctoria (*Tuctoria greenei*)	FE, 1B.1	Vernal pools in open grasslands below 3445 feet elevation.	**None.** Habitat lacking; the Project site lacks vernal pools.
Hoover's spurge (*Euphorbia spurge*)	FT, 1B.2	Vernal pools and depressions.	**None.** Habitat lacking; the Project site lacks vernal pools.
Kaweah brodiaea (*Brodiaea insignis*)	SE, 1B.2	Valley and foothill grassland, meadows, and cismontane woodlands with granitic or clay soils.	**None.** Grassland habitat was present; however, the Project site lacks granitic or clay soils.
San Joaquin adobe sunburst[3] (*Pseudobahia peirsonii*)	FT, SE, 1B.1	Grassland and bare dark clay.	**None.** Grassland habitat was present; however, the Project site lacks bare dark clay.
San Joaquin Valley Orcutt grass (*Orcuttia inaequalis*)	FT, SE, 1B.1	Vernal pools at or below 2700 feet elevation.	**None.** Habitat lacking; the Project site lacks vernal pools.
Striped adobe-lily (*Fritillaria striata*)	ST, 1B.1	Grasslands, in deep, clayey soils of granitic origin.	**None.** Grassland habitat was present; however, the Project site lacks deep, clayey soils of granitic origin.

Monarch California overwintering population (*Danaus plexippus*)	FC	Groves of trees within 1.5 miles of the ocean that produce suitable micro-climates for overwintering such as high humidity, dappled sunlight, access to water and nectar, and protection from wind.	**None.** Habitat lacking; the Project site is not within 1.5 miles of the ocean.
Valley elderberry longhorn beetle[3] (*Desmocerus californicus dimorphus*)	FT	Elderberry (*Sambucus* sp.) plants with stems > 1-inch diameter at ground level.	**None.** The Project site is outside of currently recognized range of this species.
Vernal pool fairy shrimp (*Branchinecta lynchi*)	FT	Vernal pools and ponds.	**None.** Habitat lacking; the Project site lacks vernal pools or ponds.
Vernal pool tadpole shrimp (*Lepidurus packardi*)	FE	Vernal pools, clay flats, alkaline pools, and ephemeral stock tanks.	**None.** Habitat lacking; the Project site is outside the current known range of this species.
Delta smelt (*Hypomesus transpacificus*)	FT, SE	Shallow, fresh, or slightly brackish backwater sloughs and edgewaters.	**None.** Habitat lacking; the Project site lacks connectivity to the aquatic habitat this species requires.
Blunt-nosed leopard lizard (*Gambelia sila*)	FE, SE	Upland scrub and sparsely vegetated grassland with small mammal burrows below 2400 feet elevation.	**None.** Habitat lacking; the Project site is outside the current known range of this species.
California red-legged frog (*Rana draytonii*)	FT, SSSC	Creeks, ponds, and marshes for breeding; burrows for upland refuge.	**None.** Habitat lacking; the Project site is outside the current known range of this species.
California tiger salamander (*Ambystoma californiense*)	FT, ST	Vernal pools or seasonal ponds for breeding; small mammal burrows for	**None.** Habitat lacking; the Project site is outside the current known range of this species.

		upland refugia in natural grasslands.	
Foothill yellow-legged frog (*Rana boylii*)	SE, SSSC	Perennial streams and rivers with rocky substrates, and with open, sunny banks may be in forests, chaparral, or woodlands.	**None.** Habitat lacking; Deep Creek bisects the Project site but is not a perennial stream.
Giant garter snake (*Thamnophis gigas*)	FT, ST	Marshes, sloughs, drainage canals, irrigation ditches, and slow-moving creeks.	**None.** The Project site is outside the current known range of this species.
Swainson's hawk (*Buteo swainsoni*)	ST	Large trees for nesting with adjacent grasslands, alfalfa fields, or grain fields.	**Moderate.** The Project site contained potential nesting and foraging habitat; however, no nests have been documented within 5 miles of the Project site.
Tricolored blackbird (*Agelaius tricolor*)	ST	Large freshwater marshes, in dense stands of cattails or bulrushes and silage fields near dairies.	**None.** Habitat lacking; the Project site lacked freshwater marshes or silage fields.
Western yellow-billed cuckoo[3] (*Coccyzus americanus occidentalis*)	FT, SE	Open woodlands with dense, low vegetation along waterways, orchards, and dense leafy groves and thickets.	**None.** The Project site is outside the current known range of this species.
San Joaquin kit fox[3] (*Vulpes macrotis mutica*)	FE, ST	Grassland and fallowed agricultural lands adjacent to natural grasslands or upland scrub.	**Low.** Grassland habitat was present on the Project site. Although the Project site is outside the current known local range of this species (e.g., all nearby occurrence records are from the 1970s),

			dispersing individuals could use the site.
Tipton kangaroo rat (*Dipodomys nitratoides nitratoides*)	FE, SE	Grassland and upland scrub with sparse to moderate shrub cover and saline soils; also fallowed agricultural fields adjacent to natural grasslands or upland scrub.	**None.** Habitat lacking; the Project site is outside the current known range of this species.
State Species of Special Concern			
Northern leopard frog (*Lithobates pipiens*)	SSSC	Wet meadows, canals, bogs, marshes, and reservoirs in grassland, forest, and woodland.	**None.** Habitat lacking; the Project site is outside the current known local range of this species.
Northern California legless lizard[3] (*Anniella pulchra*)	SSSC	Moist, warm, loose soil with plant cover in beach dunes, chaparral, pine-oak woodlands, sandy areas, and stream terraces.	**Moderate.** Loose soil associated with Deep Creek provides habitat for this species. There are two CNDDB records of this species from within 5 miles of the Project site, including one from 0.6 miles northeast of the Project site.
Northwestern pond turtle[3] (*Actinemys marmorata*)	SSSC	Ponds, rivers, marshes, streams, and irrigation ditches, usually with aquatic vegetation and woody debris for basking and adjacent natural upland areas for egg laying.	**None.** Habitat lacking; this species requires permanent or nearly permanent aquatic habitat. Deep Creek, which bisects the Project site, was dry at the time of the survey.
Western spadefoot (*Spea hammondii*)	SSSC	Rain pools for breeding and small mammal burrows or other suitable refugia for nonbreeding upland cover.	**None.** Habitat lacking; vernal pools or other ephemeral pools were absent from the Project site; no

			records from within 5 miles.
Burrowing owl (*Athene cunicularia*)	SSSC	Grassland and upland scrub with friable soil; agricultural or other developed and disturbed areas with ground squirrel burrows.	**Low.** The Project site contained grassland with friable soils and ground squirrel burrows; however, there are no CNDDB records from within 5 miles of the Project site.
American badger[3] (*Taxidea taxus*)	SSSC	Open areas including meadows, grasslands, and chaparral with less than 50% plant cover.	**Low.** Grassland habitat was present. There is one 1994 CNDDB record from 0.25 miles from the Project site.
Pallid bat[3] (*Antrozous pallidus*)	SSSC	Arid or semi-arid locations in rocky areas and sparsely vegetated grassland near water. Rock crevices, caves, mine shafts, bridges, building, and tree hollows for roosting.	**Moderate.** Trees in the Deep Creek riparian corridor and elsewhere on the Project site may provide roosting habitat for this species. There is one 2004 CNDDB record from within 5 miles of the Project site.
Western mastiff bat (*Eumops perotis californicus*)	SSSC	Roosts in crevices in face cliffs, tall buildings, trees, and tunnels in open semi-arid habitats.	**Low.** Trees in the Deep Creek riparian corridor and elsewhere on the Project site may provide roosting habitat for this species.
California Rare Plants			
Alkali-sink goldfields[3] (*Lasthenia chrysantha*)	1B.1	Vernal pools and wet saline flats below 320 feet elevation.	**None.** Habitat lacking; the Project site is above the known elevational range of this species.

Brittlescale[3] (*Atriplex depressa*)	1B.2	Alkaline or clay soils in chenopod scrub, meadows and seeps, playas, valley and foothill grassland, and vernal pools below 1000 feet elevation.	**None.** Grassland habitat was present; however, the Project site lacks alkaline or clay soils.
Calico monkeyflower[3] (*Diplacus pictus*)	1B.2	Bare, sunny, shrubby areas around granite outcrops in the southern Sierra Nevada mountains at 442–4100 feet elevation.	**None.** Habitat lacking; the Project site is below the known elevational range of this species.
California alkali grass (*Puccinellia simplex*)	1B.2	Scrub, meadows, seeps, grassland, vernal pools with saline soils, saline flats, and mineral springs below 3000 feet elevation.	**None.** Grassland habitat was present; however, the Project site lacks saline soils.
California satintail[3] (*Imperata brevifolia*)	2B.1	Mesic areas in chaparral or riparian scrub below 3985 feet elevation.	**None.** Habitat lacking; the Project site lacks chaparral or riparian scrub. Nearest record is of a vague 1895 CNDDB occurrence 4.5 miles from the Project site.
Coulter's goldfields (*Lasthenia glabrata ssp. coulteri*)	1B.1	Saltmarsh, playas, and vernal pools below 4000 feet elevation.	**None.** Habitat lacking; the Project site lacks saltmarsh, playas, and vernal pools.
Earlimart orache (*Atriplex cordulata var. erecticaulis*)	1B.2	Saline or alkaline soils in Central Valley and foothill grassland below 230 feet elevation.	**None.** Habitat lacking; the Project site is above the known elevational range of this species.
Lesser saltscale (*Atriplex minuscula*)	1B.1	Sandy alkaline soils in chenopod scrub, playa, and grassland in the San Joaquin Valley	**None.** Grassland habitat was present; however, the Project site lacks alkaline soils.

		below 328 feet elevation.	
Recurved larkspur[3] (*Delphinium recurvatum*)	1B.2	Poorly drained, fine, alkaline soils in chenopod scrub, cismontane woodland, and valley and foothill grassland at 10–2800 feet elevation.	**None.** Grassland habitat was present; however, the Project site lacks alkaline soils.
Sanford's arrowhead (*Sagittaria sanfordii*)	1B.2	Ponds, sloughs, and ditches at sea level to 650 feet elevation.	**None.** Potential habitat was present in Deep Creek; however, no individuals were detected during the 3 March 2022 survey, and there are no occurrence records from within 5 miles of the Project site.
Spiny-sepaled button-celery[3] (*Eryngium spinosepalum*)	1B.2	Vernal pools and swales in valley and foothill grassland at 330–4200 feet elevation.	**None.** Habitat lacking; the Project site lacks vernal pools.
Subtle orache (*Atriplex subtilis*)	1B.2	Saline depressions below 230 feet elevation.	**None.** Habitat lacking; the Project site is above the known elevational range of this species.
Vernal pool smallscale (*Atriplex persistens*)	1B.2	Alkaline vernal pools in the Central Valley below 377 feet elevation.	**None.** Habitat lacking; the Project site lacks alkaline vernal pools.
Winter's sunflower (*Helianthus winteri*)	1B.2	Steep, south-facing grassy slopes, rock outcrops, and road cuts at 590–1509 feet elevation.	**None.** Habitat lacking; the Project site is below the known elevational range of this species.

CDFW (2022), CNPS (2022), USFWS (2022).

Status[1]	**Potential to Occur**[2]	
FE = Federally listed Endangered	None:	Species or sign not observed; conditions unsuitable for occurrence.
FT = Federally listed Threatened	Low:	Neither species nor sign observed; conditions marginal for occurrence.
FP = State Fully Protected	Moderate:	Neither species nor sign observed; conditions suitable for occurrence.
FC = Federal Candidate of listing under the FESA	High:	Neither species nor sign observed; conditions highly suitable for occurrence.
SE = State listed Endangered	Present:	Species or sign observed; conditions suitable for occurrence.
ST = State listed Threatened		
SSSC = State Species of Special Concern		

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

[3]Record from within 5 miles of the Project site.

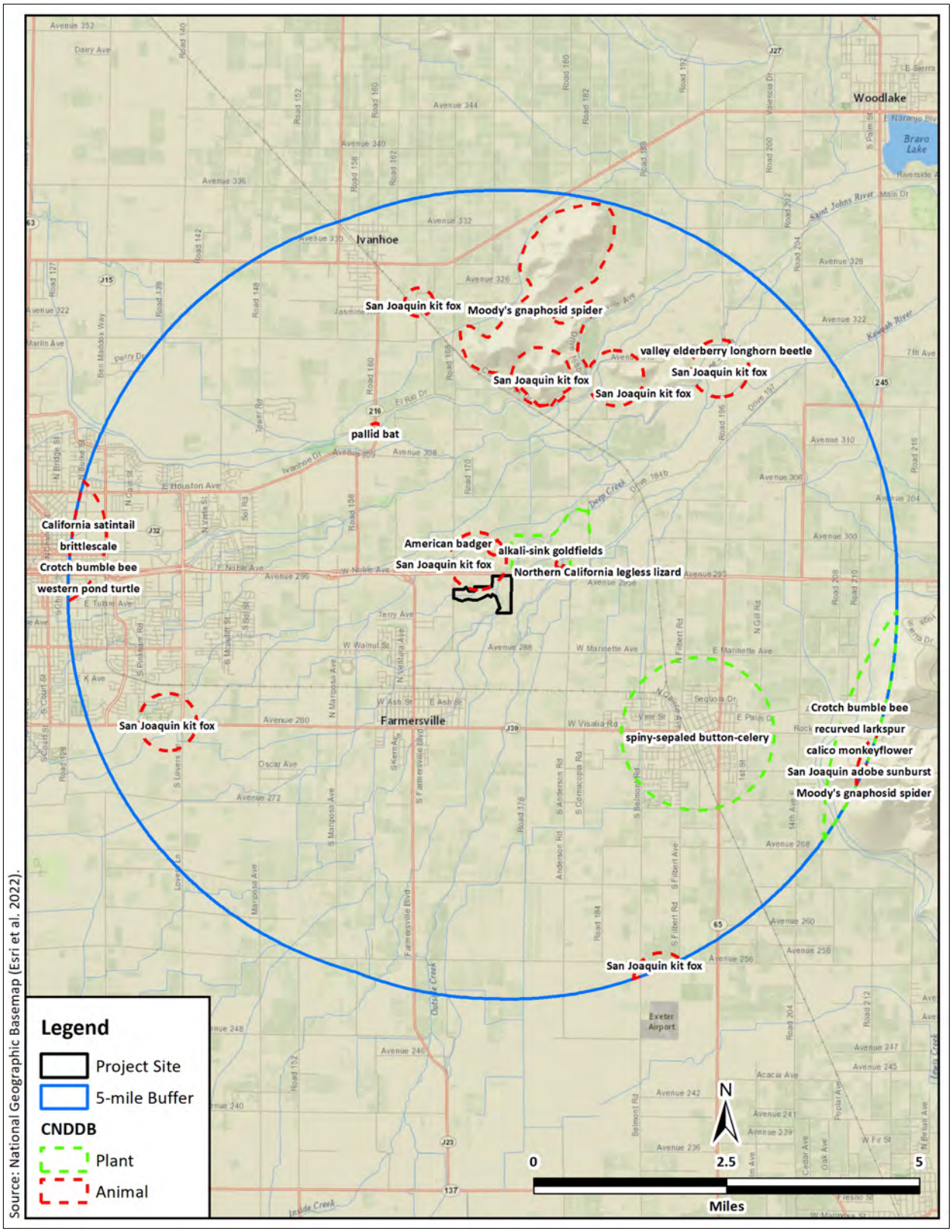

Figure 4. CNDDB occurrence map.

3.2 Reconnaissance Survey

3.2.1 Land Use and Habitats

The Project site contained four groundwater recharge basins connected to Deep Creek through a series of canals, ditches, and floodgates (Figures 5–10). Historically, the groundwater recharge basins were natural sloughs and overflow areas of Deep Creek. Satellite imagery suggests the groundwater recharge basins were excavated between 2003 and 2006 (Google 2022) and are periodically regraded or disced. Signs of recent weed control (dead plants along roads and ditches) were present at the time of survey (Figure 8). The Project site was bordered by orchard to the east and south, a fallowed agricultural field to the north, and a residential area to the west. The Kaweah Oaks Preserve, a 344-acre nature preserve, was 300 feet northeast of the Project site on the north side of State Route 198.

The groundwater recharge basins supported disturbed grassland dominated by nonnative grasses and ruderal herbaceous plant species. The recharge basin embankments were sparsely lined with mature valley oaks (*Quercus lobata*). Deep Creek, which bisected the Project site, had a trapezoidal channel formed by 10-foot-tall reinforced earthen embankments (Figure 10). The stream channel was moderate to sparsely vegetated with native and nonnative plant species and had a fine sandy substrate. The stream channel was dry at the time of survey. Deep Creek supported valley oak riparian forest upstream and downstream of the groundwater recharge basins (Figure 11). Soil in the groundwater recharge basins was sandy loam. Soil was saturated in low-lying areas of the groundwater recharge basins although no standing water was present. Ground squirrel burrows were present in the embankments of Deep Creek and the groundwater recharge basins.

Figure 5. Photograph of the Project site, looking northeast, showing Cameron Basin.

Figure 6. Photograph of the Project site, looking northeast, showing East Basin.

Figure 7. Photograph of the Project site, looking southwest, showing West Basin.

Figure 8. Photograph of the Project site, looking south, showing roadside weed control with South Basin in the background.

Figure 9. Photograph of the Project site, looking north (upstream), showing Deep Creek bisecting East Basin and West Basin.

Figure 10. Photograph of the Project site, looking north, showing an inlet to East Basin at State Route 198.

Figure 11. Photograph of the Project site, looking west, showing valley oak riparian forest in southern quarter of the Project site.

3.2.2 Plant and Animal Species Observed

A total of 46 plant species (16 native and 30 nonnative), one reptile species, 17 bird species, and two mammal species were observed during the survey (Table 2).

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

Common Name	Scientific Name	Status
Plants		
Family Adoxaceae		
Blue elderberry	*Sambucus nigra* ssp. *cerulea*	Native
Family Apiaceae		
Poison hemlock	*Conium maculatum*	Nonnative
Family Asteraceae		
California mugwort	*Artemisia douglasiana*	Native
Common burdock	*Arctium minus*	Nonnative
Common groundsel	*Senecio vulgaris*	Nonnative
Common sunflower	*Helianthus annuus*	Native
Milk thistle	*Silybum marianum*	Nonnative
Prickly lettuce	*Lactuca serriola*	Nonnative
Yellow star thistle	*Centaurea solstitialis*	Nonnative
Family Betulaceae		
White alder	*Alnus rhombifolia*	Native
Family Boraginaceae		
Common fiddleneck	*Amsinckia intermedia*	Native
Valley popcornflower	*Plagiobothrys canescens*	Native
Family Brassicaceae		
Black mustard	*Brassica nigra*	Nonnative
London rocket	*Sisymbium irio*	Nonnative
Shepherd's purse	*Capsella bursa-pastoris*	Nonnative
Shortpod mustard	*Hirschfeldia incana*	Nonnative
Tall hedge mustard	*Sisymbrium loeselii*	Nonnative
Family Caryophyllaceae		
Common chickweed	*Stellaria media*	Nonnative
Family Cucurbitaceae		

Coyote melon	*Cucurbita palmata*	Native
Family Fabaceae		
Lupine	*Lupinus* sp.	Native
Yellow sweetclover	*Melilotus officinalis*	Nonnative
London rocket	*Sisymbium irio*	Nonnative
Tall hedge mustard	*Sisymbrium loeselii*	Nonnative
Family Fagaceae		
Valley oak	*Quercus lobata*	Native
Family Geraniaceae		
Longbeak stork's bill	*Erodium botrys*	Nonnative
Family Lamiaceae		
Henbit	*Lamium amplexicaule*	Nonnative
Family Malvaceae		
Cheeseweed	*Malva parviflora*	Nonnative
Family Meliaceae		
Chinaberry	*Melia azedarach*	Nonnative
Family Montiaceae		
Red maids	*Calandrinia menziesii*	Native
Family Poaceae		
Annual bluegrass	*Poa annua*	Nonnative
Giant reed	*Arundo donax*	Nonnative
Ripgut brome	*Bromus diandrus*	Nonnative
Wall barley	*Hordeum murinum*	Nonnative
Family Platanaceae		
Western sycamore	*Platanus racemosa*	Native
Family Plantaginaceae		
Bird's eye speedwell	*Veronica persica*	Nonnative
Neckweed	*Veronica peregrina*	Native
Family Polygonaceae		
Common sheep sorrel	*Rumex acetosella*	Nonnative
Curly dock	*Rumex crispus*	Nonnative
Family Salicaceae		
Fremont cottonwood	*Populus fremontii*	Native
Pacific willow	*Salix lasiandra*	Native
Family Scrophulariaceae		

Woolly mullein	*Verbascum thapsus*	Nonnative
Family Solanaceae		
Silverleaf nightshade	*Solanum elaeagnifolium*	Nonnative
Tree tobacco	*Nicotiana glauca*	Nonnative
Family Urticaceae		
Dwarf nettle	*Urtica urens*	Nonnative
Stinging nettle	*Urtica dioica*	Native
Family Vitaceae		
California wild grape	*Vitis californica*	Native
Reptiles		
Family Phrynosomatidae		
San Joaquin fence lizard	*Sceloporus occidentalis biseriatus*	--
Birds		
Family Accipitridae		
Red-tailed hawk	*Buteo jamaicensis*	MBTA, CFGC
Family Cathartidae		
Turkey vulture	Cathartes aura	MBTA, CFGC
Family Charadriidae		
Killdeer	*Charadrius vociferus*	MBTA, CFGC
Family Columbidae		
Eurasian collared-dove	*Streptopelia decaocto*	--
Mourning dove	*Zenaida macroura*	MBTA, CFGC
Family Corvidae		
California scrub-jay	*Aphelocoma californica*	MBTA, CFGC
Common raven	*Corvus corax*	MBTA, CFGC
Family Falconidae		
American kestrel	*Falco sparverius*	MBTA, CFGC
Family Hirundinidae		
Barn swallow	*Hirundo rustica*	MBTA, CFGC
Family Paridae		
Oak titmouse	*Baeolophus inornatus*	MBTA, CFGC
Family Parulidae		
Yellow-rumped warbler	*Setophaga coronata*	MBTA, CFGC
Family Passerellidae		
White-crowned sparrow	*Zonotrichia leucophrys*	MBTA, CFGC
Family Picidae		

Acorn woodpecker	*Melanerpes formicivorus*	MBTA, CFGC
Northern flicker	*Colaptes auratus*	MBTA, CFGC
Family Sturnidae		
European starling	*Sturnus vulgaris*	None
Family Trochilidae		
Anna's hummingbird	*Calypte anna*	MBTA, CFGC
Rufous hummingbird	*Selasphorus rufus*	MBTA, CFGC
Mammals		
Family Canidae		
Coyote	*Canis latrans*	--
Family Sciuridae		
California ground squirrel	*Otospermophilus beecheyi*	--

MBTA = Protected under the Migratory Bird Treaty Act (16 USC § 703 et seq.); CFGC = Protected under the California Fish and Game Code (FGC §§ 3503 and 3513).

3.2.3 Nesting Birds

Migratory birds could nest on or near the Project site. Bird species that may nest on or near the property include, but are not limited to, acorn woodpecker (*Melanerpes fromicivorus*), California scrub-jay (*Aphelocoma californica*), and red-tailed hawk (*Buteo jamaicensis*).

3.2.4 Regulated Habitats

Deep Creek bisects the Project site. As a stream in California, it is under the regulatory jurisdiction of the CDFW; as a potential surface water in California, it may be under the regulatory jurisdiction of the SWRCB; and as a potential tributary of the Tule River, it may be under the regulatory jurisdiction of the USACE. In addition, Davis Ditch borders the Project site. Davis Ditch may flow into Deep Creek downstream of the Project site. Consequently, as a potential tributary of the Tule River, it may be under the regulatory jurisdiction of the USACE. As a stream and potential surface water in California, it may be under the regulatory jurisdiction of the SWRCB and the CDFW. If impacts to these two features are unavoidable, further delineation of their boundaries and consultation with the CDFW, SWRCB, and/or the USACE may be required.

No impacts to these features are anticipated. If impacts to these two features are unavoidable, further delineation of their boundaries and consultation with the USACE, CDFW, and SWRCB may be required.

3.3 Special-Status Species

The following seven special-status species could occur on or near the Project site based on the presence of habitat:

3.3.1 Swainson's hawk (*Buteo swainsoni*, ST)

Swainson's hawk is a state listed as threatened raptor in the family Accipitridae. It is a migratory breeding resident of Central California. It uses open areas including grassland, sparse shrubland, pasture, open woodland, and annual agricultural fields such as grain and alfalfa to forage on small mammals, birds, and reptiles. After breeding, it eats mainly insects, especially grasshoppers (Bechard et al. 2020). Swainson's hawks build small to medium-sized nests in medium to large trees near foraging habitat. The nesting season begins in March or April in Central California when this species returns to its breeding grounds from wintering areas in Mexico and Central and South America. Nest building commences within one to two weeks of arrival to the breeding area and lasts about one week (Bechard et al. 2020). One to four eggs are laid and incubated for about 35 days. Young typically fledge in about 38–46 days and tend to leave the nest territory within 10 days of fledging (Bechard et al. 2020). Swainson's hawks depart for the non-breeding grounds between August and September.

Although there are no records of Swainson's hawk from within 5 miles of the Project site, seven CNDDB records of Swainson's hawk, from 1994–2017, were found in the nine-quad search (CDFW 2022). Open grassland on the Project site provides potential foraging habitat for Swainson's hawk, and many potential nest trees were within 0.5 miles of the Project site. Therefore, the potential for this species to occur is moderate.

3.3.2 San Joaquin kit fox (*Vulpes macrotis mutica*, FE, ST)

San Joaquin kit fox is a federally listed as endangered and state-listed as threatened member of the family Canidae (USFWS 1998; CDFW 2022). San Joaquin kit fox is primarily nocturnal and typically occupies valley grassland or mixed shrub/grassland habitats in low, rolling hills and valleys (Morrell 1972). San Joaquin kit fox uses grazed grasslands as well as grasslands with scattered structures such as power poles and wind turbines. This species also lives adjacent to, and forages in, tilled and fallow fields and irrigated row crops. However, large tracts of higher quality grassland or rangeland nearby is required to support the species (Warrick et al. 2007). The diet of the San Joaquin kit fox varies geographically, seasonally, and annually, but consists primarily of rodents, rabbits, ground-nesting birds, and insects (Scrivner et al. 1987; Spiegel et al. 1996). Giant kangaroo rat (*Dipodomys ingens*) is a favored prey item (Cypher et al. 2000).

San Joaquin kit fox requires underground dens to regulate its temperature and for shelter, reproduction, and predator avoidance (Morrell 1972). The species commonly modifies and uses dens constructed by other animals, such as ground squirrels and badgers, and will use human-made structures as well (USFWS 1998). Dens are usually made in loose-textured soils on slopes

of less than 40 degrees, but the number of openings, entrance shape, and the slope of the ground on which they occur vary across the geographic range of the species (USFWS 1998). San Joaquin kit fox changes den locations often, typically using numerous dens each year. Koopman et al. (1998) estimated that a San Joaquin kit fox will use an average of about 12 dens over the course of a year and will often not use the same dens the following year. This species is subject to predation or competitive exclusion by other species such as coyote (*Canis latrans*), domestic dog (*Canis familiaris*), bobcat (*Felis rufus*), and nonnative red fox (*Vulpes vulpes*), as well as large raptors (Benedict and Forbes 1979; Cypher and Spencer 1998; Clark et al. 2005, 2007).

There are six CNDDB records of San Joaquin kit fox from within 5 miles of the Project site from 1975–1988 (CDFW 2022). The Project site contained grassland that could provide habitat for this species. Although the Project site is outside the current known local range of this species, Deep Creek and its associated riparian corridor may serve as a corridor for dispersing individuals. Therefore, the potential for San Joaquin kit fox to occur on or near the Project site is low.

3.3.3 Northern California legless lizard (*Anniella pulchra*, SSSC)

Northern California legless lizard is a fossorial lizard in the family Anniellidae. Northern California legless lizard inhabits a range of land cover including coastal dune, valley-foothill, chaparral, and coastal scrub (Morey 2000). Northern California legless lizard occurs primarily in areas with sandy or loose soils or where there is plenty of leaf litter (Zeiner et al. 1988–1990). High soil moisture is an essential microhabitat requirement for the species (Miller 1944). Northern California legless lizard primarily consumes insect larvae and adult beetles (Miller 1944). Its activity is fossorial; it rarely travels above ground (Klauber 1932). Northern California legless lizard is live bearing with mating activities in late spring or early summer (Zeiner et al. 1988–1990). It is common and widespread in the Coast Range but less common and patchily distribution everywhere else in California.

There are two CNDDB records of Northern California legless lizard from within 5 miles of the Project Site from 1934 and 2015 (CNDDB 2022). The 2015 CNDDB record is of two individuals on the Kaweah Oaks Preserve, approximately 0.6 miles northeast of the Project site. Sandy, friable soils near Deep Creek and dense, moist ground cover in the riparian forest north and south of the groundwater recharge basins provide habitat for this species on the Project site. The groundwater recharge basins are routinely disturbed, have firmer soil, and are unlikely to provide habitat for Northern California legless lizard. Therefore, the potential for this species to occur on the Project site is moderate.

3.3.4 Burrowing owl (*Athene cunicularia*, SSSC)

Burrowing owl is a member of the family Strigidae recognized as a species of special concern by the CDFW (CDFW 2022). Burrowing owl depends on burrow systems excavated by other species such as California ground squirrel (*Otospermophilus beecheyi*) and American badger (*Taxidea taxus*) (Poulin et al. 2020). Burrowing owl uses burrows for protection from predators, weather, as roosting sites, and dwellings to raise young (Poulin et al. 2020). It commonly perches outside burrows on mounds of soil or nearby fence posts. Prey types include insects, especially grasshoppers and crickets, small mammals, frogs, toads, and lizards (Poulin et al. 2020). The nesting season begins in March, and incubation lasts 28–30 days. The female incubates the eggs while the male forages and delivers food items to the burrow-nest; young then fledge between 44 and 53 days after hatching (Poulin et al. 2020). Adults can live up to 8 years in the wild.

Although there are no CNDDB occurrence records of burrowing owl from within 5 miles of the Project site (CDFW 2022), the banks of Deep Creek and the groundwater recharge basins in the Project site contained ground squirrel burrows that could support the species. Grassland on the Project site and the fallowed field north of the Project site could also provide foraging habitat. However, the habitat is routinely disturbed, and no sign of burrowing owl was detected during the 3 March 2022 reconnaissance survey. Therefore, the potential for this species to occur on the Project site is low.

3.3.5 American badger (*Taxidea taxus*, SSSC)

American badger is a medium-sized fossorial carnivore in the family Mustelidae. It occurs throughout much of California. American badger resides primarily in open, early succession habitats such as arid and open shrubland, forest, and herbaceous habitat types with sparse vegetative cover and sandy soils (Apps et al. 2002). Friable soil is a key microhabitat requirement for this species, which digs burrows for shelter. American badger is carnivorous and preys on fossorial rodents. American badger has a large home range and is not known to migrate (Messick and Hornocker 1981). The American badger breeding season spans summer to early fall (Zeiner et al. 1988–1990). Once common in California, American badger is now considered a Species of Special Concern, primarily due to human encroachment including industrialized agriculture and urban development (Williams 1986). Additional threats to American badger include vehicle strikes, disease, and secondary poisoning via rodenticides (Quinn 2015).

There is one 1994 CNDDB occurrence record of American badger from within 5 miles of the Project site (CDFW 2022). This record is from 0.25 miles north of the Project site. Although no badger sign was found during the 3 March 2022 reconnaissance survey, the Project site does provide habitat for American badger in the form of friable sandy soils with sparse cover. Therefore, the potential for this species to occur on the project site is low.

3.3.6 Pallid bat (*Antrozous pallidus*, SSSC)

Pallid bat is a member of the family Vespertilionidae and is recognized as a Species of Special Concern by the CDFW (CDFW 2022). It is widespread in the western United States from southern British Columbia, Canada to northern Baja California, Mexico (Hermanson and O'Shea 1983). In California, pallid bat is locally common year-round at low elevations, where it occupies dry, open areas in grassland, shrubland, woodland, and forest (Zeiner et al. 1988–1990). Pallid bat is nocturnal and roosts during the day in caves, crevices in rocky outcrops, mines, and occasionally tree hollows and buildings; night roosts tend to be in more open areas including porches (Zeiner et al. 1988–1990). It forages almost exclusively on the ground, where it preys on insects, arachnids, beetles, moths, and scorpions; few prey items are taken aerially (Zeiner et al. 1988–1990). Pallid bat hibernates during winter, usually near a day roost that it occupies in summer (Hermanson and O'Shea 1983).

There is one 2004 CNDDB occurrence record of pallid bat from within 5 miles of the Project site (CDFW 2022). The CNDDB occurrence is from a bridge crossing the St. Johns River approximately 2.4 miles northwest of the Project site. The Project site supports potential day roost habitat in the form of tree hollows and nearby bridges crossing Deep Creek. The Project site contains open areas and riparian forest that may provide foraging habitat. Therefore, the species has a moderate potential to occur on the Project site.

3.3.4 Western mastiff bat (*Eumops perotis californicus*, SSSC)

Western mastiff bat is most common in the southern half of California, but its range extends almost to the Oregon border (Cockrum 1960). This species forages in large, open areas in habitats such as desert washes, floodplains, conifer and deciduous woodlands, coastal scrub, grasslands, chaparral, and agricultural lands (Cockrum 1960; Ross 1961). Roosts include the undersides of large slabs or boulders, trees, cliff faces, and cracks in buildings (Howell 1920; Dalquest 1946; Barbour and Davis 1969). This species typically selects roost sites high above the ground that allows a vertical drop of at least 10 feet to initiate flight (Howell 1920).

There are no CNDDB occurrence records of western mastiff bat from within 5 miles of the Project site (CDFW 2022). However, the tall, mature trees on the Project site provide potential day roost habitat in the form of tree hollows. The Project site contains open areas and riparian forest that may provide foraging habitat. Therefore, the species has a low potential to occur on the Project site.

4.0 Environmental Impacts

4.1 Significance Determinations

This Project, which will result in temporary and permanent impacts to previously disturbed groundwater recharge basins, will not: (1) substantially reduce the habitat of a fish or wildlife species (criterion a) as no such habitat is present on the Project site; (2) cause a fish or wildlife population to drop below self-sustaining levels (criterion b) as no such potentially vulnerable population is known from the area; (3) threaten to eliminate a plant or animal community (criterion c) as no such potentially vulnerable communities are known from the area; (4) substantially reduce the number or restrict the range of a rare or endangered plant or animal (criterion d) as no such potentially vulnerable species are known from the area; (5) have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFW or USFWS (criterion f) as no riparian habitat or other sensitive natural community was present in the survey area; (6) 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 (criterion g) as no impacts to wetlands will occur; (7) conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance (criterion i) as no trees or biologically sensitive areas will be impacted; or (8) conflict with the provisions of an adopted Habitat Conservation Plan, Natural Communities Conservation Plan, or other approved local, regional, or state habitat conservation plan (criterion j) as no such plan has been adopted. Thus, these significance criteria are not analyzed further.

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

- Criterion BIO1: Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS (significance criterion e).

- Criterion BIO2: Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites (significance criterion h).

4.1.1 Direct and Indirect Impacts

4.1.1.1 Potential Impact: Have a substantial Effect on any Special-Status Species (Criterion BIO1)

The Project could adversely affect seven special-status animal species that could occur on or near the Project site. Construction activities such as excavating, trenching, or using other heavy equipment that disturbs or harms a special-status species could constitute a significant impact. We recommend that Mitigation Measures BIO1, BIO2, BIO3, BIO4, BIO5, and BIO6 (below) be included in the conditions of approval to reduce the potential impacts to a less-than-significant level.

Mitigation Measure BIO1. Protect nesting Swainson's hawks.

1. To the extent practicable, construction shall be scheduled to avoid the Swainson's hawk nesting season, which extends from March through August.
2. If it is not possible to schedule construction between September and February, a qualified biologist shall conduct surveys for Swainson's hawk in accordance with the Swainson's Hawk Technical Advisory Committee's *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley* (SWTAC 2000, Appendix D). These methods require six surveys, three in each of the two survey periods, prior to project initiation. Surveys shall be conducted within a minimum 0.5-mile radius around the Project site.
3. If an active Swainson's hawk nest is found within 0.5 miles of the Project site, and the qualified biologist determines that Project activities would disrupt the nesting birds, a construction-free buffer or limited operating period shall be implemented in consultation with the CDFW.

Mitigation Measure BIO2. Protect San Joaquin kit fox.

1. To protect San Joaquin kit fox, a qualified biologist shall conduct a pre-construction survey within 30 days prior to the start of ground-disturbing activities to identify potential dens (burrows larger than 4 inches in diameter) in suitable land cover types on and within 250 feet of the Project site. If potential dens for San Joaquin kit fox are present, their disturbance and destruction shall be avoided. Exclusion zones shall be implemented based on the type of den and current use: Potential Den—50 feet; Known Den—100 feet; Natal or Pupping Den—to be determined on a case-by-case basis in coordination with USFWS and CDFW. All pipes greater than 4 inches in diameter stored on the construction site shall be capped, and exit ramps shall be installed in trenches and other excavations to avoid direct mortality. When possible, construction shall be conducted outside of the breeding season from October 1 to November 30. If den avoidance is not possible, procedures in *U.S. Fish and Wildlife Service Standardized*

Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior or During Ground Disturbance (USFWS 2011) shall be followed.

Mitigation Measure BIO3. Protect Northern California legless lizard.

1. If construction activities will impact habitat for Northern California legless lizard (loose, friable soil or dense leaf litter), a qualified biologist will conduct pre-construction surveys prior to initial ground disturbing activities. The qualified biologist shall conduct pre-construction surveys for legless lizards no more than 48 hours before initial ground disturbing activities in or near areas of sandy, friable soil or dense leaf litter. This survey shall include systematic subsurface searching using a rake.
2. If Northern California legless lizards are found, a qualified biologist will move individuals to nearby habitat off-site. Captured individuals shall be temporarily placed in a lidded, vented box containing clean sand. Areas of moist and dry sand should be present in the box. Boxes should be kept out of direct sunlight and protected from temperatures over 72°F. The sand should be kept at temperatures under 66°F.

Mitigation Measure BIO4. Protect burrowing owl.

1. Conduct focused burrowing owl surveys to assess the presence/absence of burrowing owl in accordance with the *Staff Report on Burrowing Owl Mitigation* (CDFG 2012) and *Burrowing Owl Survey Protocol and Mitigation Guidelines* (CBOC 1997). These involve conducting four pre-construction survey visits.
2. If a burrowing owl or sign of burrowing owl use (e.g., feathers, guano, pellets) is detected on or within 500 feet of the Project site, and the qualified biologist determines that Project activities would disrupt the owl(s), a construction-free buffer, limited operating period, or passive relocation shall be implemented in consultation with the CDFW.

Mitigation Measure BIO5. Protect American badgers.

Within 30 days prior to the start of construction or ground disturbing activities, a qualified biologist shall survey the Project site for American badger. If American badger is detected, the biologist shall passively relocate any individual out of the work area prior to construction if feasible. Potentially and active dens that would be directly impacted by construction activities will be monitored for at least three consecutive nights using a wildlife-monitoring camera at the entrance. If no photos of badgers are captured after three nights, the den will be excavated and backfilled by hand. In the event that passive relocation fails, the qualified biologist will consult with the CDFW to explore other relocation options, which may include trapping.

Mitigation Measure BIO6. Protect roosting pallid bat and western mastiff bats.

1. A pre-construction clearance survey shall be conducted by a qualified biologist to ensure that no roosting pallid bats or western mastiff bats will be disturbed during the implementation of the Project. A pre-construction clearance survey shall be conducted no more than 14 days prior to the initiation of construction activities. During this survey, the qualified biologist shall inspect all potential roosting habitat in and immediately adjacent to the impact areas. If an active roost is found close enough to the construction area to be disturbed by these activities, the qualified biologist shall determine the extent of a construction-free buffer to be established around the roost. If work cannot proceed without disturbing the roosting bats, work may need to be halted or redirected to other areas until the roost is no longer in use.

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

The Project could impede the use of nursery sites for native birds protected under the MBTA and CFGC. Migratory birds are expected to nest on and near the Project site. Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings or otherwise lead to nest abandonment. Disturbance that causes nest abandonment or loss of reproductive effort can be considered take under the MBTA and CFGC. Loss of fertile eggs or nesting birds, or any activities resulting in nest abandonment, could constitute a significant effect if the species is particularly rare in the region. Construction activities such as excavating, trenching, and grading that disturb a nesting bird on the Project site or immediately adjacent to the construction zone could constitute a significant impact. We recommend that Mitigation Measure BIO7 (below) be included in the conditions of approval to reduce the potential effect to a less-than-significant level.

Mitigation Measure BIO7. Protect nesting birds.

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

or redirected to other areas until nesting and fledging are completed or the nest has otherwise failed for non-construction related reasons.

4.1.2 Cumulative Impacts

The Project will involve regrading four existing groundwater recharge basins to improve groundwater recharge capacity. The Project will occur on a 98-acre parcel that currently support nonnative grassland, riparian forest, and riverine land covers. The Project site could provide foraging habitat and is within 0.5 miles of potential nesting habitat for the state listed as threatened Swainson's hawk. The Project site could also provide habitat for San Joaquin kit fox, Northern California legless lizard, burrowing owl, American badger, pallid bat, and western mastiff bat. Nesting habitat for migratory birds is also present on the Project site. However, implementing Mitigation Measures BIO1 through BIO7 would reduce any contribution to cumulative impacts on biological resources to a less-than-significant level.

4.1.3 Unavoidable Significant Adverse Impacts

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

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Appendix A. USFWS list of threatened and endangered species.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
Phone: (916) 414-6600 Fax: (916) 414-6713

In Reply Refer To:
Project Code: 2022-0013775
Project Name: Paregien Basin

February 28, 2022

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

To Whom It May Concern:

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

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

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

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)

(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

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

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

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

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see https://www.fws.gov/birds/bird-enthusiasts/threats-to-birds.php.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/birds/policies-and-regulations/executive-orders/e0-13186.php.

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

Attachment(s):

- Official Species List

Official Species List

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

This species list is provided by:

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

Project Summary

Project Code: 2022-0013775
Event Code: None
Project Name: Paregien Basin
Project Type: Flooding
Project Description: A basin recharge expansion project designed to improve the capacity and capability of an existing 100-acre groundwater retention site (Paregien Basin) north of the City of Farmersville in Tulare County, California. The project will involve re-contouring existing grades to a uniform depth of 3 feet across all areas to increase overall retention and provide sufficient hydraulic pressures for percolation and groundwater recharge.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@36.3228725,-119.1934053032149,14z

Counties: Tulare County, California

Endangered Species Act Species

There is a total of 9 threatened, endangered, or candidate species on this species list.

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

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

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

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

Mammals

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

Reptiles

NAME	STATUS
Blunt-nosed Leopard Lizard *Gambelia silus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/625	Endangered
Giant Garter Snake *Thamnophis gigas* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4482	Threatened

Amphibians

NAME	STATUS
California Red-legged Frog *Rana draytonii*	Threatened

There is **final** critical habitat for this species. The location of the critical habitat is not available.
Species profile: https://ecos.fws.gov/ecp/species/2891

California Tiger Salamander *Ambystoma californiense*	Threatened

Population: U.S.A. (Central CA DPS)
There is **final** critical habitat for this species. The location of the critical habitat is not available.
Species profile: https://ecos.fws.gov/ecp/species/2076

Fishes

NAME	STATUS
Delta Smelt *Hypomesus transpacificus*	Threatened

There is **final** critical habitat for this species. The location of the critical habitat is not available.
Species profile: https://ecos.fws.gov/ecp/species/321

Insects

NAME	STATUS
Monarch Butterfly *Danaus plexippus*	Candidate

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

Crustaceans

NAME	STATUS
Vernal Pool Fairy Shrimp *Branchinecta lynchi*	Threatened

There is **final** critical habitat for this species. The location of the critical habitat is not available.
Species profile: https://ecos.fws.gov/ecp/species/498

Critical habitats

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

IPaC User Contact Information

Name: Ryan Slezak
Address: 9493 N Ft Washington Rd
City: Fresno
State: CA
Zip: 93730
Email rslezak@colibri-ecology.com
Phone: 5592426178

Appendix B. CNDDB occurrence records.

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Woodlake (3611941) OR Lindsay (3611921) OR Rocky Hill (3611931) OR Cairns Corner (3611922) OR Visalia (3611933) OR Tulare (3611923) OR Exeter (3611932) OR Monson (3611943) OR Ivanhoe (3611942))

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Agelaius tricolor tricolored blackbird	G1G2 S1S2	None Threatened	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_EN-Endangered NABCI_RWL-Red Watch List USFWS_BCC-Birds of Conservation Concern	505 540	955 S:2	0	0	0	0	0	2	1	1	2	0	0
Ambystoma californiense pop. 1 California tiger salamander - central California DPS	G2G3 S3	Threatened Threatened	CDFW_WL-Watch List IUCN_VU-Vulnerable	314 743	1263 S:13	0	7	2	0	0	4	4	9	13	0	0
Andrena macswaini An andrenid bee	G2 S2	None None		270 270	7 S:1	0	0	0	0	0	1	1	0	1	0	0
Anniella pulchra Northern California legless lizard	G3 S3	None None	CDFW_SSC-Species of Special Concern USFS_S-Sensitive	325 1,023	382 S:3	1	0	0	0	0	2	1	2	3	0	0
Antrozous pallidus pallid bat	G4 S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFS_S-Sensitive WBWG_H-High Priority	368 368	420 S:1	1	0	0	0	0	0	0	1	1	0	0
Ardea herodias great blue heron	G5 S4	None None	CDF_S-Sensitive IUCN_LC-Least Concern	500 500	156 S:1	0	0	0	0	0	1	1	0	1	0	0
Athene cunicularia burrowing owl	G4 S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFWS_BCC-Birds of Conservation Concern	300 343	2011 S:6	4	2	0	0	0	0	1	5	6	0	0
Atriplex cordulata var. erecticaulis Earlimart orache	G3T1 S1	None None	Rare Plant Rank - 1B.2	308 335	23 S:2	1	1	0	0	0	0	0	2	2	0	0

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Atriplex depressa brittlescale	G2 S2	None None	Rare Plant Rank - 1B.2		60 S:2	0	0	0	0	0	2	2	0	2	0	0
Atriplex minuscula lesser saltscale	G2 S2	None None	Rare Plant Rank - 1B.1	300 335	52 S:2	0	2	0	0	0	0	0	2	2	0	0
Atriplex persistens vernal pool smallscale	G2 S2	None None	Rare Plant Rank - 1B.2	345 355	41 S:2	2	0	0	0	0	0	0	2	2	0	0
Atriplex subtilis subtle orache	G1 S1	None None	Rare Plant Rank - 1B.2	305 305	24 S:1	1	0	0	0	0	0	1	0	1	0	0
Bombus crotchii Crotch bumble bee	G3G4 S1S2	None None		350 600	437 S:4	0	0	0	0	0	4	4	0	4	0	0
Branchinecta lynchi vernal pool fairy shrimp	G3 S3	Threatened None	IUCN_VU-Vulnerable	305 650	795 S:19	2	3	1	0	0	13	9	10	19	0	0
Brodiaea insignis Kaweah brodiaea	G1 S1	None Endangered	Rare Plant Rank - 1B.2 USFS_S-Sensitive	560 560	27 S:1	1	0	0	0	0	0	1	0	1	0	0
Buteo swainsoni Swainson's hawk	G5 S3	None Threatened	BLM_S-Sensitive IUCN_LC-Least Concern USFWS_BCC-Birds of Conservation Concern	270 331	2541 S:7	0	3	2	0	0	2	3	4	7	0	0
Caulanthus californicus California jewelflower	G1 S1	Endangered Endangered	Rare Plant Rank - 1B.1 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_SBBG-Santa Barbara Botanic Garden SB_UCBG-UC Botanical Garden at Berkeley	285 285	67 S:1	0	0	0	0	1	0	1	0	0	0	1
Chrysis tularensis Tulare cuckoo wasp	G1G2 S1S2	None None		450 450	5 S:1	0	0	0	0	0	1	1	0	1	0	0

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Coccyzus americanus occidentalis western yellow-billed cuckoo	G5T2T3 S1	Threatened Endangered	BLM_S-Sensitive NABCI_RWL-Red Watch List USFS_S-Sensitive USFWS_BCC-Birds of Conservation Concern	330 330	165 S:1	0	0	0	0	1	0	1	0	0	0	1
Delphinium recurvatum recurved larkspur	G2? S2?	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive SB_SBBG-Santa Barbara Botanic Garden	305 440	119 S:6	0	1	0	0	1	4	3	3	5	0	1
Desmocerus californicus dimorphus valley elderberry longhorn beetle	G3T2 S3	Threatened None		405 405	271 S:1	0	0	1	0	0	0	1	0	1	0	0
Diplacus pictus calico monkeyflower	G2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	600 600	73 S:2	0	0	0	0	0	2	2	0	2	0	0
Dipodomys nitratoides nitratoides Tipton kangaroo rat	G3T1T2 S1S2	Endangered Endangered	IUCN_VU-Vulnerable	320 320	81 S:1	0	0	0	0	0	1	1	0	1	0	0
Emys marmorata western pond turtle	G3G4 S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_VU-Vulnerable USFS_S-Sensitive	325 325	1404 S:1	0	0	0	0	0	1	1	0	1	0	0
Eryngium spinosepalum spiny-sepaled button-celery	G2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive	320 800	108 S:16	3	8	1	0	1	3	9	7	15	1	0
Eumops perotis californicus western mastiff bat	G4G5T4 S3S4	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern WBWG_H-High Priority	300 720	296 S:4	0	1	0	0	0	3	3	1	4	0	0
Euphorbia hooveri Hoover's spurge	G1 S1	Threatened None	Rare Plant Rank - 1B.2	315 345	29 S:5	0	1	3	0	1	0	1	4	4	0	1

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Fritillaria striata striped adobe-lily	G1 S1	None Threatened	Rare Plant Rank - 1B.1 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_USDA-US Dept of Agriculture USFS_S-Sensitive		23 S:1	0	0	0	0	1	0	1	0	0	0	1
Great Valley Valley Oak Riparian Forest Great Valley Valley Oak Riparian Forest	G1 S1.1	None None		320 320	33 S:1	0	1	0	0	0	0	1	0	1	0	0
Helianthus winteri Winter's sunflower	G2? S2?	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive	460 950	55 S:8	1	3	4	0	0	0	0	8	8	0	0
Imperata brevifolia California satintail	G4 S3	None None	Rare Plant Rank - 2B.1 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_SBBG-Santa Barbara Botanic Garden USFS_S-Sensitive	300 300	32 S:1	0	0	0	0	0	1	1	0	1	0	0
Lasthenia chrysantha alkali-sink goldfields	G2 S2	None None	Rare Plant Rank - 1B.1	305 380	55 S:4	0	0	0	0	1	3	3	1	3	1	0
Lasthenia glabrata ssp. coulteri Coulter's goldfields	G4T2 S2	None None	Rare Plant Rank - 1B.1 BLM_S-Sensitive SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_SBBG-Santa Barbara Botanic Garden	350 350	111 S:1	0	0	0	0	0	1	0	1	1	0	0
Lepidurus packardi vernal pool tadpole shrimp	G4 S3S4	Endangered None	IUCN_EN-Endangered	330 345	329 S:3	0	1	1	0	0	1	2	1	3	0	0
Linderiella occidentalis California linderiella	G2G3 S2S3	None None	IUCN_NT-Near Threatened	513 516	508 S:2	0	0	0	0	0	2	0	2	2	0	0
Lithobates pipiens northern leopard frog	G5 S2	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	330 345	19 S:2	0	0	0	0	0	2	2	0	2	0	0

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Lytta hoppingi Hopping's blister beetle	G1G2 S1S2	None None		325 325	5 S:1	0	0	0	0	0	1	1	0	1	0	0
Lytta molesta molestan blister beetle	G2 S2	None None		480 480	17 S:1	0	0	0	0	0	1	1	0	1	0	0
Northern Claypan Vernal Pool Northern Claypan Vernal Pool	G1 S1.1	None None		435 475	21 S:2	0	0	0	0	0	2	2	0	2	0	0
Northern Hardpan Vernal Pool Northern Hardpan Vernal Pool	G3 S3.1	None None		315 345	126 S:3	0	0	0	0	0	3	3	0	3	0	0
Orcuttia inaequalis San Joaquin Valley Orcutt grass	G1 S1	Threatened Endangered	Rare Plant Rank - 1B.1	315 515	47 S:2	0	0	1	0	1	0	1	1	1	0	1
Pseudobahia peirsonii San Joaquin adobe sunburst	G1 S1	Threatened Endangered	Rare Plant Rank - 1B.1 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	600 900	51 S:4	0	0	0	0	2	2	4	0	2	0	2
Puccinellia simplex California alkali grass	G3 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive	305 320	80 S:2	0	0	0	0	0	2	2	0	2	0	0
Rana boylii foothill yellow-legged frog	G3 S3	None Endangered	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_NT-Near Threatened USFS_S-Sensitive	520 520	2476 S:1	0	0	0	0	1	0	1	0	0	0	1
Sagittaria sanfordii Sanford's arrowhead	G3 S3	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive	330 400	126 S:2	0	0	1	0	0	1	0	2	2	0	0
Spea hammondii western spadefoot	G2G3 S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_NT-Near Threatened	0 743	1422 S:36	0	28	2	0	0	6	4	32	36	0	0
Sycamore Alluvial Woodland Sycamore Alluvial Woodland	G1 S1.1	None None		580 580	17 S:1	0	0	0	0	0	1	1	0	1	0	0
Talanites moodyae Moody's gnaphosid spider	G1G2 S1S2	None None		400 1,200	6 S:4	0	0	0	0	0	4	4	0	4	0	0

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Taxidea taxus	G5	None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	370	594 S:1	0	0	1	0	0	0	1	0	1	0	0
American badger	S3	None		370												
Tuctoria greenei	G1	Endangered	Rare Plant Rank - 1B.1	450	50 S:1	0	0	0	0	1	0	1	0	0	0	1
Greene's tuctoria	S1	Rare		450												
Valley Sacaton Grassland	G1	None		370	9 S:1	0	0	0	0	0	1	1	0	1	0	0
Valley Sacaton Grassland	S1.1	None		370												
Vulpes macrotis mutica	G4T2	Endangered		275	1020 S:19	0	0	1	0	0	18	19	0	19	0	0
San Joaquin kit fox	S2	Threatened		720												

Appendix C. CNPS plant list.

CNPS Rare Plant Inventory

California Native Plant Society

Search Results

27 matches found. Click on scientific name for details

Search Criteria: CRPR is one of [**1A:1B:2A:2B:3:4**] , 9-Quad include [**3611941:3611921:3611931:3611922:3611933:3611923:3611932:3611943:3611942**]

▲ SCIENTIFIC NAME	COMMON NAME	FAMILY	LIFEFORM	BLOOMING PERIOD	FED LIST	STATE LIST	GLOBAL RANK	STATE RANK	CA RARE PLANT RANK
Atriplex cordulata var. *erecticaulis*	Earlimart orache	Chenopodiaceae	annual herb	Aug-Sep(Nov)	None	None	G3T1	S1	1B.2
Atriplex depressa	brittlescale	Chenopodiaceae	annual herb	Apr-Oct	None	None	G2	S2	1B.2
Atriplex minuscula	lesser saltscale	Chenopodiaceae	annual herb	May-Oct	None	None	G2	S2	1B.1
Atriplex persistens	vernal pool smallscale	Chenopodiaceae	annual herb	Jun-Oct	None	None	G2	S2	1B.2
Atriplex subtilis	subtle orache	Chenopodiaceae	annual herb	(Apr)Jun-Sep(Oct)	None	None	G1	S1	1B.2
Brodiaea insignis	Kaweah brodiaea	Themidaceae	perennial bulbiferous herb	Apr-Jun	None	CE	G1	S1	1B.2
Caulanthus californicus	California jewelflower	Brassicaceae	annual herb	Feb-May	FE	CE	G1	S1	1B.1
Convolvulus simulans	small-flowered morning-glory	Convolvulaceae	annual herb	Mar-Jul	None	None	G4	S4	4.2
Delphinium hansenii ssp. *ewanianum*	Ewan's larkspur	Ranunculaceae	perennial herb	Mar-May	None	None	G4T3	S3	4.2
Delphinium recurvatum	recurved larkspur	Ranunculaceae	perennial herb	Mar-Jun	None	None	G2?	S2?	1B.2
Diplacus pictus	calico monkeyflower	Phrymaceae	annual herb	Mar-May	None	None	G2	S2	1B.2
Eryngium spinosepalum	spiny-sepaled button-celery	Apiaceae	annual/perennial herb	Apr-Jun	None	None	G2	S2	1B.2
Erythranthe sierrae	Sierra Nevada monkeyflower	Phrymaceae	annual herb	Mar-Jul	None	None	G2	S2	4.2
Euphorbia hooveri	Hoover's spurge	Euphorbiaceae	annual herb	Jul-Sep(Oct)	FT	None	G1	S1	1B.2
Fritillaria agrestis	stinkbells	Liliaceae	perennial bulbiferous herb	Mar-Jun	None	None	G3	S3	4.2
Fritillaria striata	striped adobe-lily	Liliaceae	perennial bulbiferous herb	Feb-Apr	None	CT	G1	S1	1B.1
Goodmania luteola	golden goodmania	Polygonaceae	annual herb	Apr-Aug	None	None	G3	S3	4.2
Helianthus winteri	Winter's sunflower	Asteraceae	perennial shrub	Jan-Dec	None	None	G2?	S2?	1B.2
Hordeum intercedens	vernal barley	Poaceae	annual herb	Mar-Jun	None	None	G3G4	S3S4	3.2

Imperata brevifolia	California satintail	Poaceae	perennial rhizomatous herb	Sep-May	None	None	G4	S3	2B.1
Lasthenia chrysantha	alkali-sink goldfields	Asteraceae	annual herb	Feb-Apr	None	None	G2	S2	1B.1
Lasthenia glabrata ssp. *coulteri*	Coulter's goldfields	Asteraceae	annual herb	Feb-Jun	None	None	G4T2	S2	1B.1
Orcuttia inaequalis	San Joaquin Valley Orcutt grass	Poaceae	annual herb	Apr-Sep	FT	CE	G1	S1	1B.1
Pseudobahia peirsonii	San Joaquin adobe sunburst	Asteraceae	annual herb	Feb-Apr	FT	CE	G1	S1	1B.1
Puccinellia simplex	California alkali grass	Poaceae	annual herb	Mar-May	None	None	G3	S2	1B.2
Sagittaria sanfordii	Sanford's arrowhead	Alismataceae	perennial rhizomatous herb (emergent)	May-Oct(Nov)	None	None	G3	S3	1B.2
Tuctoria greenei	Greene's tuctoria	Poaceae	annual herb	May-Jul(Sep)	FE	CR	G1	S1	1B.1

Showing 1 to 27 of 27 entries

Suggested Citation:

California Native Plant Society, Rare Plant Program. 2022. Rare Plant Inventory (online edition, v9-01 1.5). Website https://www.rareplants.cnps.org [accessed 28 February 2022].

Appendix D. Recommended timing and methodology for Swainson's hawk nesting surveys in California's Central Valley.

RECOMMENDED TIMING AND METHODOLOGY FOR SWAINSON'S HAWK NESTING SURVEYS IN CALIFORNIA'S CENTRAL VALLEY

Swainson's Hawk Technical Advisory Committee

May 31, 2000

This set of survey recommendations was developed by the Swainson's Hawk Technical Advisory Committee (TAC) to maximize the potential for locating nesting Swainson's hawks, and thus reducing the potential for nest failures as a result of project activities/disturbances. The combination of appropriate surveys, risk analysis, and monitoring has been determined to be very effective in reducing the potential for project-induced nest failures. As with most species, when the surveyor is in the right place at the right time, Swainson's hawks may be easy to observe; but some nest sites may be very difficult to locate, and even the most experienced surveyors have missed nests, nesting pairs, mis-identified a hawk in a nest, or believed incorrectly that a nest had failed. There is no substitute for specific Swainson's hawk survey experience and acquiring the correct search image.

METHODOLOGY

Surveys should be conducted in a manner that maximizes the potential to observe the adult Swainson's hawks, as well as the nest/chicks second. To meet the California Department of Fish and Game's (CDFG) recommendations for mitigation and protection of Swainson's hawks, surveys should be conducted for a ½ mile radius around all project activities, and if active nesting is identified within the ½ mile radius, consultation is required. In general, the TAC recommends this approach as well.

Minimum Equipment

Minimum survey equipment includes a high-quality pair of binoculars and a high quality spotting scope. Surveying even the smallest project area will take hours, and poor optics often result in eye-strain and difficulty distinguishing details in vegetation and subject birds. Other equipment includes good maps, GPS units, flagging, and notebooks.

Walking vs Driving

Driving (car or boat) or "windshield surveys" are usually preferred to walking if an adequate roadway is available through or around the project site. While driving, the observer can typically approach much closer to a hawk without causing it to fly. Although it might appear that a flying bird is more visible, they often fly away from the observer using trees as screens; and it is difficult to determine from where a flying bird came. Walking surveys are useful in locating a nest after a nest territory is identified, or when driving is not an option.

Angle and Distance to the Tree

Surveying subject trees from multiple angles will greatly increase the observer's chance of detecting a nest or hawk, especially after trees are fully leafed and when surveying multiple trees

in close proximity. When surveying from an access road, survey in both directions. Maintaining a distance of 50 meters to 200 meters from subject trees is optimal for observing perched and flying hawks without greatly reducing the chance of detecting a nest/young: Once a nesting territory is identified, a closer inspection may be required to locate the nest.

Speed
Travel at a speed that allows for a thorough inspection of a potential nest site. Survey speeds should not exceed 5 miles per hour to the greatest extent possible. If the surveyor must travel faster than 5 miles per hour, stop frequently to scan subject trees.

Visual and Aural Ques
Surveys will be focused on both observations and vocalizations. Observations of nests, perched adults, displaying adults, and chicks during the nesting season are all indicators of nesting Swainson's hawks. In addition, vocalizations are extremely helpful in locating nesting territories. Vocal communication between. hawks is frequent during territorial displays; during courtship and mating; through the nesting period as mates notify each other that food is available or that a threat exists; and as older chicks and fledglings beg for food.

Distractions
Minimize distractions while surveying. Although two pairs of eyes may be better than one pair at times, conversation may limit focus. Radios should be off, not only are they distracting, they may cover a hawk's call.

Notes and Species Observed
Take thorough field notes. Detailed notes and maps of the location of observed Swainson's hawk nests are essential for filling gaps in the Natural Diversity Data Base; please report all observed nest sites. Also document the occurrence of nesting great homed owls, red-tailed hawks, red-shouldered hawks and other potentially competitive species. These species will infrequently nest within 100 yards of each other, so the presence of one species will not necessarily exclude another.

TIMING

To meet **the minimum level** of protection for the species, surveys should be completed for **at least** the two survey periods immediately prior to a project's initiation. For example, if a project is scheduled to begin on June 20, you should complete 3 surveys in Period III and 3 surveys in Period V. However, it is always recommended that surveys be completed in Periods II, III and V. **Surveys should not be conducted in Period IV.**

The survey periods are defined by the timing of migration, courtship, and nesting in a "typical" year for the majority of Swainson's hawks from San Joaquin County to Northern Yolo County. Dates should be adjusted in consideration of early and late nesting seasons, and geographic differences (northern nesters tend to nest slightly later, etc). If you are not sure, contact a TAC member or CDFG biologist.

Survey dates **Justification and search image**	**Survey time**	**Number of Surveys**
I. *January-March 20 (recommended optional)*	*All day*	*1*

Prior to Swainson's hawks returning, it may be helpful to survey the project site to determine potential nest locations. Most nests are easily observed from relatively long distances, giving the surveyor the opportunity to identify potential nest sites, as well as becoming familiar with the project area. It also gives the surveyor the opportunity to locate and map competing species nest sites such as great homed owls from February on, and red-tailed hawks from March on. After March 1, surveyors are likely to observe Swainson's hawks staging in traditional nest territories.

II. *March 20 to April 5*	*Sunrise to 1000* *1600 to sunset*	*3*

Most Central Valley Swainson's hawks return by April 1, and immediately begin occupying their traditional nest territories. For those few that do not return by April 1, there are often hawks ("floaters") that act as place-holders in traditional nest sites; they are birds that do not have mates, but temporarily attach themselves to traditional territories and/or one of the site's "owners." Floaters are usually displaced by the territories' owner(s) if the owner returns.

Most trees are leafless and are relatively transparent; it is easy to observe old nests, staging birds, and competing species. The hawks are usually in their territories during the survey hours, but typically soaring and foraging in the mid-day hours. Swainson's hawks may often be observed involved in territorial and courtship displays, and circling the nest territory. Potential nest sites identified by the observation of staging Swainson's hawks will usually be active territories during that season, although the pair may not successfully nest/reproduce that year.

III. *April 5 to April 20*	*Sunrise to 1200* *1630 to Sunset*	***3***

Although trees are much less transparent at this time, 'activity at the nest site increases significantly. Both males and females are actively nest building, visiting their selected site frequently. Territorial and courtship displays are increased, as is copulation. The birds tend to vocalize often, and nest locations are most easily identified. This period may require a great deal of "sit and watch" surveying.

IV. *April 21 to June 10*	*Monitoring known nest sites only* ***Initiating Surveys is not recommended***	

Nests are extremely difficult to locate this time of year, and even the most experienced surveyor will miss them, especially if the previous surveys have not been done. During this phase of nesting, the female Swainson's hawk is in brood position, very low in the nest, laying eggs, incubating, or protecting the newly hatched and vulnerable chicks; her head may or may not be visible. Nests are often well-hidden, built into heavily vegetated sections of trees or in clumps of mistletoe, making them all but invisible. Trees are usually not viewable from all angles, which may make nest observation impossible.

Following the male to the nest may be the only method to locate it, and the male will spend hours away from the nest foraging, soaring, and will generally avoid drawing attention to the nest site. Even if the observer is fortunate enough to see a male returning with food for the female, if the female determines it is not safe she will not call the male in, and he will not approach the nest; this may happen if the observer, or others, are too close to the nest or if other threats, such as rival hawks, are apparent to the female or male.

V. ***June 10 to JuIy 30 (post-fledging)*** ***Sunrise to 1200*** ***3***
1600 to sunset

Young are active and visible, and relatively safe without parental protection. Both adults make numerous trips to the nest and are often soaring above, or perched near or on the nest tree. The location and construction of the nest may still limit visibility of the nest, young, ‘and adults.

DETERMINING A PROJECT'S POTENTIAL
FOR IMPACTING SWAINSON'S HAWKS

LEVEL OF RISK	REPRODUCTIVE SUCCESS (Individuals)	LONGTERM SURVIVABILITY (Population)	NORMAL SITE CHARACTERISTICS (Daily Average)	NEST MONI-TORING
HIGH	Direct physical contact with the nest tree while the birds are on eggs or protecting young. (Helicopters in close proximity)	Loss of available foraging area.	Little human-created noise, little human use: nest is well away from dwellings, equipment yards, human access areas, etc. *Do not include general cultivation practices in evaluation.*	**MORE**
		Loss of nest trees.		
	Loss of nest tree after nest building is begun prior to laying eggs.	Loss of potential nest trees.		
	Personnel within 50 yards of nest tree (out of vehicles) for extended periods while birds are on eggs or protecting young that are < 10 days old.	Cumulative: Multi-year, multi-site projects with substantial noise/personnel disturbance.		
	Initiating construction activities (machinery and personnel) within 200 yards of the nest after eggs are laid and before young are > 10 days old.	Cumulative: Single-season projects with substantial noise/personnel disturbance that is greater than or significantly different from the daily norm.		
	Heavy machinery only working within 50 yards of nest.		Substantial human-created noise and occurrence: nest is near roadways, well-used waterways, active airstrips, areas that have high human use. *Do not include general cultivation practices in evaluation.*	
	Initiating construction activities within 200 yards of nest before nest building begins or after young > 10 days old.	Cumulative: Single-season projects with activities that "blend" well with site's "normal' activities.		
LOW	All project activities (personnel and machinery) greater than 200 yards from nest.			**LESS**

Appendix D

CHRIS Results

California Historical Resources Information System

Fresno
Kern
Kings
Madera
Tulare

Southern San Joaquin Valley Information Center
California State University, Bakersfield
Mail Stop: 72 DOB
9001 Stockdale Highway
Bakersfield, California 93311-1022
(661) 654-2289
E-mail: ssjvic@csub.edu
Website: www.csub.edu/ssjvic

To: Emily Bowen
Crawford & Bowen Planning, Inc.
113 N. Church Street, Suite 302
Visalia, CA 93291

Record Search 22-089

Date: March 7, 2022

Re: Paregien Basin Recharge Expansion Project (Kaweah Delta Water Conservation District)

County: Tulare

Map(s): Exeter 7.5'

CULTURAL RESOURCES RECORDS SEARCH

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

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

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

According to the information in our files, there have been three previous cultural resource studies in one portion of the east side of the project area: TU-01554, 01560, & 01580. There have been eight studies conducted within the one-half mile radius: TU-00134, 01020, 01066, 01118, 01455, 01499, 01575, & 01834. It should be noted, all the studies from within the project area are greater than five years in age and should be considered out of date for current projects.

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

There is one recorded resource within the project area: P-54-004886. There are two recorded resources within the one-half mile radius: P-54-004885, 005296. These resources consist of historic era ditches, canals, and properties. There are three informally recorded resources from within the one-half mile radius: Bridge #46-19, House Pit/ Beads, Village Site?. These resources consist of a historic era bridge, and prehistoric era sites.

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

COMMENTS AND RECOMMENDATIONS

We understand the project intends to expand basins in a location known to have excellent groundwater recharging capabilities. Further, we understand the project will perform re-contouring of existing natural grades of available retention areas to provide a more uniform basin shape for water control and storage. We also understand the current land use for this project area is vacant agricultural land. 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 only the east portion of this project area has been previously studied for cultural resources and the previous studies therein are greater than five years in age, it is unknown if any are present. An important note should be made that there is an informal recordation of a potentially large prehistoric village site north of the project area and within the one-half mile project buffer. As such, prior to ground disturbance activities, we recommend a qualified, professional consultant conduct a field survey of the full project area 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 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:

Jeremy E David, Assistant Coordinator **Date**: March 7, 2022

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