Homer LLC

Jones Corner/Burns/Los Robles Water Banks Project

Draft Initial Study / Mitigated Negative Declaration

December 2021

Prepared for:
Porterville Irrigation District
22086 Avenue 160
Porterville, CA 93257

Prepared by:
Provost & Pritchard Consulting Group
400 E. Main Street, Suite 300
Visalia, CA 93291

EST. 1968
PROVOST& PRITCHARD
CONSULTING GROUP
An Employee Owned Company

Report Prepared for:

Porterville Irrigation District

22086 Avenue 160
Porterville, CA 93257

Contact:
Nick Keller, Acting Manager
(559) 784-1208

Report Prepared by:

Provost & Pritchard Consulting Group

Briza Sholars, Senior Planner, QA/QC
Amy Wilson, Associate Planner, Project Manager
Dena Giacomini, Biologist/Senior Planner
Lizbeth Avitia, Assistant Planner
Ryan McKelvey, Assistant Planner
Mallory Serrao, GIS
Jacki Lancaster, Administrative Support

Contact:
Amy M. Wilson, Associate Planner
(559) 636-1166

Table of Contents

List of Figures

List of Tables

Acronyms and Abbreviations

AB	Assembly Bill
APE	Area of Potential Effect
APN	Assessor's Parcel Number
AQP	Air Quality Plan
ASM	ASM Affiliates, Inc.
BMP	Best Management Practices
BPS	Best Performance Standards
CalEEMod	California Emissions Estimator Modeling (software)
CAP	Climate Action Plan
CARB	California Air Resources Board
Caltrans	California Department of Transportation
CCAA	California Clean Air Act
CCAP	Climate Change Action Plan
CDFW	California Fish and Wildlife
CEQA	California Environmental Quality Act
CHRIS	California Historical Resources Information System
CIMIS	California Irrigation Management Information System
CNDDB	California Natural Diversity Database
CO	Carbon Monoxide
County	Tulare County
CPHI	California Points of Historical Interest
CRHR	California Register of Historical Resources
CVP	Central Valley Project
dBA	A-weighted decibels
DOC	California Department of Conservations
DOGGR	Division of Oil, Gas and Geothermal Resources
DTSC	(California) Department of Toxic Substances Control
DWR	Department of Water Resources
EIR	Environmental Impact Report
ETGSA	Eastern Tule Groundwater Sustainability Agency
FEMA	Federal Emergency Management Agency
FKC	Friant-Kern Canal

FMMP.....Farmland Mapping and Monitoring Program
FWA..... Friant Water Authority
GAMAQI..... Guidelines for Assessing and Mitigating Air Quality Impacts
GC .....Government Code
GHG..... Greenhouse Gas
GIS .....Geographic Information System
GSA .....Groundwater Sustainability Agency
GSP .....Groundwater Sustainability Plan
IS .....Initial Study
IS/MND.....Initial Study/Mitigated Negative Declaration
km .....kilometers
MLD.....Most Likely Descendent
MMRP .....Mitigation Monitoring and Reporting Program
MND.....Mitigated Negative Declaration
MOCP..... Monitoring and Operational Constraint Plan
MTBE..... Methyl tert-butyl ether
MTCO2e ..... Metric tons of carbon dioxide equivalent
NAAQS.....National Ambient Air Quality Standards
NAHC ..... Native American Heritage Commission
ND .....Negative Declaration
NEPA .....National Environmental Policy Act
NOx .....Nitrogen oxides
NRCS.....Natural Resources Conservation Service
NRHP.....National Register of Historic Places
O_3 ..... Ozone
Pb .....Lead
PID ..... Porterville Irrigation District
PM_{10} .....particulate matter 10 microns in size
$PM_{2.5}$ .....particulate matter 2.5 microns in size
ppb ..... parts per billion
ppm .....parts per million
PRC ..... Public Resources Code
Project.....Jones Corner/Burns/Los Robles Water Banks Project
Reclamation .....United States Bureau of Reclamation
ROG.....Reactive Organic Gas

SAR ..... Sodium absorption ratio
SB ..... Senate Bill
SGMA ..... Sustainasble Groundwater Management Act
SHPO ..... (CA) State Historic Preservation Officer
SJVAB ..... San Joaquin Valley Air Basin
SJVAPCD ..... San Joaquin Valley Air Pollution Control District
SLIC ..... Spills-Leaks-Investigations-Cleanups
SMARA ..... Surface Mining and Reclamation Act
SO_2 ..... Sulfur Dioxide
SOx ..... sulfur oxide
SR ..... State Route
SSJVIC ..... Southern San Joaquin Valley Information Center
SWP ..... State Water Project
SWPPP ..... Storm Water Pollution Prevention Plan
SWRCB ..... State Water Resources Control Board
TAC ..... Toxic Air Contaminants
TDS ..... Total Dissolved Solids
Tons/Year ..... Tons per Year
TPY ..... tons per year
USDA ..... United States Department of Agriculture
USFWS ..... United States Fish and Wildlife Service
µg/m3 ..... micrograms per cubic meter

Chapter 1 Introduction

Provost & Pritchard Consulting Group (Provost & Pritchard) has prepared this Initial Study/Mitigated Negative Declaration (IS/MND) on behalf of Porterville Irrigation District (District or PID) to address the environmental effects of the proposed Jones Corner/Burns/Los Robles Water Banks Project (Project) as proposed by Homer, LLC (Homer). This document has been prepared in accordance with the California Environmental Quality Act (CEQA), Public Resources Code Section 21000 *et seq.* and the State CEQA Guidelines (Code of Regulations, Title 14 Chapter 3, Section 15000, *et seq*. The PID is the CEQA lead agency for this proposed Project.

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

1.1 Regulatory Information

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

a. The IS shows there is no substantial evidence, in light of the whole record before the agency, that the proposed Project may have a significant effect on the environment, or

b. The IS identified potentially significant effects, but:

    1. Revisions in the project plans or proposals made by or agreed to by the applicant before the proposed MND and IS is released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur is prepared, and

    2. There is no substantial evidence, in light of the whole record before the agency, that the proposed Project *as revised* may have a significant effect on the environment.

1.2 Document Format

This IS/MND contains four chapters and four appendices, **Chapter 1 Introduction**, provides an overview of the proposed Project and the CEQA process. **Chapter 2 Project Description**, provides a detailed description of proposed Project components and objectives**. Chapter 3 Impact Analysis**, presents the CEQA checklist and environmental analysis for all impact areas, mandatory findings of significance, and feasible mitigation measures. If the proposed Project does not have the potential to significantly impact a given issue area, the relevant section provides a brief discussion of the reasons why no impacts are expected. If the proposed Project could have a potentially significant impact on a resource, the issue area discussion provides a description of potential impacts, and appropriate mitigation measures and/or permit requirements that would reduce those impacts to a less than significant level. **Chapter 3** concludes with the Lead Agency's determination based upon this initial evaluation. **Chapter 4 Mitigation Monitoring and Reporting Program** (MMRP), provides the

proposed mitigation measures, implementation timelines, and the entity/agency responsible for ensuring implementation.

The CalEEMod Output Files, Biological Evaluation Report, Cultural Resources Class III Inventory/Phase I Survey, and the Facility Reports are provided as technical **Appendix A, Appendix B, Appendix C** and **Appendix D**, respectively, at the end of this document.

Chapter 2 Project Description

2.1 Project Background and Objectives

2.1.1 Project Title

Jones Corner/Burns/Los Robles Water Banks Project (Project)

2.1.2 Lead Agency Name and Address

Lead Agency Contact
Porterville Irrigation District
Nick Keller, Acting General Manager
22086 Ave 160
Porterville, CA 93257
Office: (559) 784-0716

2.1.3 Contact Person and Phone Number

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

2.1.4 Project Location

The proposed Project is located in the Central San Joaquin Valley of California, in Tulare County. The proposed Project will consist of three water banking facilities, two that are already constructed (Burns and Los Robles) and one that is being constructed as part of this Project (Jones Corner). All three sites are located near the city of Porterville. The Jones Corner and Burns sites are located 1.75-miles west of the City and the Los Robles site is located 1.3-miles northwest of the City (**Figure 2-1** and **Figure 2-2**).

Jones Corner Site: Avenue 152 runs along the north boundary of Area of Potential Effect (APE) with the Friant-Kern Canal to the east with agricultural plots on all sides. The APE is approximately 67 acres (water bank and reconstruction of 4,000 linear-feet of Rhodes-Fine Ditch). Water Bank APN: 236-150-013. Rhodes-Fine Ditch reconstruction includes portions of the following APNs: 236-290-011, 236-150-013, 240-150-014, 240-150-035, 240-150-010, and 240-150-032. (**Figure 2-3**).

Burns Site: Avenue 152 runs along the south boundary of APE with the Friant-Kern Canal to the east with agricultural plots on all sides. The APE is 8.8 acres. APN: 236-290-008. (**Figure 2-3**).

Los Robles Site: The north, south, east and west of the APE borders along agricultural farmland plots. Avenue 168 runs along a portion of the APE to the east. Road 208 is approximately 0.90-miles west of APE. Highway 65 is approximately two miles east. The APE is 9.7 acres. APNs: 243-360-004 and 243-370-004. (**Figure 2-4**).

2.1.5 Latitude and Longitude

The Project centroid is at the following approximate coordinates:

Project Site	Coordinates
Jones Corner Site	36° 03' 49.94" N 119° 06' 43.09" W
Burns Site	36° 04' 00.55" N 119° 06' 47.04" W
Los Robles Site	36° 06' 10.19" N 119° 05' 23.02" W

2.1.6 General Plan Designation

Table 2-1. General Plan Designation

Project Area	General Plan Designation
Jones Corner Site	Valley Agricultural – Rural Valley Lands Plan
Burns Site	Valley Agricultural – Rural Valley Lands Plan
Los Robles Site	Valley Agricultural – Rural Valley Lands Plan

See **Figure 2-5**.

2.1.7 Zoning

Table 2-2. County Zone District

Project Area	Zone District
Jones Corner Site	AE-20 (Exclusive Agricultural, 20-acre minimum parcel size)
Burns Site	AE-20 (Exclusive Agricultural, 20-acre minimum parcel size)
Los Robles Site	AE-40 (Exclusive Agricultural, 40-acre minimum parcel size)

See **Figure 2-6**.

2.2 Description of Project

2.2.1 Project Background and Purpose

Homer LLC (Homer) operates two existing groundwater recharge facilities in the District, the Burns recharge facility and the Los Robles recharge facility. The Burns facility is under a sub-lease from a tenant. The Los Robles facility is under a permanent easement on the property. Homer desires to re-classify these two existing recharge basins, which have been operating for five years in accordance with the PID "*Policy Principles for Porterville Irrigation District Landowner Groundwater Recharge Program"* (adopted on March 8, 2016), into water banks. No new facilities will be constructed and future operations will not be different from current operations. After re-classification, the facilities will be operated in accordance with the PID "*Policy Principles for Porterville Irrigation District Groundwater Banking Program*" (adopted on December 12, 2017, Banking Policy) and in accordance with a water banking agreement between Homer and PID (Homer – PID Banking Agreement), as required by the Banking Policy. Homer has recently purchased the Jones Corner property and desires to develop a project in which it will build surface water delivery and recharge facilities that will be operated in compliance with the PID Banking Policy. The facilities will be designed, constructed, operated, and monitored in accordance with a Homer– PID Banking Agreement, as required by the Project

In addition, the Project will be operated in compliance with the Eastern Tule Groundwater Sustainability Agency (ETGSA) Groundwater Sustainability Plan (GSP), ETGSA Land Subsidence and Management Plan (Subsidence Plan), and other rules and regulations set by the ETGSA, Tule Subbasin, and/or SGMA legislation. The Project will not include recovery wells.

The Project will primarily bank water that is periodically available above the then current demand from the Friant Division of the Central Valley Project (Friant). The Project might also bank water from other systems, but separate approvals will be secured, if required. Banked water will be transferred in-ground to recipients with wells in the ETGSA, the Lower Tule River Irrigation District GSA (LTRID GSA) or the Pixley Irrigation District GSA (Pixley ID GSA). As required by the Banking Policy, 10% to 30% of the recharged water will be allocated to PID's storage account depending on the source and destination. Recovered water will be delivered to lawful recipients within the allowed places of use for banked water. Project objectives will be as follows:

- Increase water supply: The Project will increase supplies available to PID, Homer, and other participants.
- Improve groundwater conditions: The Project will reduce aquifer overdraft in PID, the Eastern Tule GSA, the Tule Sub Basin and in other areas that receive recovered water.
- Reduce costs to produce groundwater: The Project will cause water levels to rise, thus reducing groundwater pumpage costs.
- Increase diversification and availability of water supplies: The Project will increase the diversity of water supplies available to PID, its landowners and other participants.
- Facilitate compliance with the Sustainable Groundwater Management Act (SGMA): The Project will significantly advance the PID's efforts to comply with SGMA.
- Subsidence reduction: The Project will help to reduce ground subsidence by accruing more water to the local aquifer system and by reducing groundwater pumpage in the places of use.

2.2.2 Project Construction and Existing Facilities

The proposed Project consists of three sites. Each location is described below.

Jones Corner Road Water Bank (Planned)

The Jones Corner Water Bank, located southwest of the intersection of Avenue 152 and Road 208, will entail construction of 58-acres of recharge basins and re-construction of approximately 4,000 linear-feet of the Rhodes Fine Ditch from an existing check structure immediately west of the Friant-Kern Canal (FKC) to Avenue 152 into an enlarged, lined canal, or a buried pipeline up to 48-inches in diameter, or potentially a combination of the two. The construction of an enlarged canal for approximately the first half mile of the new facility may shift the centerline of the Rhodes-Fine Ditch north by approximately 8-10 feet and will require the removal of one row of walnut trees on APN 240-150-010 and an easement with the landowner. Without such easement from the current landowner, the first half mile of the Rhodes-Fine Ditch will be replaced entirely with an underground pipeline. The remaining nearly third of a mile of the reconstructed facility will follow the existing Rhodes-Fine Ditch alignment and will be replaced entirely with a pipeline. The facility will cross Road 208 and supply water to the Jones Corner basin via a reconstructed District turnout.

Jones Corner facilities may also include the periodic use of temporary pumps to lift water from the FKC into the Rhodes-Fine Ditch or periodic use of temporary pumps to lift water from the Lower Tule River Irrigation District (LTRID) Tule River Intertie Ditch into the recharge basins (contingent on approval from LTRID). In order to place these pumps at the FKC a temporary 5-year permit from the United States Bureau of Reclamation is being secured. These temporary pumps will be placed on top of the ground, not causing any ground disturbance. At this time it is unknown if the temporary pumps will be electric or diesel pumps. For the purposes of modeling air quality impacts it was assumed that the pumps would be powered by EPA Tier 4 diesel engines.

If diesel engines are used the temporary pumps will be placed approximately 250 meters from the nearest sensitive receptor and will run for a maximum of 24,600 pump hours (up to six (6) 100-horsepower pumps running for 4,100 hours each) within a 12-month period. Should any additional pump hours be needed the pumps will be placed approximately 500 meters from any sensitive receptors in the area. Electric pumps would not have usage or distance limitations.

The Project will not include installation of recovery wells. No water will be returned into the FKC or Tule River Intertie Ditch. Four piezometers will be installed along the Jones Corner Water Bank perimeter, two on the western border, and two on the northwest border, to monitor shallow water levels adjacent to the LTRID facility (**Figure 2-7**). A flow meter and a water level monitoring transducer will be installed at the proposed recharge basin. Both the flowmeter and water level measurement will have data loggers and cloud-based telemetry for reporting and operations.

Construction activities at the Jones Corner site will take approximately six months to complete. Construction equipment will likely include excavators, backhoes, graders, skid steers, loaders, and hauling trucks. Generally, construction will occur between the hours of 7 am and 5 pm, Monday through Friday, excluding holidays. Post-construction activities will include system testing, commissioning, and site clean-up. Construction will require temporary staging and storage of materials and equipment. Staging areas will be located onsite.

Burns Water Bank (Existing)

The Burns Water Bank site, located across the street from the Jones Corner Water Bank, north of Avenue 152, currently consists of an 8.8 acre recharge basin, two piezometers, a flow meter with logger with cloud-based telemetry, and a water level monitoring transducer with cloud-based telemetry. (**Figure 2-8**). The Burns Water Bank may also periodically use temporary pumps to lift water from the FKC into the Rhodes-Fine Ditch or from the LTRID Tule River Intertie Ditch into the water bank. These temporary pumps are placed on top of the ground, not causing any ground disturbance. No water will be put back into the FKC or Tule River Intertie Ditch. The Project will not include installation of recovery wells.

Los Robles Water Bank (Existing)

The Los Robles Water Bank site, located on the Los Robles property, along the Porter Slough Ditch, west of Los Robles Ave, currently consists of a 9.7 acre recharge basin, a turnout from the Porter Slough Ditch, a flow meter with data logger with cloud-based telemetry, and a water level monitoring transducer with cloud-based telemetry (**Figure 2-9**). The Los Robles Water Bank will use existing facilities to gravity deliver water from the Porter Slough Ditch into the water bank. No water will be put back in the FKC or the Porter Slough Ditch. The Project will not include installation of recovery wells.

2.2.3 Recharge Operations

It is anticipated that the Project will primarily bank Friant water that is periodically available above the then current demand. It is possible that the Project might bank water from other systems, but separate approvals will be secured, if required. As required by the Banking Policy, 10% to 30% of the recharged water will be allocated to PID's storage account, depending on the source and destination.

Jones Corner Water Bank (Planned)

As depicted on **Figure 2-7**, water will be delivered to the proposed recharge basin through two means:

Rhodes Fine Ditch Delivery:
Water will be pumped from the FKC through the Rhodes-Fine turnout and delivered west via gravity along the Rhodes-Fine Ditch alignment. A combination of a pipeline and lined ditch will be constructed in the existing Rhodes Fine Ditch alignment to deliver water to the Jones Corner recharge basin. Water may also be pumped

from the FKC into the Rhodes-Fine Ditch via temporary pumps. These temporary pumps will be placed on top of the ground, not causing any ground disturbance. Use of temporary pumps is subject to the United States Bureau of Reclamation (USBR) and Friant Water Authority (FWA) approval.

Wood Central Ditch Delivery:
Water will be diverted via gravity through either the Wood Central Ditch turnout from the FKC or the Tule River spillway from the FKC and then delivered west through the Wood Central Ditch to the LTRID Tule River Intertie Ditch. A temporary pump, or manifold of pumps, will then installed to lift water from the LTRID Tule River Intertie Ditch into the recharge basin. These temporary pumps will be placed on top of the ground, not causing any ground disturbance. This mode of delivery requires authorization from LTRID.

In all cases Homer's ability to divert and convey water will be contingent on approval from PID (or LTRID in the case of Wood Central Ditch operations and USBR/FWA in the case of the FKC temporary pumps) to ensure that Homer's operations do not impair District operations and comply with District policies, rules, and regulations.

Regarding the ability of the facility to accept water for recharge, hydrogeologic studies by Homer indicate that the upper 10 to 12 feet of the subsurface consists primarily of medium to coarse grained sands and gravel with periodic, discontinuous lenses of clay. The permeable materials in the subsurface are similar to existing nearby Homer properties (including the nearby Burns facility) which have provided excellent recharge performance.

Burns Water Bank (Existing)

As depicted on **Figure 2-8**, water is delivered to the water bank through two means:

Rhodes Fine Ditch Delivery:
Water is conveyed through the Rhodes-Fine turnout and delivered west via gravity through the Rhodes-Fine Ditch. Once water reaches Ave 152, the ditch transitions into a PVC pipeline which delivers water to the basin. Water may also be pumped from the FKC into the Rhodes-Fine Ditch via temporary pumps. These temporary pumps will be placed on top of the ground, not causing any ground disturbance. Use of temporary pumps is subject to the United States Bureau of Reclamation (USBR) and Friant Water Authority (FWA) approval.

Wood Central Ditch Delivery:
Water is diverted via gravity through either the Wood Central Ditch turnout from the FKC or the Tule River spillway from the FKC and then delivered west through the Wood Central Ditch to the LTRID Tule River Intertie Ditch. A temporary pump is then installed to lift water from the LTRID Tule River Intertie Ditch into the water bank. These temporary pumps are placed on top of the ground, not causing any ground disturbance. This mode of delivery requires authorization from LTRID.

In all cases Homer's ability to divert and convey water will be contingent on approval from PID (or LTRID in the case of Wood Central Ditch operations and USBR/FWA in the case of the FKC temporary pumps) to ensure that Homer's operations do not impair District operations and comply with District policies, rules, and regulations.

Regarding the ability of the facility to accept water for recharge, Homer commenced recharge operations at the Burns facility in 2016. Recharge rates have averaged 1.0 foot/day. This information can be found in Table 1 of the Burns Water Bank Facility Report which is included in **Appendix D** at the end of this document.

Los Robles Water Bank (Existing)

As depicted on **Figure 2-9**, water is gravity delivered to the water bank via the Porter Slough Ditch, which is supplied by the FKC. In all cases, Homer's ability to divert and convey water to the Los Robles Water Bank

will be contingent on approval from PID to ensure that Homer's operations do not impair District operations and comply with District policies, rules, and regulations.

Regarding ability of the facility to accept water for recharge, hydrogeologic studies by Homer indicate that the upper 15 feet of the subsurface consists of clays, as wells as permeable sands and silty sands. During basin construction, the uppermost silts and clays were excavated to create a more permeable recharge surface. Homer commenced recharge operations at the Los Robles Facility in 2016. Recharge rates have averaged 1.2 feet/day. This information can be found in Table 1 of the Los Robles Water Bank Facility Report which is included in **Appendix D** at the end of this document.

2.2.4 Transfer-Recovery Operations

The Project consists of three water banks. The Project will not include construction of recovery wells at any of the three water bank locations. All banked water recovery will take place through in-ground transfers (Transfer-Recovery) with recovery from overlying wells within the region, as described below:

Transfer-Recovery within PID: Banked and recharged water may be transferred and subsequently recovered from wells in PID, for use in PID, in accordance with the District Recharge Policy and the Banking Policy. This mode of recovery will not be used for wells within one mile of the FKC until the management portion of the Subsidence Plan has been adopted. Thereafter, this potential operation will be performed in compliance with requirements of the Subsidence Plan.

Transfer-Recovery within the Eastern Tule Groundwater Sustainability Agency (ETGSA)*:* Banked and recharged water may be transferred and subsequently recovered from overlying wells in the ETGSA that are outside of PID in accordance with ETGSA rules and regulations. This mode of recovery will not be used for wells within one mile of the FKC until the management portion of the Subsidence Plan has been adopted. Thereafter, this potential operation will be performed in compliance with requirements of the Subsidence Plan.

Transfer-Recovery within Pixley ID: Banked water may be recovered from wells in Pixley ID in accordance with both ETGSA and Pixley ID GSA rules and regulations.

Transfer-Recovery within LTRID: Banked water may be recovered from existing wells in LTRID in accordance with both ETGSA and LTRID GSA rules and regulations. This mode of recovery will not be used for wells within one mile of the FKC until the management portion of the Subsidence Plan has been adopted. Thereafter, this potential operation will be performed in compliance with requirements of the Subsidence Plan.

Operational Exchanges: As detailed above, ETGSA districts, Pixley ID and LTRID may receive banked water through in-ground transfers. Contingent on receiving District approval, this banked water may be exchanged for water in Millerton Reservoir, the FKC, or in San Luis Reservoir. The exchanged water will then be delivered to the legal places of use contingent on receiving all required approvals.

2.2.5 Operation and Maintenance

The Project will be operated and maintained by Homer in coordination with PID. The Homer– PID Banking Agreement will detail the conditions under which PID facilities might be used and how the District will be reimbursed for the costs they incur in supporting the Project. Project recharge basins will be maintained using normal farming and irrigation district practices. The Project's operational goals are 1) to maintain a safe, reliable, and productive facility, 2) to prevent the long-term establishment of undesirable invasive plants in the Project and/or their migration onto adjacent farms, and 3) to prevent berm erosion/destabilization and/or rodent infestation through standard farming and water industry practices.

During operation: the basin water surface level is maintained at or below two (2) feet of freeboard; twice daily, in-person inspections are performed between the hours of 7:00 AM and 5:00 PM. A water operations manager or basin operator is on-call 24 hours a day, 7 days a week, to respond quickly if an inspection or any of the automatic monitors indicate a spill risk or imminent berm failures.

2.2.6 Monitoring and Operational Constraint Plan (MOCP)

The Project will be designed, operated, and monitored in a manner to ensure that the beneficial effects of the Project are maximized while preventing significant unacceptable impacts to the aquifer, groundwater levels, groundwater quality, the FKC, or adjacent landowners relative to conditions that will have occurred absent the Project. Homer will form a Monitoring Committee for each water bank to ensure that District interests, adjacent landowners, and FKC interests are represented. Homer will identify and appoint the landowner representative(s). The 5-member Monitoring Committee for each water bank will be composed as follows:

- 1 seat for Homer;
- 1 seat for a PID director (potentially including the General Manger if desired by the PID Board);
- 1 seat for an adjacent landowner;
- 1 seat for a landowner from another location within PID; and
- 1 seat for a representative from the Friant Water Authority (FWA).

Each member of the Monitoring Committee will have one vote. The Monitoring Committee will oversee Homer's implementation of this MOCP. The Facility Reports for each water bank (**Appendix D**) depict the process by which Homer will evaluate data, respond to complaints and perform operational adjustments or mitigation. The Monitoring Committee will be responsible for resolution of disputes in which Homer and a 3rd party are unable to reach agreement on appropriate responses to complaints.

Homer will be responsible for collecting and evaluating data at each water bank to:

- Estimate if unacceptable impacts to 3rd parties have occurred or may occur in the future as a result of Project operations when compared to conditions that will have occurred absent the Project;
- Adjust Project operations to avoid or minimize unacceptable impacts to 3rd parties; and
- Respond to reasonable complaints of unacceptable impacts as a result of Project operations.

As outlined above, Homer may make operational adjustments in response to data evaluations, complaints by 3rd parties or recommendations from the Monitoring Committee. Examples of potential operational adjustments may include, but are not limited to:

- Shifting the locations, schedules and rates at which recharge and recovery are being performed;
- Reimbursement for higher pumping costs;
- Well rehabilitation;
- Lowering a pump further down a well;
- Reimbursement for treatment costs;
- Installation of treatment systems;
- Providing an alternate water supply; and
- Installation of a new monitoring well.

All water level, water quality, and subsidence monitoring reports will be reported to the Monitoring Committee and FWA.

2.2.6.1 Water Accounting and Monitoring

Data Collection

The Project will include the following data collection at each water bank to ensure accurate measurement of recharged, evaporated, banked, and recovered water:

- Instantaneous and totalizing flow meters on each conveyance delivering water into recharge basins (make/type of each meter subject to approval from PID);
- Pressure transducer and/or microwave water level measurement; and
- Use of data from the nearest California Irrigation Management Information System (CIMIS) meteorological station to estimate evaporative loss of applied water before it percolates into the ground.

Each flow meter will be equipped with a data logger and cloud-based telemetry to ensure a continuous record of operations. Telemetry systems will have text and email alerts for the on-call operator and two alternate operators. In addition, instantaneous flow, AF totalizer, and basin water level (staff gauge) readings are manually recorded on a daily (24-hour) basis at any time the Project is operating. Each meter will be calibrated annually or as requested by PID. To the degree there is a discrepancy between Homer data and District records that cannot be reconciled, the record will be modified to reflect whichever records the parties deem most reliable.

Banked and Recharged Water Accounting

The amount of water applied to each water bank will be computed on daily 24-hour increments. The volume of applied water lost to evaporation prior to recharge is estimated using data from the nearest CIMIS Station. The remaining volume after subtraction of evaporative losses is reported to PID as the recharged volume.

Water Level Monitoring

The lowest end of each water bank will be equipped (if it is not already equipped) with an automatic water level monitoring device (pressure transducer) that will be set to contact the on-call operator (and two back-up operators) if the water level in the basin rises to within one foot of the basin berm crest. Homer has procedures to ensure that the alerted on-call operator adjusts or shuts off recharge operations to prevent basin spill at any of the three water bank locations.

Groundwater levels will be measured in the Project piezometers and nearest 3rd party wells (both irrigation and domestic, contingent on well owner approval) on a monthly basis during recharge periods and twice a year at other times. Recharge operations at each water bank will be constrained or shut down in the event that monitored offsite well water levels, known to be influenced by the Project operations, rise to within 15 feet of the ground surface.

Water Quality Monitoring

At each water bank, the groundwater quality will be monitored to ensure that it remains appropriate for designated beneficial uses as follows:

- Baseline sampling: All operable wells (irrigation and domestic) within a 1/4-mile radius of Project recharge facilities will be initially sampled for Analytical Suite (contingent on well owner approval); and
- On-going sampling: the nearest operable wells (irrigation and domestic) on properties immediately adjacent to Project recharge facilities will be sampled once a year for the full Analytical Suite (contingent on well owner approval).

The full Analytical Suite is outlined in **Table 2-3** below.

Table 2-3: Analytical Suite

Parameter	Analytical Method
Aluminum	EPA 200.7
Antimony	EPA 200.7
Arsenic	EPA 200.8
Asbestos	EPA Method 100 (TEM)
Barium	EPA 200.7
Beryllium	EPA 200.8
Boron	EPA 200.7
Cadmium	EPA 200.7
Calcium	EPA 200.7
Carbonates + bicarbonates	EPA 310.1
Chloride	SM 4500
Chromium	EPA 200.7
Color	EPA 110.2
Copper	EPA 200.7
Cyanide	EPA 335.2
1,2-Dibromo-3-Chloropropane (DBCP)	EPA 504.1
Ethylene Dibromide (Dibromoethane, EDB)	EPA 504.1
Fecal coliform	SM 9221E or 9223B
Fluoride	EPA 340.1
Foaming agents (MBAS)	EPA 425.1
Gross alpha	SM 7110C EPA 900.0
Iron	EPA 200.7
Magnesium	EPA 200.7
Manganese	EPA 200.7
Mercury	EPA 245.1
Methyl tert-butyl ether (MTBE)	EPA 8260B
Nickel	EPA 200.7
Nitrate as NO_3	EPA 300
Nitrate + nitrite	EPA 335.3
Nitrite as N	SM 4500
Odor threshold	EPA 140.1
Perchlorate	EPA 314.0
Potassium	EPA 200.7
pH (Field)	EPA 150.1
Phosphorous	EPA 365.2
Selenium	EPA 200.8
Silver	EPA 200.7
Sodium	EPA 200.7
Sodium absorption ratio (SAR)	Calculated
Specific conductance (Field)	EPA 120.1
Sulfate	EPA 375.4
Temperature (Field)	EPA 170.1
Thallium	EPA 200.8
Thiobencarb	EPA 525/507 Full list
Total dissolved solids (TDS)	EPA 160.3
Turbidity (Field)	EPA 180.1
Uranium	EPA 908.0
Zinc	EPA 200.7

Subsidence Monitoring

Significant subsidence (sinking of the ground surface) has occurred along the FKC to the south due to dewatering of silty and clayey formations by groundwater recovery from wells within the region. While each water bank will leave behind 10% to 30% of all banked water as a net gain to the aquifer and will not include installation or operation of Project recovery wells, the potential impact of banked water recovery from other wells needs to be monitored. The Project will comply with requirements of the ETGSA rules and regulations, including the ETGSA Subsidence Plan, when adopted. In the interim, the Project will not allow recovery of banked water from wells that are within one mile of the FKC until the ETGSA Subsidence Plan has been adopted.

Reporting

During operating periods Homer will submit monthly reports for each bank to PID which include the following information:

- The beginning volumes of water in the Homer and PID banked water accounts;
- The sources of water sent to each recharge basin turnout;
- Volumes of water discharged to recharge basins (daily basis);
- Percolation rates (daily basis);
- Losses to evaporation (daily basis);
- Net volumes of recharged or banked water (daily basis);
- The volumes of recharged or banked water allocated into the Homer and PID accounts in accordance with the Banking Policy leave behind requirements;
- Volumes of Homer's banked water transferred to others, including the places of use;
- The ending volumes of water in the Homer and PID banked water accounts; and
- Depth to water graphs for key wells approved by the District.

By January 15 of each year, regardless of whether there were any Project operations, Homer will submit an annual report for the prior year running from October 1 through September 30. This report, submitted to PID and the Monitoring Committee, will include the annual totals for the information listed above and additionally will include the following information:

- A chronological summary of operations and response to Monitoring Committee issues, if any;
- Tabulations of all water level, water quality, water volumes and subsidence monitoring data;
- A map presenting the distributions of total dissolved solids in monitored wells;
- Activities performed to comply with the ETGSA Subsidence Plan;
- Maps presenting the spring and fall elevations of water levels in wells, including interpreted directions of groundwater flow; and
- Maps presenting the spring and fall depths to water in wells.

2.2.7 Limitations and Commitments

- Water will be banked, returned, exchanged, or transferred in compliance with all federal, state, local, and tribal laws, and requirements imposed for protection of the environment and Indian Trust Assets, including the Central Valley Improvement Project;

- The Project will not be used to place untilled or new lands into agricultural production, or to convert undeveloped land to other uses. Specifically, no native or untilled land (fallow for three consecutive years or more) will be cultivated with the water managed through this Project;
- Transfers and/or exchanges will be limited to existing supply and will not increase overall consumptive use;
- Operations to bank, return, transfer and/or exchange the water will not result in new Delta exports above those already scheduled for normal CVP or State Water Project (SWP) operations;
- The Project will not interfere with the normal CVP or SWP operations;
- Transfers and/or exchanges cannot alter the flow regime of natural water bodies such as rivers, streams, creeks, ponds, pools, wetlands, etc., so as to not have a detrimental effect on fish or wildlife, or their habitats; and
- The Project will be operated in compliance with the PID *Banking Policy; the pending ETGSA GSP; and all applicable district policies, rules, and regulations* .

2.2.8 Site and Surrounding Land Uses and Setting

The Jones Corner Water Bank site is currently a vacant field, the other two sites (Burns and Los Robles Water Banks) are both existing basins. All of the sites are within farmed agricultural areas. See **Figure 2-5** and **Figure 2-6** for the general plan designations and zoning, respectively.

2.2.9 Other Public Agencies Whose Approval May Be Required

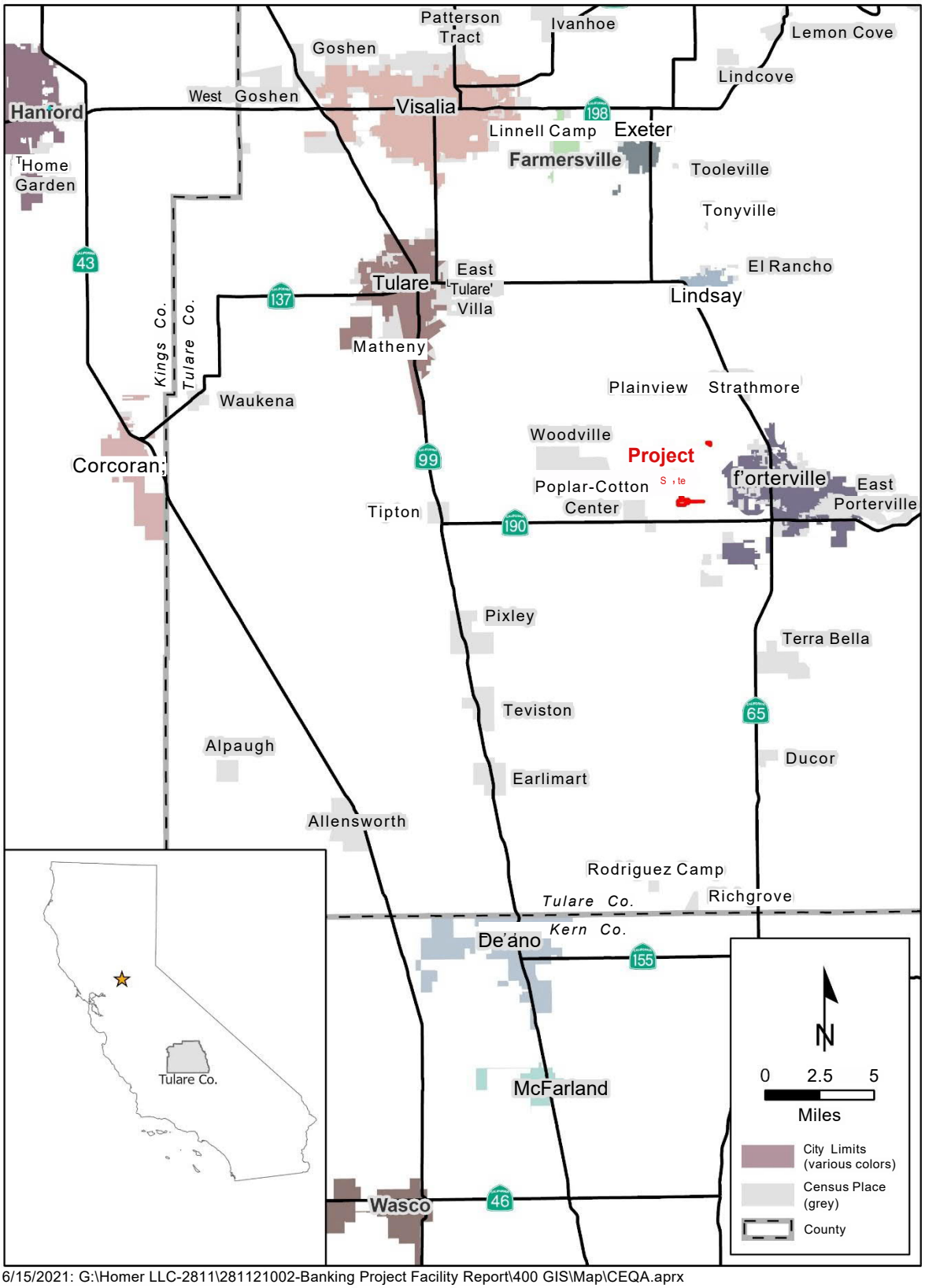
Approvals and permits that could be required:

- State Water Resources Control Board – Stormwater Pollution Prevention Plans (**SWPPP**)
- San Joaquin Valley Air Pollution Control District – Rules and Regulations (**Regulation VIII, Rule 9510, Rule 4641**)

2.2.10 Consultation with California Native American Tribes

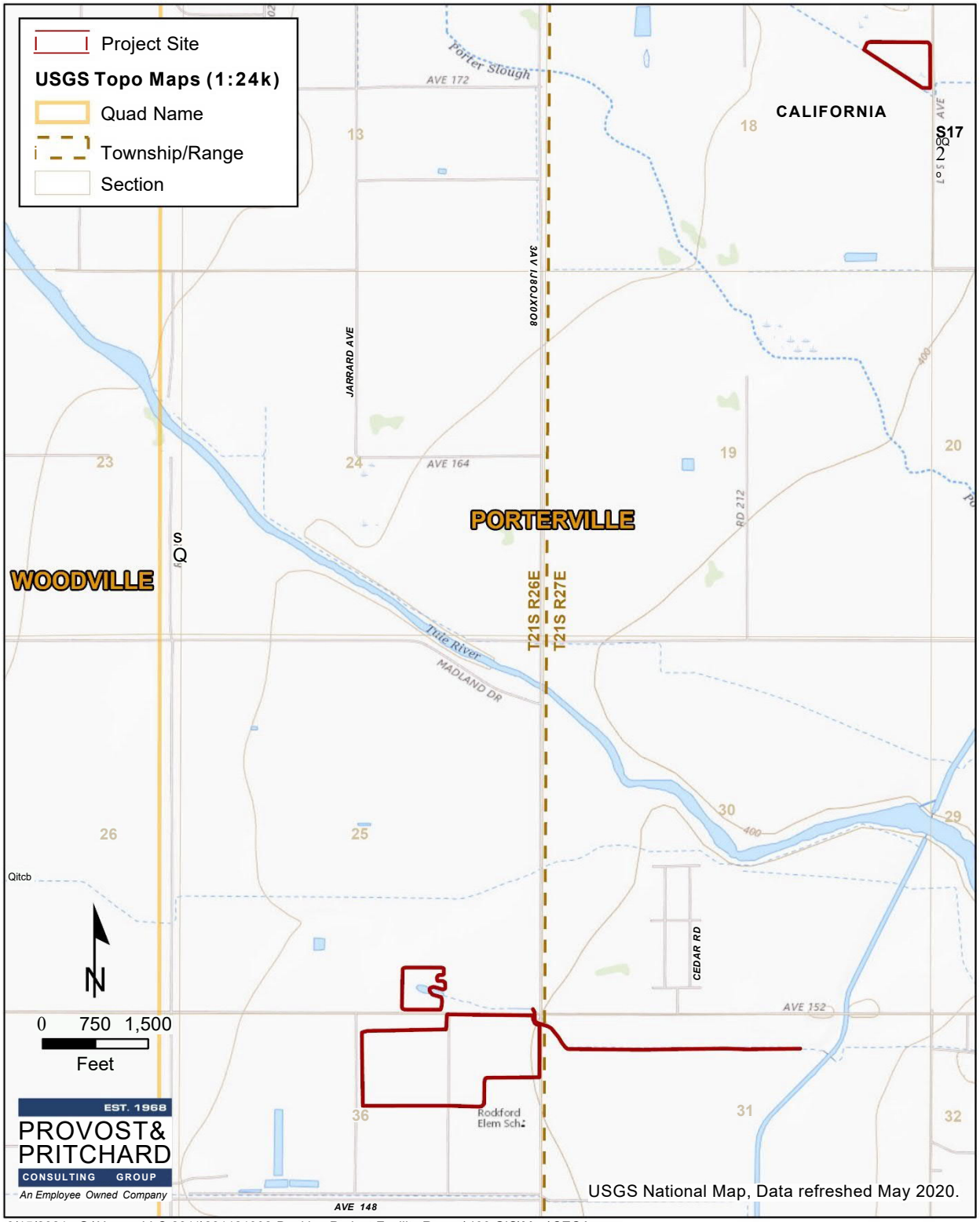
Public Resources Code Section 21080.3.1, *et seq. (codification of AB 52, 2013-14)*) requires that a lead agency, within 14 days of determining that it will undertake a project, must notify in writing any California Native American Tribe traditionally and culturally affiliated with the geographic area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

Porterville Irrigation District has not received any written correspondence from any tribes pursuant to Public Resources Code Section 21080.3.1 requesting notification of proposed project.



6/15/2021: G:\Homer LLC-2811\281121002-Banking Project Facility Report\400 GIS\Map\CEQA.aprx

Figure 2-1. Regional Location Map



6/15/2021 : G:\Homer LLC-2811\281121002-Banking Project Facility Report\400 GIS\Map\CEQA.aprx

Figure 2-2. Topographic Quadrangle Map

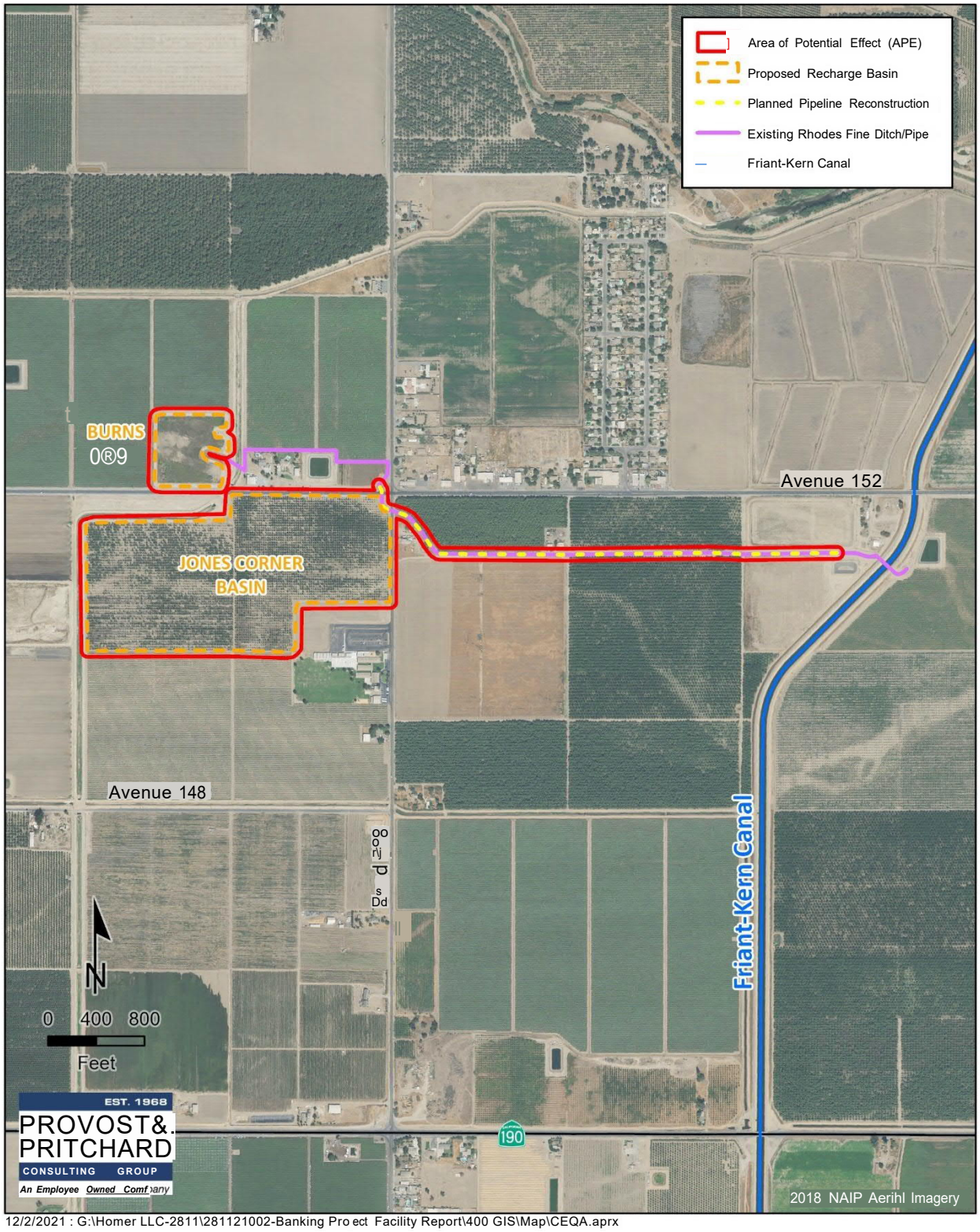
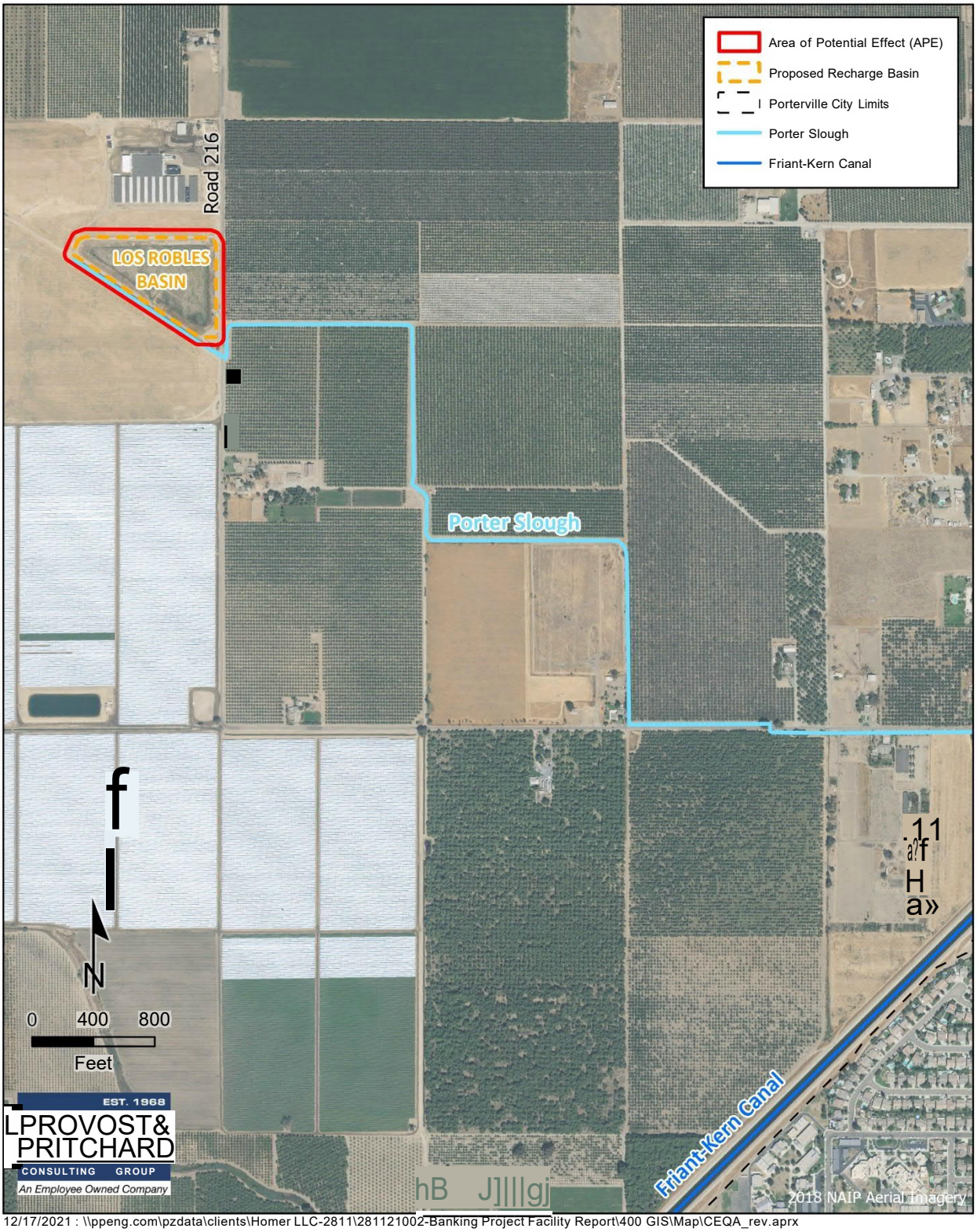
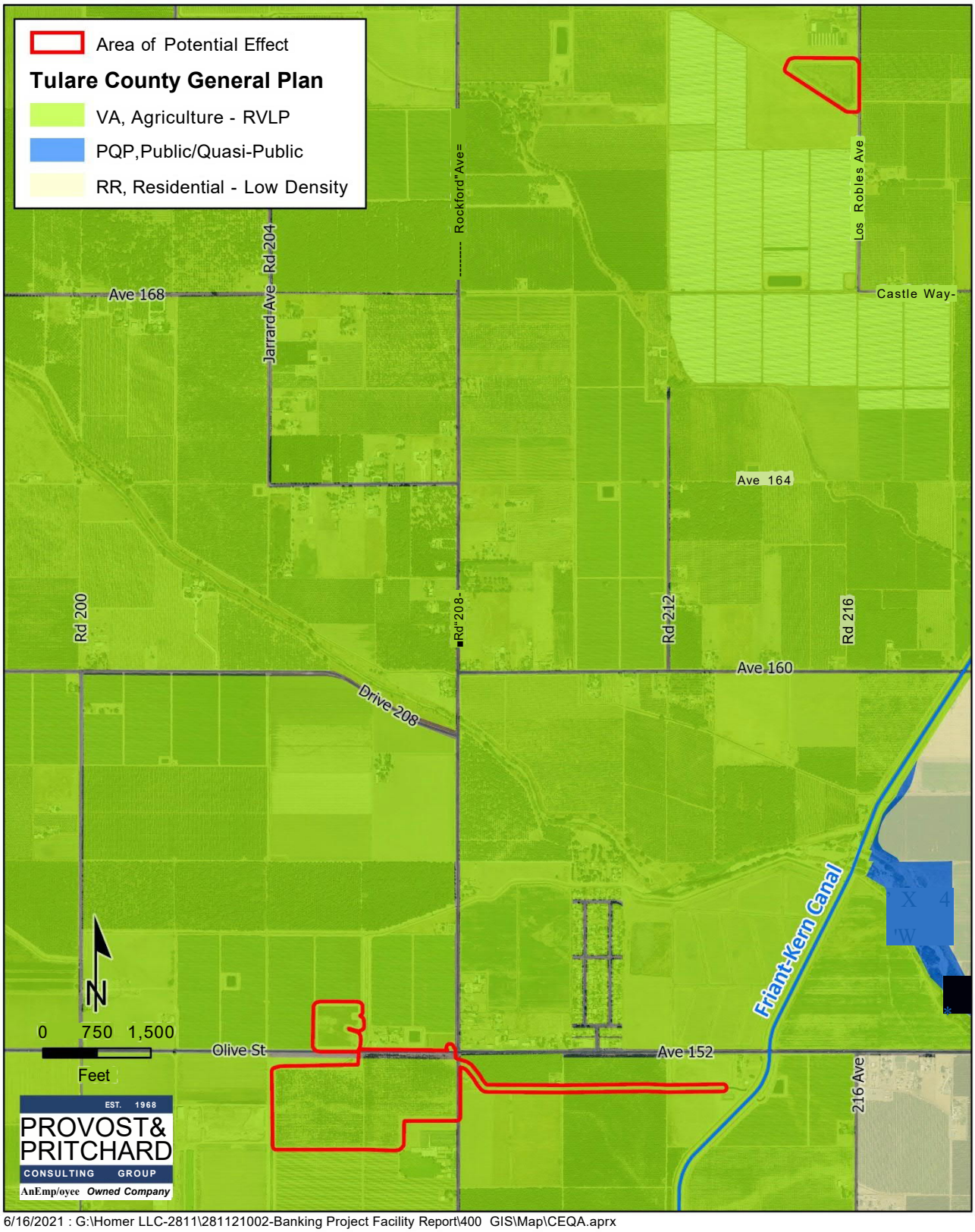


Figure 2-3. APE for Burns and Jones Corner Water Banks



12/17/2021 : \\ppeng.com\pzdata\clients\Homer LLC-2811\281121002-Banking Project Facility Report\400 GIS\Map\CEQA_rev.aprx

Figure 2-4. APE for Los Robles Water Bank



6/16/2021 : G:\Homer LLC-2811\281121002-Banking Project Facility Report\400 GIS\Map\CEQA.aprx

Figure 2-5. General Plan Land Use Designation Map

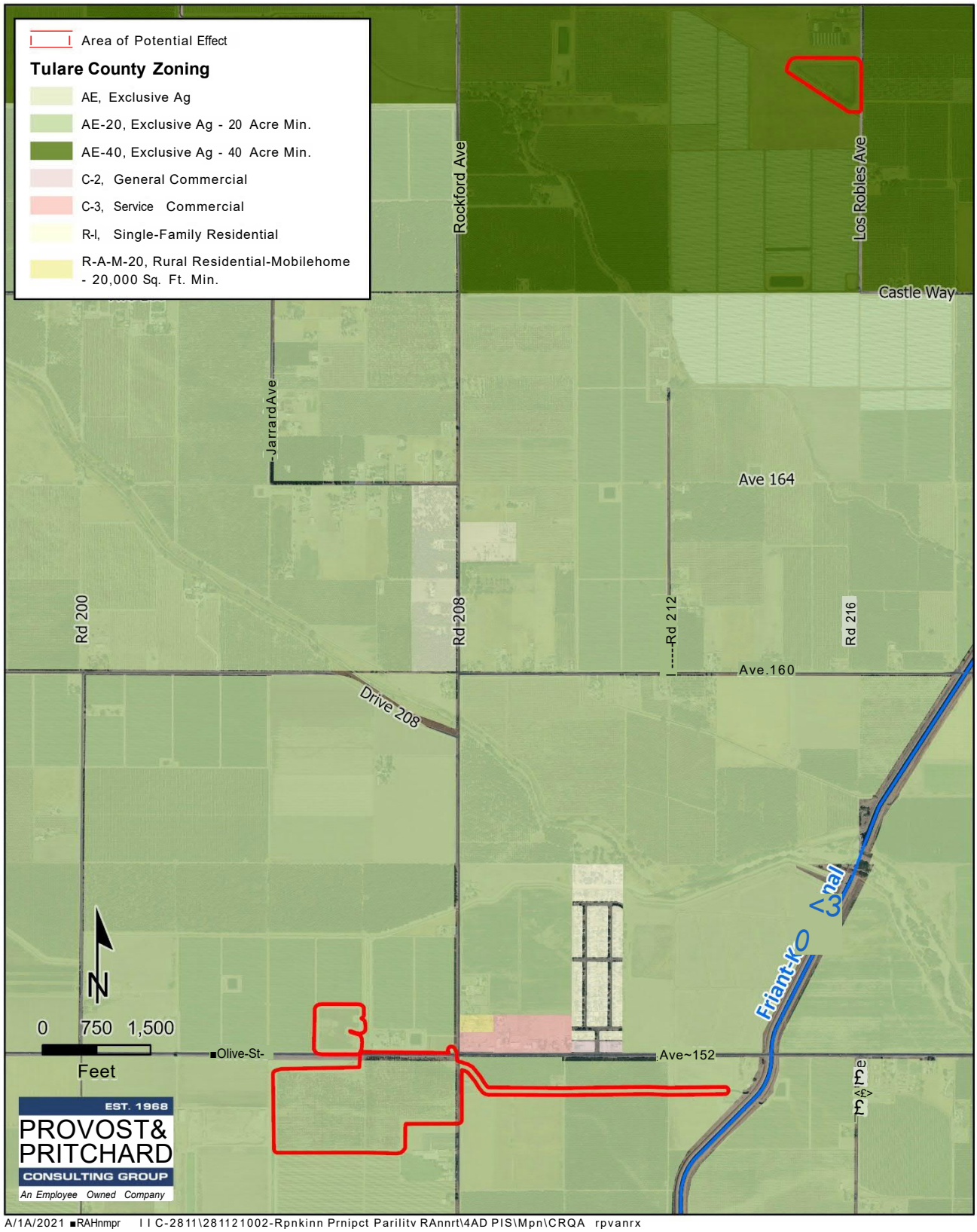


Figure 2-6. Tulare County Zone District Map

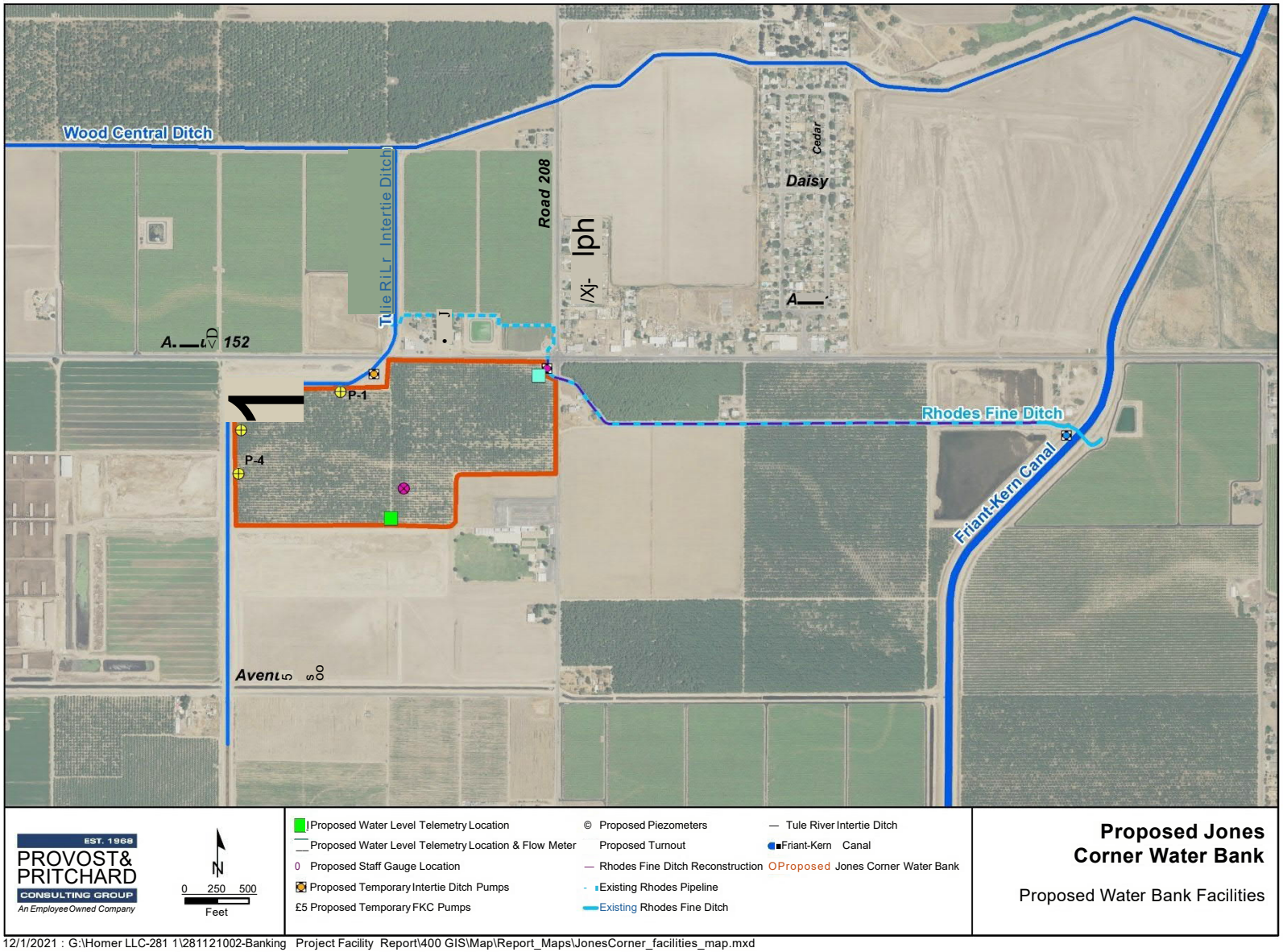


Figure 2-7. Jones Corner Water Bank Facilities Map

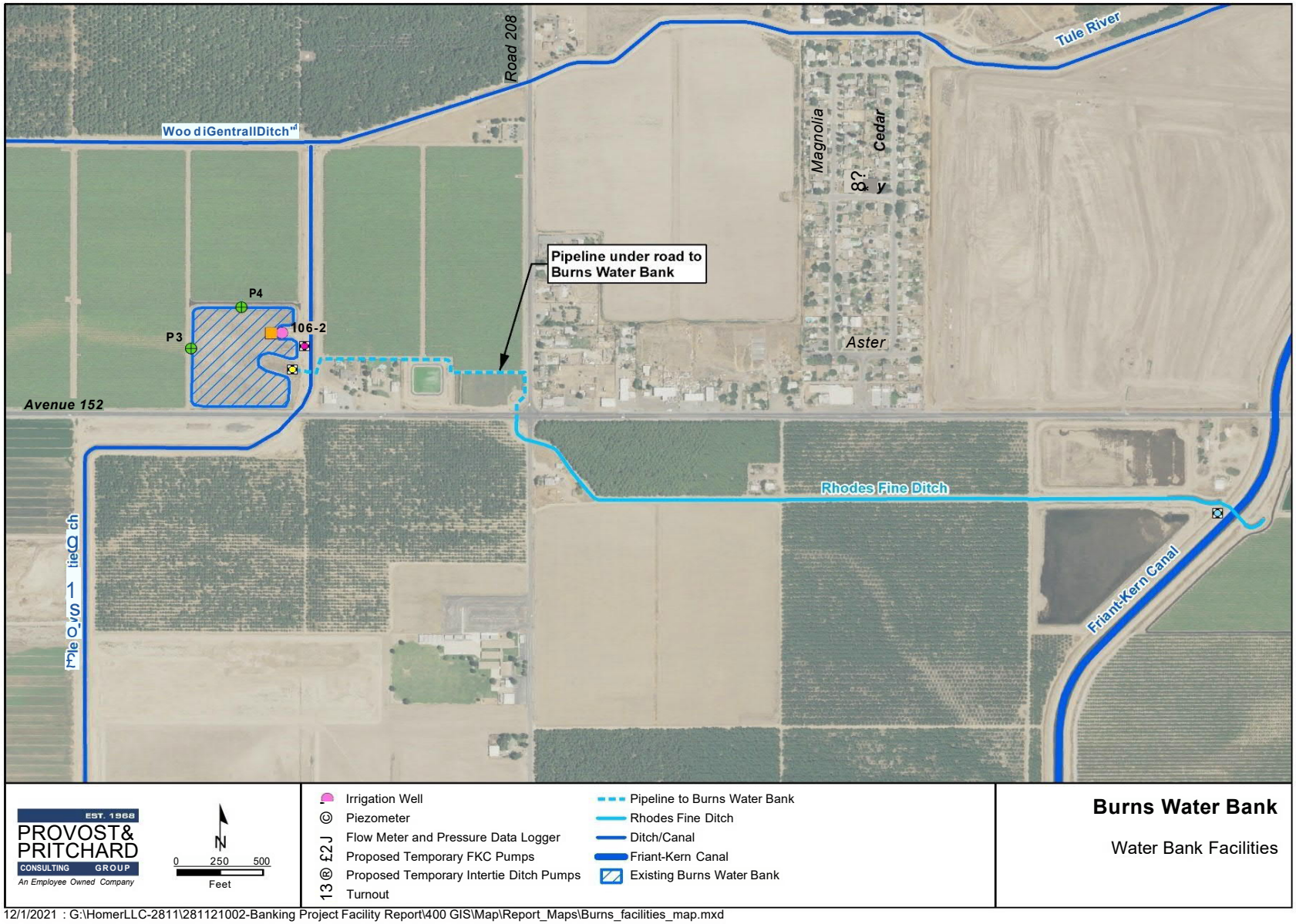


Figure 2-8. Burns Water Bank Facilities Map

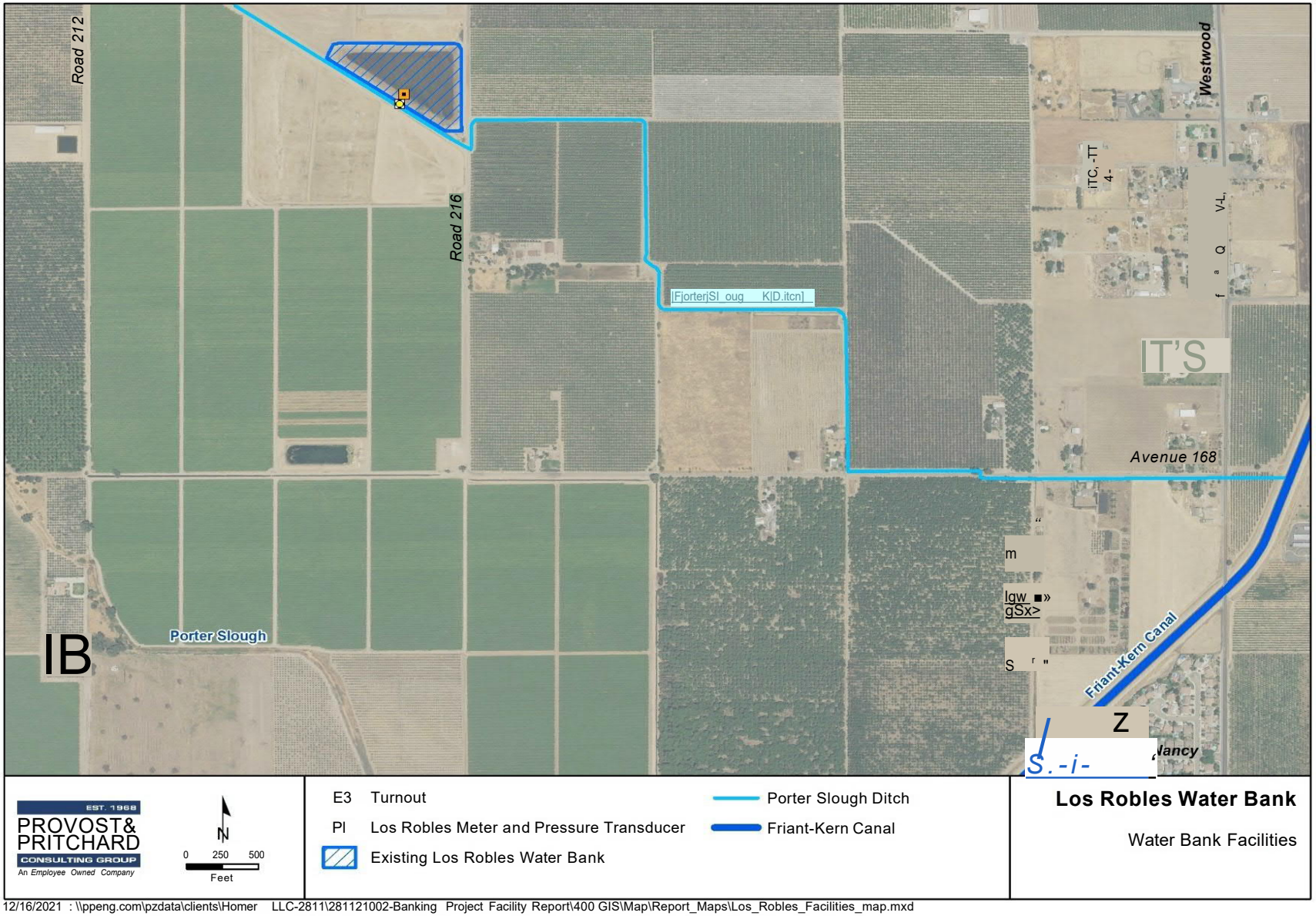


Figure 2-9. Los Robles Water Bank Facilities Map

Chapter 3 Impact Analysis

3.1 Environmental Factors Potentially Affected

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

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

The analyses of environmental impacts here in **Chapter 3** are separated into the following categories:

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

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

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

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

3.2 Aesthetics

Table 3-1. Aesthetics Impacts

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

3.2.1 Environmental Setting and Baseline Conditions

The Project is located in Tulare County within PID. The surrounding land primarily consists of AE-20 land which is an exclusive zone for intensive agricultural uses and for those uses which are a necessary and integral part of the agricultural operation. State Route 190 (SR 190) (beginning at the intersection of State Route 65) has been officially identified as an Eligible "designated State Scenic Highway;" by Caltrans its beginning point is approximately 5.4-miles southeast of the Burns and Jones Corner Water Bank sites and 6.2 miles southeast of the Los Robles Water Bank site. Rural roadways, the Friant-Kern Canal, local water distribution canals, water retention basins, and other infrastructure typical of rural agricultural areas in the San Joaquin Valley are also in the immediate vicinity. The Burns and Los Robles Water Bank sites are existing recharge basin facilities.

3.2.2 Impact Assessment

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

Less than Significant Impact. Scenic features in the area include the Friant-Kern Canal (FKC) and the vast expanse of agricultural uses. The Project includes construction of 58 acres of permanent recharge basin on a current vacant lot, and reconstruction of a 4,000 linear-foot portion of the current Rhodes-Fine Ditch to convey water to the Burns Water Bank, and the Jones Corner Water Bank. The nearest scenic vista in the area is SR 190 which is 6.2 miles from Jones Corner Water Bank, 5.4 miles from the Burns Water Bank. The Project would align with the existing agricultural aesthetics of the surrounding area and any impacts would be less than significant. The proposed construction portion of the Project is consistent with the existing agricultural aesthetics of the area. Therefore, any impacts would be less than significant.

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

No Impact. The Scenic Highway Program protects and enhances California's natural scenic beauty by allowing county and city governments to apply to the California Department of Transportation (Caltrans) to establish a

scenic corridor protection program. SR 190 traverses southern Tulare County and is an Officially Designated State Scenic Highway from Route 65 near Porterville to Route 127 near Death Valley. There are no scenic resources located on or in the vicinity of any of the Project sites, therefore there would be no impact.

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

No Impact. The construction of Jones Corner Water Bank and related infrastructure will blend in with existing agricultural surroundings. No new construction will take place at the Burns and Los Robles Water Banks. Therefore, the Project would not substantially degrade the visual character of the area. There would be no impact.

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

No Impact. The area surrounding the Project sites is primarily agriculture and associated farming uses. No artificial lighting is proposed to be on-site at any of the locations. The Project would not create a new source of substantial light or glare that would adversely affect day or nighttime views in the area or be inconsistent with existing conditions. There would be no impact.

3.3 Agriculture and Forestry Resources

Table 3-2. Agriculture and Forest Impacts

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

3.3.1 Environmental Setting and Baseline Conditions

Tulare County is located in the San Joaquin Valley, California's agricultural heartland. Tulare County's agricultural production value was $7.5 billion, resulting in a 4.0% percent increase in production from the previous year. Milk is the county's number one commodity at a nearly $1,612,070,000. This number is a decrease of $71.6 million compared to the previous year. Tulare County also leads the state with cattle and calves. Other commodities that are cultivated in the county, including grapes, citrus and stone fruits, nuts and corn. Rich soil, irrigation water, Mediterranean climate, and steady access to local, national, and global markets make this possible.

The District is composed of approximately 56,500 acres, more than 90% of which are irrigated permanent crops. The major crops grown in the district include grapes, pistachios, almonds, and other fruit and nut trees, with a total of more than two dozen different crops grown. Irrigation methods include drip, micro, gravity, and sprinkler. The basin sites and the surrounding lands are zoned for agricultural use.

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

The California DOC's 2012 FMMP is a non-regulatory program that produces "Important Farmland" maps and statistical data used for analyzing impacts on California's agricultural resources. The Important Farmland maps identify eight land use categories, five of which are agriculture related: prime farmland, farmland of statewide importance, unique farmland, farmland of local importance, and grazing land – rated according to soil quality and irrigation status. Each is summarized below[1]:

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

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

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

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

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

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

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

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

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

As demonstrated in **Figure 3-1**, the FMMP for Tulare County designates the Burns Water Bank and the Jones Corner Road water bank as Prime Farmland and the Los Robles Water Bank as Confined Animal Agriculture.

[1] California Important Farmland Finder (FMMP). https://maps.conservation.ca.gov/DLRP/CIFF/. Accessed June 2021.

3.3.2 Impact Assessment

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

Less than Significant Impact. The Burns Water Bank and the Jones Corner Water Bank are designated Prime Farmland and the Los Robles Water Bank is designated Confined Animal Agriculture. The Project would allow the construction of a new water bank at the Jones Corner site, and reconstruction of approximately 4,000 linear-feet of the Rhodes-Fine Ditch and banking at the two existing basin sites. These three water banks will replenish groundwater from surface water sources when available, thereby contributing to recharge the area's aquifer so agricultural operations may continue within the District. Therefore, the impacts would be less than significant.

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

No Impact. Chapter 3, Section 9.5 of the Tulare County Zoning Ordinance addresses the AE zone districts. Section 9.5 does not list basins as a permitted use. However, pursuant to Government Code Section 53091(e), location or construction of facilities for the production, generation, storage, treatment, or transmission of water by a special district are not subject to the zoning ordinance of the county in which the Project would be located. Although the Project is not required to comply with the Tulare County Zoning Ordinance, it is the Project's intent to enhance groundwater levels, thereby sustaining agriculture. The basins will facilitate greater security of groundwater storage for District growers, inherently promoting the agricultural zoning and Williamson Act intentions. The parcels at the three sites are all under a Williamson Act contract. The Los Robles Water Bank, identified as APN 243-360-004, is under Contract number 04113, the Burns Water Bank, identified as APN 236-290-008, is under Contract number 17259, and the Jones Corner Water Bank, identified as APN 236-150-013, is under Contract number 10140.

The principal objectives of the Williamson Act program include protection of agricultural resources, preservation of open space land, and promotion of efficient urban growth patterns. The implementation of water banks would promote groundwater security inherently protecting agricultural resources and will not conflict with existing zoning for agricultural use or the Williamson Act contracts on any of the parcels. There would be no impacts.

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

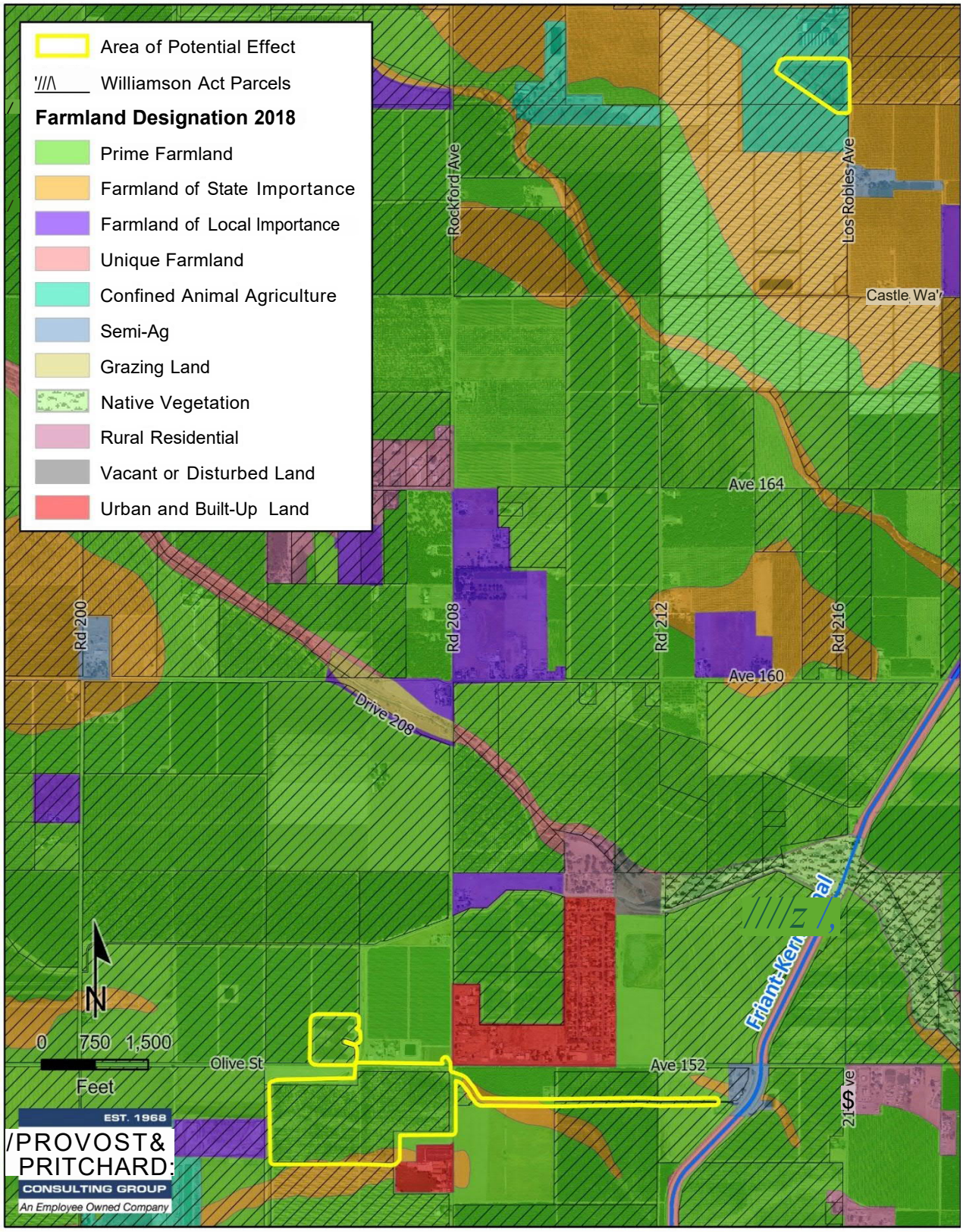
c) Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?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

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

c and d) No Impact. There are no forests or timberland in the region, and the sites are not zoned to support forest land or timberland. The Project does not propose any rezoning. The Project would not convert forest land to non-forest use. There would be no impact.

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

Less Than Significant Impact. The Project would not convert the land from its existing agricultural use to any other land use pursuant to the FMMP. The intent of the Project is to support ongoing agricultural endeavors by enhancing groundwater availability. As a result, the Project will result in continued farming on surrounding agricultural lands that might potentially be fallowed due to lack of water. Impacts would be less than significant.



6/15/2021 : G:\Homer LLC-2811\281121002-Banking Project Facility Report\400 GIS\Map\CEQA.aprx

Figure 3-1. Farmland Designation Map

3.4 Air Quality

Table 3-3. Air Quality Impacts

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

3.4.1 Environmental Setting and Baseline Conditions

3.4.1.1 Regulatory Attainment Designations

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

The EPA designates areas for ozone, CO, and NO_2 as "does not meet the primary standards," "cannot be classified," or "better than national standards." For SO_2, areas are designated as "does not meet the primary standards," "does not meet the secondary standards," "cannot be classified," or "better than national standards." However, the CARB terminology of attainment, nonattainment, and unclassified is more frequently used. The EPA uses the same sub-categories for nonattainment status: serious, severe, and extreme. In 1991, EPA assigned new nonattainment designations to areas that had previously been classified as Group I, II, or III for PM_{10} based on the likelihood that they would violate national PM_{10} standards. All other areas are designated "unclassified."

The State and national attainment status designations pertaining to the SJVAB are summarized in **Appendix A**. The SJVAB is currently designated as a nonattainment area with respect to the State PM_{10} standard, ozone, and $PM_{2.5}$ standards. The SJVAB is designated nonattainment for the NAAQS 8-hour ozone and $PM_{2.5}$ standards. On September 25, 2008, the EPA re-designated the San Joaquin Valley to attainment status for the PM_{10} NAAQS and approved the PM_{10} Maintenance Plan.

Table 3-4. Summary of Ambient Air Quality Standards and Attainment Designation

Pollutant	Averaging Time	California Standards*		National Standards*	
		Concentration*	Attainment Status	Primary	Attainment Status
Ozone (O_3)	1-hour	0.09 ppm	Nonattainment/ Severe	–	No Federal Standard
	8-hour	0.070 ppm	Nonattainment	0.075 ppm	Nonattainment (Extreme)**
Particulate Matter (PM_{10})	AAM	20 µg/m^3	Nonattainment	–	Attainment
	24-hour	50 µg/m^3		150 µg/m^3	
Fine Particulate Matter ($PM_{2.5}$)	AAM	12 µg/m^3	Nonattainment	12 µg/m^3	Nonattainment
	24-hour	No Standard		35 µg/m^3	
Carbon Monoxide (CO)	1-hour	20 ppm	Attainment/ Unclassified	35 ppm	Attainment/ Unclassified
	8-hour	9 ppm		9 ppm	
	8-hour (Lake Tahoe)	6 ppm		–	
Nitrogen Dioxide (NO_2)	AAM	0.030 ppm	Attainment	53 ppb	Attainment/ Unclassified
	1-hour	0.18 ppm		100 ppb	
Sulfur Dioxide (SO_2)	AAM	–	Attainment	--	Attainment/ Unclassified
	24-hour	0.04 ppm		--	
	3-hour	–		0.5 ppm	
	1-hour	0.25 ppm		75 ppb	
Lead (Pb)	30-day Average	1.5 µg/m^3	Attainment	–	No Designation/ Classification
	Calendar Quarter	–		--	
	Rolling 3-Month Average	–		0.15 µg/m^3	
Sulfates (SO_4)	24-hour	25 µg/m^3	Attainment	No Federal Standards	
Hydrogen Sulfide (H_2S)	1-hour	0.03 ppm (42 µg/m^3)	Unclassified		
Vinyl Chloride (C_2H_3Cl)	24-hour	0.01 ppm (26 µg/m^3)	Attainment		
Visibility-Reducing Particle Matter	8-hour	Extinction coefficient: 0.23/km-visibility of 10 miles or more due to particles when the relative humidity is less than 70%.	Unclassified		

** For more information on standards visit: https://ww3.arb.ca.gov/research/aaqs/aaqs2.pdf*
*** No Federal 1-hour standard. Reclassified extreme nonattainment for the Federal 8-hour standard [date].*
****Secondary Standard*
Source: CARB 2015; SJVAPCD 2015

3.4.2 Impact Assessment

The CalEEMod Output files (**Appendix A**) were prepared using CalEEmod, Version 2016.3.2 for the proposed Project in November 2021. The Burns and Los Robles Water Banks are existing facilities. No new

facilities will be constructed at these sites and future operations will not be different from current operations. Therefore, they were not analyzed for Air Quality emissions, as any emissions from these sites are considered part of the existing conditions. The sections below detail the methodology of the air quality modeling and its conclusions.

3.4.2.1 Short-Term Construction-Generated Emissions

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

3.4.2.2 Long-Term Operational Emissions

Long-term operational emissions associated with the Project are estimated to be minimal in nature at the Jones Corner Water Bank and would continue as they currently operate at the Burns and Los Robles Water Bank locations. Maintenance would be provided on an as needed basis by existing staff, and the water banks are all gravity fed, and do not require pumps for normal operations. Jones Corner facilities may also include the periodic use of temporary pumps to lift water from the FKC into the Rhodes-Fine Ditch or periodic use of temporary pumps to lift water from the Lower Tule River Irrigation District (LTRID) Tule River Intertie Ditch into the recharge basins (contingent on approval from LTRID). In order to place these pumps at the FKC a temporary 5-year permit from the United States Bureau of Reclamation is being secured. These temporary pumps will be placed on top of the ground, not causing any ground disturbance. At this time it is unknown if the temporary pumps will be electric or diesel pumps. For the purposes of modeling air quality impacts it was assumed that the pumps would be powered by EPA Tier 4 diesel engines. If diesel engines are used the temporary pumps will be placed approximately 250 meters from the nearest sensitive receptor and will run for a maximum of 24,600 pump hours (up to six (6) 100-horsepower pumps running for 4,100 hours each) within a 12-month period. Should any additional pump hours be needed the pumps will be placed approximately 500 meters from any sensitive receptors in the area. Electric pumps would not have usage or distance limitations. Modeling assumptions and output files are included in **Appendix A**.

3.4.2.3 Thresholds of Significance

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

Short-Term Emissions of Particulate Matter (PM_{10}): Construction impacts associated with the proposed Project would be considered significant if the feasible control measures for construction in compliance with Regulation VIII as listed in the SJVAPCD guidelines are not incorporated or implemented, or if project-generated emissions would exceed 15 tons per year (TPY).

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

Long-Term Emissions of Particulate Matter (PM_{10}): Operational impacts associated with the proposed Project would be considered significant if the project generates emissions of PM_{10} that exceed 15 TPY.

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

Conflict with or Obstruct Implementation of Applicable Air Quality Plan: Due to the region's nonattainment status for ozone, $PM_{2.5}$, and PM_{10}, if the project-generated emissions of either of the ozone precursor pollutants (i.e., ROG and NO_x) or PM_{10} would exceed the SJVAPCD's significance thresholds, then the project would be considered to conflict with the attainment plans. In addition, if the project would result in a change in land use and corresponding increases in vehicle miles traveled, the project may result in an increase in vehicle miles traveled that is unaccounted for in regional emissions inventories contained in regional air quality control plans.

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

Toxic Air Contaminants: Exposure to toxic air contaminants (TAC) would be considered significant if the probability of contracting cancer for the Maximally Exposed Individual (i.e., maximum individual risk) would exceed 20 in 1 million, or 1 in 1 million for non-carcinogenic acute or chronic hazards.

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

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

Less than Significant Impact. The CEQA Guidelines indicate that a significant impact would occur if the Project would conflict with or obstruct implementation of the applicable air quality plan. The GAMAQI does not provide specific guidance on analyzing conformity with the Air Quality Plan (AQP)[2]. Therefore, it is assumed the following criteria for determining Project consistency with the current AQPs:

1. Will the project result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations, or delay timely attainment of air quality standards or the interim emission reductions specified in the AQPs? This measure is determined by comparison to the regional and localized thresholds identified by the SJVAPCD for regional and local air pollutants.
2. Will the project comply with applicable control measures in the AQPs? The primary control measures applicable to development projects is Regulation VII-*Fugitive PM_{10} Prohibitions* and Rule 2201 *New and Modified Source Review*.

Regional air quality impacts and attainment of standards are the result of cumulative impacts of all emission sources within the air basin. Individual projects are generally not large enough to contribute measurably to an existing violation of air quality standards. Therefore, the cumulative impact of the Project is based on its cumulative contribution. Because of the region's non-attainment status for ozone, $PM_{2.5}$, and PM_{10}, if Project generated emission of either of the ozone precursor pollutants ROG, NO_x, PM_{10}, or $PM_{2.5}$ would exceed the SJVAPCD's significance thresholds, then the Project would be considered to contribute to violations of the applicable standards and conflict with the attainment plans. As demonstrated in **Table 3-5** for construction generated emissions. Project emissions of criteria pollutants would not exceed the SJVAPCD's significance threshold for oxides of nitrogen. Therefore, the Project would not contribute to air quality violations in conflict with attainment plans.

[2] Air Quality Plans can be found at http://valleyair.org/Air_Quality_Plans/air-quality-plans.htm.

The AQP contains a number of control measures, including Regulation VII-Fugitive PM_{10} Prohibitions and Rule 2201-New and Modified Source Review (described above in **Section 3.4.1.1**) which are applicable to the Project. Regulation VII-Fugitive PM_{10} Prohibitions and Rule 2201 New and Modified Source Review are adopted rules and regulations that constitute enforceable requirements with which the project must comply. The Project would comply with all applicable SJVAPCD rules and regulations, and the Project has been analyzed and quantified and no significant impact was found. Therefore, the Project complies with the criterion and would not conflict with or obstruct implementation of the applicable air quality attainment plans. Impacts would be less than significant.

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

Less than Significant Impact.

Short-Term Construction-Generated Emissions

Estimated construction-generated emissions are summarized in **Table 3-5**.

Table 3-5. Unmitigated Short-Term Construction-Generated Emissions of Criteria Air Pollutants

Source	Annual Emissions (Tons/Year) (1)					
	ROG	NO_X	CO	PM_{10}	$PM_{2.5}$	SO_x
2022	0.1452	1.484	1.1692	0.4842	0.2245	<0.001
SJVAPCD Significance Thresholds:	10	10	100	15	15	27
Exceed SJVAPCD Thresholds?	*No*	*No*	*No*	*No*	*No*	*No*

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

Long-Term Operational Emissions

Table 3-6. Unmitigated Long-Term Operational Emissions

Long-Term Operational Emissions of Criteria Air Pollutants						
Source	Annual Emissions (Tons/Year) (1)					
	ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Maximum Annual Project Emissions:	2.0185	2.9693	5.1468	<1	0.0297	0.0297
SJVAPCD Significance Thresholds:	*10*	*10*	*100*	*27*	*15*	*15*
Exceed SJVAPCD Thresholds?	*No*	*No*	*No*	*No*	*No*	*No*

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

Long-term operational emissions associated with the new Jones Corner Water Bank are estimated to be minimal in nature. Most come from the temporary pumps that will primarily be operated during wet years. At this time it is unknown if the temporary pumps will be electric or diesel pumps. For the purposes of modeling air quality impacts it was assumed that the pumps would be powered by EPA Tier 4 diesel engines. If diesel engines are used the temporary pumps will be placed approximately 250 meters from the nearest sensitive receptor and will run for a maximum of 24,600 pump hours (up to six (6) 100-horsepower pumps running for 4,100 hours each) within a 12-month period. Should any additional pump hours be needed the pumps will be placed approximately 500 meters from any sensitive receptors in the area. Electric pumps would not have usage or distance limitations. Maintenance to the Jones Corner Water Bank will be provided infrequently, on an as-needed basis by existing Homer staff that is already traveling to the Burns Water Bank location which is adjacent

to the Jones Corner site. Existing conditions at the Burns and Los Robles Water Banks would remain the same, they currently operate as water recharge basins. Impacts would be less than significant.

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

Less than Significant Impact. The Burns and Los Robles Water Banks are existing facilities. No new facilities will be constructed at either of those sites and future operations will not be different from current operations. Previous conditions at the Jones Corner Water Bank site consist of agricultural operations that require the operation of heavy-duty diesel-powered equipment and vehicles. The site is also surrounded by agricultural uses. Construction at the Jones Corner site is anticipated to be approximate in emissions to one harvest season. Jones Corner facilities may also include the periodic use of temporary pumps to lift water from the FKC into the Rhodes-Fine Ditch or periodic use of temporary pumps to lift water from the Lower Tule River Irrigation District (LTRID) Tule River Intertie Ditch into the recharge basins (contingent on approval from LTRID). In order to place these pumps at the FKC a temporary 5-year permit from the United States Bureau of Reclamation is being secured. These temporary pumps will be placed on top of the ground, not causing any ground disturbance. At this time it is unknown if the temporary pumps will be electric or diesel pumps. For the purposes of modeling air quality impacts it was assumed that the pumps would be powered by EPA Tier 4 diesel engines. If diesel engines are used the temporary pumps will be placed approximately 250 meters from the nearest sensitive receptor and will run for a maximum of 24,600 pump hours (up to six (6) 100-horsepower pumps running for 4,100 hours each) within a 12-month period. Should any additional pump hours be needed the pumps will be placed approximately 500 meters from any sensitive receptors in the area. Electric pumps would not have usage or distance limitations. Toxic air contaminants were calculated using SJVAPCD emission factors and data provided by the applicant. Diesel particulate matter was also factored. Given the above parameters, the temporary pumps at the Jones Corner Water Bank would result in a prioritization score of approximately 4.41 for carcinogens, and less than 0.3 for both chronic and acute non-carcinogenic hazards. As the Jones Corner Water Bank would be a less intense land use than an agricultural farming use, daily exposure to substantial pollutant concentrations would be reduced. Impacts would be less than significant.

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

Less than Significant Impact. Construction of the Jones Corner Water Bank and associated water conveyance facilities would utilize diesel and gasoline powered equipment. This type of equipment is similar to what is already in use during ag operations in the Project area. Construction impacts would be short term in nature lasting approximately six months. As discussed above when the temporary diesel pumps are used they would be utilized no more than 24,600 pump hours in one 12-month period. Should any additional pump hours be needed the pumps would be moved to ensure they are 500 meters from any sensitive receptors in the area. Impacts would be less than significant.

3.5 Biological Resources

Table 3-7. Biological Resources Impacts

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

3.5.1 Environmental Setting and Baseline Conditions

The Project is located west of the City of Porterville, Tulare County, California. This area is within the San Joaquin Valley and lies west of the foothills of the Sierra Nevada Mountain Range. Most of the San Joaquin Valley experiences a Mediterranean climate. Warm, dry summers are followed by cool, moist winters. Summer temperatures range from 70 to 80 degrees Fahrenheit (F), but often exceeds 90 degrees F. Winter minimum temperatures are near 40 degrees F. Near the Project, the average annual precipitation is approximately 13 inches, falling primarily from October to April.

The APE lies within the Elk Bayou watershed; Hydrologic Unit Code (HUC): 1803000608 and encompasses three subwatersheds: Town of Poplar, Old Channel Tule River, and Middle Elk Bayou; HUCs: 180300122101, 180300061001, and 180300060804, respctively. The Elk Bayou watershed starts from upland stormwater

collected in the Sierra Nevada Mountain Range, and flows through over five seperate rivers and canals, until entering the San Joaquin River, Bay-Delta and finally the Pacific Ocean.

The soil in the area consists of four soil mapping units representing four soil types: Exeter loam, Nord loam, Tagus loam, and Tujunga loamy sand were identified within the APE. All four soils are primarily used for agriculture in the form of irrigated cropland, row crops, or rangeland, and naturally feature sparse vegetation consisting of annual grasses and forbs in uncultivated areas. Three of the four soil mapping units are considered hydric. Hydric soils are defined as soils that are saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions such that under sufficiently wet conditions, hydrophytic vegetation can be supported.

There are two existing groundwater recharge facilities: Burns Basin and Los Robles Basin. The Friant-Kern Canal is located South and East of these existing basins, respectively.

The Project APE surveyed for biological resources included the existing Burns and Los Robles Basins, a new 58 acre area for Jones Corner Basin, and 20 acres for a water conveyance facility reconstruction of the existing Rhodes-Fine Ditch and a 50-foot buffer around each Project boundary.

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

A thorough search of CNDDB for published accounts of special status plant and animal species was conducted for the *Delano East* 7.5-minute quadrangle, which contains the entire APE, and the eight surrounding quadrangles: *Delano West*, *Pond*, *McFarland*, *Deepwell Ranch*, *Richgrove*, *Pixley*, *Ducor*, and *Sausalito School*. These species, and their potential to occur within the APE are listed below.

The biologist also conducted a reconnaissance-level field survey of the APE resulting in the identification of vegetation including Bermuda grass (*Cynodon dactylon*), great brome (*Bromus diandrus*) Jersey cudweed (*Helichrysum luteoalbum*), prickly lettuce (*Lactuca serriola*), sacred datura (*Datura wrightii*), summer cypress (*Bassia scoparia*), and walnut trees (*Juglans regia*). The survey also resulted in the identification of wildlife including American Crow (*Corvus brachyrhynchos*), California ground squirrel (*Otospermophilus beecheyi*), Great Blue Heron (*Ardea herodias*), House Finch (*Haemorhous mexicanus*), Mourning Dove (*Zenaida macroura*), Northern Mockingbird (*Mimus polyglottos*), Red-tailed Hawk (*Buteo jamaicensis*), and western fence lizard (*Sceloporus occidentalis*).

3.5.2 Impact Assessment

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

Less than Significant Impact with Mitigation Incorporated. The reconnaissance-level field survey of the APE was conducted on June 10, 2021, with a follow up survey on September 23, 2021. The surveys consisted of walking through and driving along the APE while identifying and noting land uses, biological habitats and

communities, and plant and animal species encountered, and was assessed for suitable habitats of various sensitive species.

All 15 of the regionally occurring special status animal species are considered absent from or unlikely to occur within the APE due to past or ongoing disturbance through construction, as well as the absence of suitable foraging habitat, appropriate soils, large trees, prey, and supporting vegetation. Therefore, it is unlikely that special status species would be impacted by the Project. The following species were deemed absent or unlikely to occur within the Project site: American badger (*Taxidea taxus*), blunt-nosed leopard lizard (*Gambelia sila*), California Condor (*Gymnogyps californianus*), Crotch bumblebee (*Bombus crotchii*), Northern California legless lizard (*Anniella pulchra*), pallid bat (*Antrozus pallidus*), San Joaquin kit fox (*Vulpes macrotis mutica*), Swainson's Hawk (*Buteo swainsoni*), Tricolored Blackbird (*Agelaius tricolor*), Tipton kangaroo rat (*Dipodomys nitratoides nitratoides*), Townsend's big-eared bat (*Corynorhinus townsendii*), Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*), vernal pool fairy shrimp (*Branchinecta lynchi*), western mastiff bat (*Eumops perotis californicus*), and western spadefoot (*Spea hammondii*). Since it is highly unlikely that these species would occur onsite, implementation of the Project should have no impact on these 15 special status species through construction mortality, disturbance, or loss of habitat. Mitigation measures are not warranted (see Appendix B).

There are no large trees within the APE; however, there is potential foraging habitat available that may be utilized by bird species. Additionally, smaller avian species could nest within the surrounding agricultural fields and ground nesting birds, particularly those tolerant of disturbance, such as Killdeer (*Charadrius vociferous*), could nest onsite. Killdeer were observed during the survey.

Birds foraging within the APE during construction activities would be expected to fly away from disturbance, subsequently eliminating the risk of injury or mortality while foraging. However, birds nesting on the ground within the APE could be injured or killed by Project activities. Further, construction activities could disturb birds nesting within or adjacent to work areas, resulting in nest abandonment. Project construction activities that adversely affect the nesting success of raptors and migratory birds or result in the mortality of individual birds constitutes a violation of State and federal laws and are considered a significant impact under CEQA. Implementation of the following measures BIO-1a, BIO-2a, and BIO3-a, would reduce potential impacts to raptors, migratory birds, and special status birds to a less than significant level under CEQA and would ensure compliance with State and federal laws protecting these avian species.

All 20 of the special status plant species are considered absent from or unlikely to occur within the APE due to past or ongoing disturbance and/or the absence of suitable habitat, therefore it is unlikely that special status plant species would be impacted by the Project. The APE is approximately 377 ft above mean sea level, and does not present features to fulfill altitude, soil, and habitat requirements to support special status plants of this region. The following species were deemed absent or unlikely to occur within the Project site: alkali-sink goldfields (*Lasthenia chrysantha*), brittlescale (*Atriplex depressa*), Calico monkeyflower (*Diplacus pictus / Mimulus pictus / Eunanus pictus*), California alkali grass (*Puccinellia simplex*), California jewelflower (*Caulanthus californicus*), chaparral ragwort (*Senecio aphanactis*), Earlimart orache (*Atriplex cordulata var. erecticaulis*), Keck's checkerbloom (*Sidalcea keckii*), lesser saltscale (*Atriplex minuscula*), Lost Hills crownscale (*Atriplex coronata var. vallicola*), Madera leptosiphon (*Leptosiphon serrulatus*), recurved larkspur (*Delphinium recurvatum*), San Joaquin adobe sunburst (*Pseudobahia peirsonii*), San Joaquin woollythreads (*Monolopia congdonii*), shining navarretia (*Navarretia nigelliformis* ssp. *radians*), spiny-sepaled button-celery (*Eryngium spinosepalum*), Springville clarkia (*Clarkia springvillensis*), striped adobe-lily (*Fritillaria striata*), subtle orache (*Atriplex subtilis*), and vernal pool smallscale (*Atriplex persistens*). Mitigation measures are not warranted.

3.5.2.1 Mitigation Measures. The following measures will be implemented prior to the start of construction at the Jones Corner Water Bank site:

Mitigation Measure BIO-1a (Avoidance): The Jones Corner Water Bank construction activities would occur, if feasible, between September 16 and January 31 (outside of nesting bird season) in an effort to avoid impacts to nesting birds.

Mitigation Measure BIO-2a (Pre-construction Surveys): If activities must occur within nesting bird season (February 1 to September 15), a qualified will conduct pre-construction for nesting bird survey (including ground nesting species) within 10 days prior to the start of construction. The survey shall include the proposed work areas and surrounding lands within 50 feet. All raptor nests will be considered "active" upon the nest-building stage.

Mitigation Measure BIO-3a (Establish Buffers): On discovery of any active nests near work areas, the biologist shall determine appropriate construction setback distances based on applicable CDFW and/or USFWS guidelines and/or the biology of the species in question. Construction buffers shall be identified with flagging, fencing, or other easily visible means, and shall be maintained until the biologist has determined that the nestlings have fledged and are no longer dependent on the nest.

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

No Impact: According to CNDDB, there are no natural communities of special concern with potential to occur within the APE or vicinity. Additionally, no natural communities of special concern were observed during the biological survey. Therefore, implementation of the Project would have no impact on riparian habitat, or any other sensitive natural communities and mitigation measures are not warranted.

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

No Impact: The APE consists of ruderal, vacant lots of land. The APE is relatively flat, and topographical features such as depressions typical of wetlands, vernal pools, or streams were not observed onsite. The nearest stream to the APE is the Tule River 0.8 miles north of the APE. Project activities would have no impact on natural waters, as they would only be drawing water from an artificial canal. Mitigation measures are not warranted.

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

No Impact: The APE does not contain features likely to function as wildlife movement corridors. Wildlife movement corridors are routes that animals regularly and predictably follow during seasonal migration, dispersal from native ranges, daily travel within home ranges, and inter-population movements. The surrounding areas are often disturbed by human activities related to adjacent agricultural uses which would discourage dispersal and migration. Therefore, implementation of the Project would have no impact on wildlife movement corridors. Mitigation measures are not warranted.

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

No Impact: Project design is consistent with the goals and policies of the Tulare County 2030 General Plan. As such, there would be no impact to local policies or ordinances and mitigation measures are not warranted.

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

No Impact: There are no known Habitat Conservation Plan or Natural Community Conservation Plan within or near the Project. As such, there would be no impacts or conflicts with an adopted Habitat Conservation Plan or Natural Community Conservation Plan. Mitigation measures are not warranted.

3.6 Cultural Resources

Table 3-8. Cultural Resources Impacts

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

3.6.1 Environmental Setting and Baseline Conditions

The Project site is located in the southwestern part of Tulare County, within the Central San Joaquin Valley and is part of a culturally and historically rich part of the San Joaquin Valley. The Project involves three locations with elevations averaging about 377 amsl. All three locations are the open flats of the San Joaquin Valley, a short distance west of the City of Porterville. The Tule River is roughly three-quarters of a mile north of the Jones Corner and Banks water banks, while it is about 1.5-miles south of Los Robles Water Bank. This river is perennial only above Porterville, east of the Project study area, with seasonal flow occurring below that point.

Prior to the appearance of agriculture, starting in the nineteenth century, this area would have been prairie grasslands, grading into tree savannas in the foothills to the east. Historically, and likely prehistorically, riparian environments would have been present along the drainages, waterways and marshes. The study area and immediate surroundings have been farmed and grazed for many years and no native vegetation is present. Perennial bunchgrasses such as purple needlegrass and nodding needlegrass most likely would have been the dominant plant cover in the study area prior to cultivation. The full Cultural Report can be found in **Appendix C** at the end of this document.

Phase I Cultural Resources Survey

On June 17, 2021, and September 28, 2021 a Class III inventory/Phase I Survey was conducted. The fieldwork was conducted with parallel transects spaced at 15-meter (m) intervals walked across the APE. A 15-m buffer was surveyed on both sides of the pipeline route. One newly identified cultural resource was discovered and recorded: a segment of the Rhodes Fine Ditch, which originally dates to 1869. Based on historical topographical quadrangles and aerial photographs, the ditch was realigned circa 1940 and again in the early 1980s and its water control systems (culverts, weirs, lift gates) have been modernized. The ditch thus lacks integrity of location, setting, materials, design and workmanship and is recommended as not eligible for listing on the National Register of Historic Places (NRHP) or the California Register of Historical Resources (CRHR) under any criteria. No other cultural resources were identified during the survey. (**Appendix C**)

Records Search

On June 7, 2021, ASM received a records search from the Southern San Joaquin Valley Information Center (SSJVIC) of the California Historical Resources Information System (CHRIS), located at California State

University, Bakersfield. The records search encompassed the Project APEs as well as a 0.5-mile radius surrounding the various locations. SSJVIC staff examined site record files, maps, and other materials to identify previously recorded resources and prior surveys within the delineated area. Additional sources included the State Office of Historic Preservation (SHPO) Historic Properties Directory, Archaeological Determinations of Eligibility, and the California Inventory of Historic Resources.

Native American Outreach

In June of 2021, ASM contacted the Native American Heritage Commission (NAHC) in Sacramento and provided the NAHC a brief description of the Project and a map showing its location and requested that the NAHC perform a search of the Sacred Lands File to determine if any Native American resources have been recorded in the immediate study area. According to the NAHC records no sacred sites or tribal cultural resources are known in or near the Project area.

3.6.2 Impact Assessment

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

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

Less than Significant Impact with Mitigation Incorporated. A records search from the CHRIS at the SSJVIC was received June 7, 2021. According to the IC records, the Project APE had not been previously surveyed in its entirety although three studies had covered portions of it. No previously recorded resources were known to exist within the APE. Three cultural resources had been recorded within a half-mile radius of the study area.

The Class III inventory/Phase I survey fieldwork was conducted with parallel transects spaced at 15-meter (m) intervals walked across the APE. A 15-m buffer was surveyed on both sides of the pipeline route. One newly identified cultural resource was discovered and recorded: a segment of the Rhodes Fine Ditch, which originally dates to 1869. No additional cultural resources of any kind were identified during the study. ASM considered whether the documented segment of the Rhodes-Fine Ditch is eligible for listing in the NRHP or CRHP. The ditch dates to 1869 and it represents one of the early efforts at irrigation in the region. It is thus potentially eligible under Criterion A/1, association with important historical events, and the identified NRHP theme of the Development of Irrigated Agriculture in the San Joaquin Valley, with a period of significance from 1852-1964. It has no known association with an important historical individual nor represents an unusual, innovative or especially typical example of this common property type. It is thus not eligible under Criteria B/2 or C/3, respectively. It also has no potential research value not better provided in documentary sources and it is not eligible under Criterion D/4.

Based on historical topographical quadrangles and aerial photographs, however, the ditch was realigned circa 1940 and again in the early 1980s and its water control systems (culverts, weirs, lift gates) have been modernized. These include crossings under two modern roads with landscape changes to the surrounding terrain. The recorded ditch segment thus lacks integrity of location, setting, materials, design and workmanship and is recommended as not eligible for listing on the NRHP or CRHR under any criteria. (**Appendix C**)

Although it is unlikely that archeological resources would be encountered during construction or operation of the proposed Project, the mitigation measure outline below has been incorporated into the Project.

3.6.2.1 Mitigation Measure

The following measures would be implemented during or prior to the start of construction:

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

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

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

3.6.2.2 Mitigation Measure

The following measures would be implemented during or prior to the start of construction:

CUL-2 (*Human Remains*): If human remains are uncovered, or in any other case when human remains are discovered during construction, the Tulare County Coroner is to be notified to arrange proper treatment and disposition. If the remains are identified—on the basis of archaeological context, age, cultural associations, or biological traits—as those of a Native American origin, California Health and Safety Code 7050.5 and Public Resource Code 5097.98 require that the coroner notify the NAHC within 24 hours of discovery. The NAHC will then identify the Most Likely Descendent (MLD) who will determine the manner in which the remains are treated.

3.7 Energy

Table 3-9. Energy Impacts

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

3.7.1 Environmental Setting and Baseline Conditions

The Project consists of three water banks. Jones Corner Water Bank will be constructed as part of this Project and the other two (Burns and Los Robles) are existing and currently functioning as water recharge basins. The Jones Corner site was previously a walnut orchard, irrigated with groundwater. The Jones Corner site was previously farmed with gasoline and diesel used for on-site harvest activities.

3.7.2 Impact Assessment

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

Less than Significant Impact. Construction of the Jones Corner Water Bank would be required to comply with California Code of Regulations Title 13, Motor Vehicles, Section 2449(d)(2)-Idling, which limits idling times of construction vehicles to no more than five minutes, thereby precluding unnecessary and wasteful consumption of fuel because of unproductive idling of construction equipment. Normal Project operations would gravity fed at all three water banks. The Jones Corner Water Bank may also include the periodic use of temporary pumps to lift water from the FKC into the Rhodes-Fine Ditch and periodic use of temporary pumps to lift water from the LTRID Tule River Intertie Ditch into the recharge basins (contingent on approval from LTRID). Overall, adding water back to the aquifer would result in a reduction in total dynamic head experienced from pumping water from a much shallower source, energy usage would be less than existing conditions. Impacts would be less than significant.

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

No Impact. The Project would be generally passive in nature once it is completed, and the construction phase would be temporary in duration, approximately six months. No aspect of the Project would exceed any thresholds set by the SJVAPCD. There would be no obstruction to a State or local plan for renewable energy or energy efficiency. There would be no impact.

3.8 Geology and Soils

Table 3-10. Geology and Soils Impacts

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

3.8.1 Environmental Setting and Baseline Conditions

Four soil mapping units representing four soil types were identified within the APE. The soils are displayed with their core properties in the table below, according to the Major Land Resource Area of California (MLRA) 19 map area. All four soils are primarily used for agriculture in the form of irrigated cropland, row crops, or rangeland, and naturally feature sparse vegetation consisting of annual grasses and forbs in uncultivated areas (**Appendix B**).

Table 3-11. Soils Report

Soil	Soil Map Unit	Percent of APE	Hydric Unit	Hydric Minor Units	Drainage	Permeability	Runoff
Exeter	Exeter loam, 0 to 2 percent slopes	11.9%	No	Yes	Moderately well drained	Moderately slow permeability	Medium runoff
Nord	Nord fine sandy loam, 0 to 2 percent slopes	54.2%	No	Yes	Well drained	Moderate permeability	Negligible runoff
Tagus	Tagus loam, 0 to 2 percent slopes	27.5%	No	No	Well drained	Moderate permeability	Low runoff
Tujunga	Tujunga loamy sand, 0 to 2 percent slopes	6.4%	No	Yes	Somewhat excessively drained	Moderate permeability	Negligible runoff

None of the major soil mapping units were identified as hydric; however, three of the four minor soil mapping units are considered hydric. Hydric soils are defined as soils that are saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions such that under sufficiently wet conditions, hydrophytic vegetation can be supported.

3.8.1.1 Geology and Soils

The Project is located in southwestern Tulare County, in the southern section of California's Great Valley Geomorphic Province, or Central Valley. The Sacramento Valley makes up the northern third and the San Joaquin Valley makes up the southern two-thirds of the geomorphic province. Both valleys are watered by large rivers flowing west from the Sierra Nevada Range, with smaller tributaries flowing east from the Coast Ranges. Most of the surface of the Great Valley is covered by Quaternary (present day to 1.6 million years ago) alluvium. From the time the Valley first began to form, sediments derived from erosion of igneous and metamorphic rocks and consolidated marine sediments in the surrounding mountains have been transported into the Valley by streams.

3.8.1.2 Faults and Seismicity

The Project sites are not known to be located on an active fault and is not located within a Alquist-Priolo Earthquake Fault Zone. The San Andreas Fault is the longest and most significant fault zone in California and is approximately 40 miles west of the Tulare County Boundary. The San Andreas Fault is the dominant active tectonic feature of the Coast Ranges and represents the boundary of the North American and Pacific plates. A smaller fault zone, the Pond Fault, is approximately 26.1 miles southwest of the Jones Corner Water Bank , 26.1 miles southwest of the Burns Water Bank, and 29.4 miles southwest of the Los Robles Water Bank.

3.8.1.3 Liquefaction

Liquefaction occurs when loose, water-saturated sediments lose strength and fail during strong ground shaking. In general, liquefiable areas are generally confined to the Valley floor covered by Quaternary-age alluvial deposits, Holocene soil deposits, current river channels, and active wash deposits and their historic floodplains, marshes, and dry lakes. According to the California Geologic Survey[3], the Project sites have not been identified as areas that are at risk of seismic-related ground failure including liquefaction.

[3] California Geologic Survey. Earthquake Zones of Required Investigation. Website: https://maps.conservation.ca.gov/cgs/EQZApp/app/. Accessed 11/17/21.

3.8.1.4 Soil Subsidence

Subsidence occurs when a large land area settles due to over-saturation or extensive withdrawal of ground water, oil, or natural gas. These areas are typically composed of open-textured soils that become saturated, high in silt or clay content. The Project sites consists primarily of Exeter loam and Flamen Loam with a low to moderate risk of subsidence. The San Joaquin Valley has become an area that has increasingly experienced subsidence due to excessive groundwater pumping activities, lowering the water table. It is understood that the Project sites are in the vicinity of known subsidence and are located near the FKC, which is critical infrastructure. Therefore, this potential impact needs to be monitored to be in compliance with the ETSGA and Sustainable Groundwater Management Act (SGMA) rules and regulations and the MOCP. Project features as described in **Chapter 2** will ensure that the Project is compliant.

3.8.1.5 Dam and Levee Failure

The closest dam inundation area is Lake Success and is approximately 9.7-miles east-northeast of the Los Robles Basin, 10.3 miles east of the Jones Corner Basin, and 10.5 miles east of the Burns Basin. The Department of Water Resources (DWR) Dam Breach Inundation Map[4] indicated that there are no dams or levees near the Project sites with a high risk of breaching.

3.8.2 Impact Assessment

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

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

Less than Significant Impact. The nearest portion of the San Andreas Fault is located a minimum of 70 miles from each basin site. A smaller fault zone, the Pond Fault, is located approximately 26.1 miles southwest of the Jones Corner Basin, 26.1 miles southwest of the Burns Basin, and 29.4 miles southwest of the Los Robles Basin. The proposed Project does not include habitable residential, agricultural, commercial, or industrial structures. Operation of the proposed Project would require infrequent, routine maintenance by Homer employees at the water bank sites, consistent with what is already happening at the Burns and Los Robles basins. Any impact would be less than significant.

a-ii) Strong seismic ground shaking?

No Impact. According to the Tulare County Multi-Jurisdictional Local Hazard Mitigation Plan[5], the Project sites are located in an area of relatively low seismic activity. The proposed Project does not include any activities or components which could feasibly cause strong seismic ground shaking, either directly or indirectly. Therefore, there would be no impact.

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

No Impact. Liquefaction occurs when loose, water-saturated sediments lose strength and fail during strong ground shaking. In general, liquefiable areas are generally confined to the Valley floor covered by Quaternary-age alluvial deposits, Holocene soil deposits, current river channels, and active wash deposits and their historic floodplains, marshes, and dry lakes. According to the California Geologic Survey, the Project sites have not been identified as an area that is at risk of seismic-related ground failure including liquefaction. Therefore, there would be no impact.

[4] Department of Water Resources. Dam Breach Inundation Map Web Publisher. Website: https://fmds.water.ca.gov/webgis/?appid=dam_prototype_v2. Accessed 11/17/21.

[5] Tulare County. Environmental Planning Resources. Website: https://tularecounty.ca.gov/rma/index.cfm/planning-building/environmental-planning/environmental-planning-resources/. Accessed 11/17/21.

a-iv) Landslides?

No Impact. The Project would not be located in an area that experiences landslides. A lack of topographic reliefs near the Project sites would eliminate the potential for a landslide. Therefore, there would be no impact.

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

Less than Significant Impact. The Project would construct approximately 58-acre banking facility at Jones Corner and reconstruct approximately 4,000 linear feet of the Rhodes Fine Ditch. The Burns and Los Robles basins are already constructed and functioning as water recharge facilities and would not result any substantial soil erosion or loss of topsoil. All of these sites are located on rural lands west of the City of Porterville. While the Project would result in large amount of topsoil being moved during construction activities at the Jones Corner Water Bank, developers whose projects disturb one (1) or more acres of soil or whose projects disturb less than one acre but are part of a larger common plan of development that in total disturbs one or more acres are required to obtain coverage under the Statewide General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit Order 2009-0009-DWQ). Construction activity subject to this permit includes clearing, grading and disturbances to the ground such as stockpiling, or excavation, and construction of linear underground or overhead facilities associated with trail construction, but does not include regular maintenance activities performed to restore the original lines, grade, or capacity of the overhead or underground facilities. The Construction General Permit requires the development of a Storm Water Pollution Prevention Plan (SWPPP) by a certified Qualified SWPPP Developer. Through the completion of a SWPPP, any possible impacts from construction related activities involving soil erosion and loss of topsoil would be reduced. Therefore, impacts would be less than significant.

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

Less than Significant Impact. Soil subsidence is an increasing problem within the San Joaquin Valley. The excessive pumping of groundwater for agricultural development has lowered the water table and resulted in a large area of soil subsidence in the Central Valley according to the United States Geological Survey[6]. While the Project sites are not known to have significant subsidence, the potential for subsidence would have to be monitored closely and the Project would be required to follow the applicable GSA and SGMA guidelines governing soil subsidence. The Project would not directly cause a reduction of groundwater supplies but would enable nearby landowners to have access to more water than in the past and as a result could indirectly increase their groundwater consumption.

The Project would cause a net gain in groundwater storage in the vicinity in the amount of 10% to 30% of recharged water at the Project sites. This is in place to promote more water coming into and staying in the Project vicinity. Compliance by the Project and surrounding property owners with the standards and rules of the ETGSA, SGMA, and the MOCP would reduce potential impacts to be less than significant.

The proposed Project will comply with the Project's Monitoring and Operational Constraints Plan. The MOCP includes the following subsidence monitoring and reporting procedures and is outlined in **Chapter 2** and **Appendix D**:

Reporting

During operating periods Homer will submit monthly reports to PID which include the following information:

- The beginning volumes of water in the Homer and PID banked water accounts;
- The sources of water sent to each recharge basin turnout;
- Volumes of water discharged to recharge basins (daily basis);

[6] USGS. Areas of Land Subsidence in California. Website: https://ca.water.usgs.gov/land_subsidence/california-subsidence-areas.html. Accessed 11/17/21.

- Percolation rates (daily basis);
- Losses to evaporation (daily basis);
- Net volumes of recharged or banked water (daily basis);
- The volumes of recharged or banked water allocated into the Homer and PID accounts in accordance with the Banking Policy leave behind requirements;
- Volumes of Homer's banked water transferred to others, including the places of use;
- The ending volumes of water in the Homer and PID banked water accounts;
- Depth to water graphs for key wells approved by the District.

By January 15 of each year, regardless of whether there were any Project operations, Homer will submit an annual report for the prior year running from October 1 through September 30. This report, submitted to PID and the Monitoring Committee, will include the annual totals for the information listed above and additionally will include the following information:

- A chronological summary of operations and response to Monitoring Committee issues, if any;
- Tabulations of all water level, water quality, water volumes and subsidence monitoring data;
- A map presenting the distributions of total dissolved solids in monitored wells;
- Activities performed to comply with the ETGSA Subsidence Plan;
- Maps presenting the spring and fall elevations of water levels in wells, including interpreted directions of groundwater flow; and
- Maps presenting the spring and fall depths to water in wells.

The above Project features will reduce potential impacts to subsidence to a less than significant level and will ensure compliance with the MOCP.

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

No Impact. The Project sites are comprised of the Exeter Loam, the Nord fine sandy loam, Tagus loam, and the Tujunga loamy sand. The Project sites do not contain any facilities that could be affected by expansive soils, nor would substantial grading change the topography such that the Project would create a substantial risk to life or property. Project construction at the Jones Corner Water Bank would be completed in accordance with the California Building Code standards. Therefore, there would be no impact.

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

Less than Significant Impact. The Project would not result in the installation or need for septic tanks or alternative wastewater disposal systems. Therefore, there would be no impact.

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

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

There are no known paleontological resources or unique geological features that have been identified at the Project sites. The Project sites are comprised of the Exeter Loam, the Nord fine sandy loam, Tagus loam, and the Tujunga loamy sand. The Project sites do not contain any facilities that could be affected by expansive soils, nor would substantial grading change the topography such that the Project would create a substantial risk to disturb paleontological resources. The likelihood of discovering paleontological resources or unique geological feature is very slim. The impacts would be less than significant.

3.9 Greenhouse Gas Emissions

Table 3-12. Greenhouse Gas Emissions Impacts

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

3.9.1 Environmental Setting and Baseline Conditions

Commonly identified GHG emissions and sources include the following:

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

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

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

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

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

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

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

Hydrofluorocarbons (HFCs) are synthetic chemicals that are used as a substitute for CFCs. Of all the greenhouse gases, HFCs are one of three groups (the other two are perfluorocarbons and sulfur

hexafluoride) with the highest global warming potential. HFCs are human-made for applications such as air conditioners and refrigerants.

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

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

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

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

The CalEEMod Output files (**Appendix A**) were prepared using CalEEmod, Version 2016.3.2 for the proposed Project in November 2021. The Burns and Los Robles Water Banks are existing facilities. No new facilities will be constructed at these sites and future operations will not be different from current operations. Therefore, they were not analyzed for GHG emissions, as any emissions from these sites are considered part of the existing conditions. The essential conclusions of this Report are as follows:

3.9.1.1 Short-Term Construction-Generated Emissions

Total GHG emissions generated during construction are presented in **Table 3-13** below:

Table 3-13. Construction Greenhouse Gas Emissions

Year	Annual Emissions ($MTCO_2e$)
2022	208
Amortized over 30 years	**6.9**

3.9.1.2 Long-Term Operational Emissions

Normal Project operation emissions at the Jones Corner Water Bank would be negligible. Under normal operations the bank would be gravity fed, and maintenance trips currently happen in the area at the adjacent Burns Water Bank and would likely be combined with the trips to the new Jones Corner Water Bank. The Burns and Los Robles Water Banks are already existing and functioning as water recharge facilities. Operational emissions from these water banks would also be minimal and considered to be part of existing conditions.

Jones Corner facilities may also include the periodic use of temporary pumps to lift water from the FKC into the Rhodes-Fine Ditch or periodic use of temporary pumps to lift water from the Lower Tule River Irrigation District (LTRID) Tule River Intertie Ditch into the recharge basins (contingent on approval from LTRID). In order to place these pumps at the FKC a temporary 5-year permit from the United States Bureau of Reclamation is being secured. These temporary pumps will be placed on top of the ground, not causing any ground disturbance. At this time it is unknown if the temporary pumps will be electric or diesel pumps. For the purposes of modeling air quality impacts it was assumed that the pumps would be powered by EPA Tier 4 diesel engines. If diesel engines are used the temporary pumps will be placed approximately 250 meters from the nearest sensitive receptor and will run for a maximum of 24,600 pump hours (up to six (6) 100-horsepower pumps running for 4,100 hours each) within a 12-month period. Should any additional pump hours be needed the pumps will be placed approximately 500 meters from any sensitive receptors in the area. Electric pumps would not have usage or distance limitations. Total GHG emissions generated during operations is expected to be approximately 940 MTCO2e.

3.9.2 Impact Assessment

3.9.2.1 Thresholds of Significance

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

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

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

In accordance with SJVAPCD's *CEQA Greenhouse Gas Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects*[7], proposed projects complying with Best Performance Standards (BPS) would be determined to have a less-than-significant impact. Projects not complying with BPS would be considered less than significant if operational GHG emissions would be reduced or mitigated by a minimum of 29 percent, in comparison to business-as-usual (year 2004) conditions. In addition, project-generated emissions complying with an approved plan or mitigation program would also be determined to have a less-than-significant impact.

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

Less than Significant Impact.

Short-Term Construction-Generated Emissions

Estimated construction-generated emissions are summarized in **Appendix A**. Construction-related emissions would be under the thresholds for land-use development projects, utilizing the threshold of significance established by the Bay Area Air Quality Management District. Impacts would be less than significant.

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

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

Year	Emissions (MT CO_2e)(1)
Amortized Construction GHG Emissions	**6.9**
Total Construction GHG Emissions	**208**
*AB 32 Consistency Threshold for Land-Use Development Projects**	*1,100*
*AB 32 Consistency Threshold for Stationary Source Projects**	*10,000*
Exceed Threshold?	*No*

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

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

Long-Term Operational Emissions

Long term operational emissions are not anticipated to exceed those of an annual harvest of walnuts at the existing orchard. There would be no additional adverse impact.

Estimated long-term operational emissions are summarized in **Table 3-15**.

Table 3-15. Long-Term Operational GHG Emissions

Year	Emissions (MT CO_2e)(1)
Amortized Construction Emissions	**6.9**
Operational Emissions	**940.0458**
Total GHG Emissions	**946.97**
*AB 32 Consistency Threshold for Land-Use Development Projects**	*1,100*
*AB 32 Consistency Threshold for Stationary Source Projects**	*10,000*
Exceed Threshold?	*No*

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

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

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

Less than Significant Impact. The California Air Resources Board prepared in 2017 the *California's 2017 Climate Change Scoping Plan*, which sets forth how the State intends to reduce greenhouse gas emissions to meet the SB 32 goal of 40 percent below the greenhouse gas emissions level of 1990 by 2030. The agricultural sector is anticipated to achieve a 4 to 8 percent reduction as its portion of greenhouse gas emissions. The Project supports State and local plans and policies by reducing greenhouse gases through cessation of agricultural operations at the Jones Corner site, which would result in fewer fuels consumed. Impacts to applicable plans, policies, and regulations would be less than significant.

3.10 Hazards and Hazardous Materials

Table 3-16. Hazards and Hazardous Materials Impacts

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

3.10.1 Environmental Setting and Baseline Conditions

3.10.1.1 Hazardous Materials

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

California, including underground storage tank (UST) cases and non-UST cleanup programs, including Spills-Leaks-Investigations-Cleanups (SLIC) sites, Department of Defense (DOD) sites, and Land Disposal program. A search of the DTSC EnviroStor database and the SWRCB Geotracker performed on June 3, 2021 determined that there are no known active hazardous waste generators or hazardous material spill sites within approximately 1.8 miles of any of the water bank locations.

3.10.1.2 Airports

The Porterville Municipal Airport is approximately 2.9 miles southeast of the Burns Water Bank, 2.3 miles southeast of the Jones Corner Water Bank, and 4.5-miles southeast of Los Robles Water Bank.

3.10.1.3 Emergency Response Plan

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

3.10.1.4 Sensitive Receptors

The nearest residences to the Project sites are two rural homes on Avenue 152, adjacent to the Burns and Jones Corner Water Bank locations and two rural residences located 0.16 miles south of the Los Robles Water Bank along Road 216.

The closest schools to the Jones Corner Water Bank are Rockford Elementary School which is adjacent to the Project site to the south and Pleasant View Elementary School, approximately 1.9 miles west of the site. The closest schools to the Burns Water Bank are Rockford Elementary School approximately 0.3 miles to the southeast and Pleasant View Elementary School, approximately 2.1 miles west of the site. The closest schools to the Los Robles Water Bank are Burton Middle School approximately one mile to the southeast and William R. Buckley Elementary School located approximately 1.2 miles southeast of the site.

3.10.2 Impact Assessment

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

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

a and b) Less than Significant Impact. There would be no transport, use, or disposal of hazardous materials associated with Project construction at the Jones Corner Water Bank site, except for diesel fuel for construction equipment. While unlikely, there is a risk that a leak of a hazardous material could occur during construction. Standard construction Best Management Practices (BMPs) included in the SWPPP would reduce potential releases of fuels and other hazardous materials by controlling runoff leaving the Jones Corner Water Bank site. Therefore, any impacts would be less than significant.

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

Less than Significant Impact. The Jones Corner Water Bank is located adjacent to Rockford Elementary school. There would be no transport, use, or disposal of hazardous materials associated with Project construction at the Jones Corner Water Bank site, except for diesel fuel for construction equipment. Any potential accidental hazardous materials spills during construction would comply with industry BMPs and State and county regulations. Emissions from construction equipment would be similar to normal agriculture related maintenance that is currently taking place at the Jones Corner Water Bank site. Jones Corner facilities may also include the periodic use of temporary pumps to lift water from the FKC into the Rhodes-Fine Ditch or periodic

use of temporary pumps to lift water from the Lower Tule River Irrigation District (LTRID) Tule River Intertie Ditch into the recharge basins (contingent on approval from LTRID). In order to place these pumps at the FKC a temporary 5-year permit from the United States Bureau of Reclamation is being secured. These temporary pumps will be placed on top of the ground, not causing any ground disturbance. At this time it is unknown if the temporary pumps will be electric or diesel pumps. For the purposes of modeling air quality impacts it was assumed that the pumps would be powered by EPA Tier 4 diesel engines. If diesel engines are used the temporary pumps will be placed approximately 250 meters from the nearest sensitive receptor and will run for a maximum of 24,600 pump hours (up to six (6) 100-horsepower pumps running for 4,100 hours each) within a 12-month period. Should any additional pump hours be needed the pumps will be placed approximately 500 meters from any sensitive receptors in the area. Electric pumps would not have usage or distance limitations. Toxic air contaminants were calculated using SJVAPCD emission factors and data provided by the applicant. Diesel particulate matter was also factored. Given the above parameters, the temporary pumps at the Jones Corner Water Bank would result in a prioritization score of approximately 4.9 for carcinogens, and less than 0.3 for both chronic and acute non-carcinogenic hazards. Therefore, any impacts would be less than significant.

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

Less than Significant Impact. The Project does not involve land that is listed as an active hazardous materials site pursuant to Government Code Section 65962.5 and is not included on a list compiled by DTSC. Both the SWQCB's GeoTracker and DTSC's EnviroStor websites were queried on June 3, 2021, for contaminated groundwater or hazardous sites in the area. Therefore, impacts would be less than significant.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?

No Impact. The Porterville Municipal Airport is 2.9 miles southeast of the Burns Water Bank, 2.6 miles southeast of the Jones Corner Water Bank, and 4.5-miles southeast of Los Robles Water Bank. None of the Project water banks are located within an airport land use plan or within two miles of airport. There would be no impact.

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

No Impact. The Project does not involve any physical barriers or disturb any roadways in such a way that would impede emergency or hazards response at either site location; therefore, the Project would not interfere with implementation of an emergency response plan or evacuation plan. There would be no impact.

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

No Impact. As discussed in further detail in **Section 3.21 Wildfire**, the Project would not expose people or structures either directly or indirectly to a significant loss, injury or death involving wildland fires. The Project sites are in an agriculturally developed area of Tulare County that is not considered wildland. In addition, the Project would not conflict with any local, State, or federal standard or regulation governing wildfire. Therefore, there would be no impact.

3.11 Hydrology and Water Quality

Table 3-17. Hydrology and Water Quality Impacts

Hydrology and Water Quality Impacts				
Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	[X]	☐
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	[X]	☐
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;	☐	☐	[X]	☐
ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;	☐	☐	☐	[X]
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	☐	☐	☐	[X]
iv) impede or redirect flood flows?	☐	☐	☐	[X]
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☐	[X]
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☐	[X]

3.11.1 Environmental Setting and Baseline Conditions

The Project is located in a rural area of Tulare County, in the San Joaquin Valley within the Tule Groundwater Basin. The basin is part of the Tulare Lake Hydrologic Region which stretches from north of Fresno to south of Bakersfield near the Grapevine. The San Joaquin Valley Basin is divided into seven subbasins. The Tule Basin, where the Project sites are located, is approximately 467,000 acres large within Tulare County. The Tule Subbasin is bordered by the Kaweah Subbasin to the north, the Kern Subbasin to the south, the Tulare Lake Subbasin to the west, and the Sierra Nevada Mountains to the east. The groundwater gradient of the region flows from east to west and primarily contains alluvial sediments. The Tule River is located to the north and Deer Creek is located to the southwest.

3.11.2 Impact Assessment

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

Less than Significant Impact. The SWRCB requires that a SWPPP be prepared for projects that disturb one (1) or more acres of soil. A SWPPP involves site planning and scheduling, limiting disturbed soil areas, and determining best management practices to minimize the risk of pollution and sediments being discharged from construction sites. A SWPPP will be required for the construction of the Jones Corner recharge basin and the reconstruction of a portion of Rhodes-Fine Ditch. Implementation of the SWPPP will minimize the potential for construction to substantially alter the existing drainage pattern in a manner that will result in substantial erosion or siltation onsite or offsite. Use of chemicals or surfactants will not be generated through the maintenance or operation of the Project and as such, there will be no discharge directly associated with Project implementation that could impact water quality standards. Implementation of construction BMP and a SWPPP would reduce potential impacts that may be caused as a result of the construction at the Jones Corner Water Bank site. Additionally, there would be no discharge from the Project to any surface source. However, by design, there will be percolation discharge to groundwater via the three water banks. In order to monitor any potential impacts from percolation through the water banks the Project will comply with the water quality monitoring that is laid out in the MOCPs for each water bank, as described in **Chapter 2** and **Appendix D**. Therefore, impacts would be less than significant

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

Less than Significant Impact The water banks would recover groundwater in ways to best minimize the depletion of groundwater resources. Monitoring wells would also be used as a part of the Project. These wells would not only monitor water quality, but also groundwater availability. Completion of the Project would cause a net gain in groundwater storage in the vicinity in the amount of 10% to 30% of recharged water at the Project site. This is based on the Banking Agreement between the District and Homer specifying a leave-behind percentage on the recharged water based on where it is intended to be recovered and used. This is in place to promote more water coming into and staying in the Project vicinity. The ETGSA holds jurisdiction over the proposed Project area and is responsible for implementing a Groundwater Sustainability Plan (GSP), and any water brought to the Project site would be accounted for under the GSP. Subsequently, any recovery of recharged water by District landowners in the original PID service area would also be accounted for in the GSP, with such accounting being based on the assumption that no more than 90 percent of the recharged water is available to be recovered by District landowners. No additional groundwater will be required compared to baseline conditions; therefore, the impacts would be less than significant. Monitoring of the existing wells and facilities operated as part of the Project would be available to confirm no negative effect of operations.

The Project includes implementation of an MOCP for each water bank, which includes procedures to monitor impacts to neighboring wells, and if necessary, to adjust or constrain operations. This will further reduce the potential for impacts related to groundwater supplies or groundwater recharge. Please see the detailed MOCP provisions outlined in **Chapter 2** and **Appendix D.**

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

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

Less than Significant Impact. There are no streams or rivers onsite or in the immediate vicinity of the Project sites. The FKC runs along the west and the Tule River on the east with agricultural plots on most sides on the Jones Corner and Burns sites. The Project will not involve any changes to the FKC. The Project would potentially line a portion of the existing Rhodes-Fine Ditch; however, this addition would not be a significant

portion of the ditch and would not significantly impact the existing drainage pattern of the area. Any impacts would be less than significant.

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

No Impact. There are no streams or rivers onsite or in the immediate vicinity of the Project sites. The Project will convey water via existing facilities thus it will not increase the rate or amount of surface runoff water that would result in flooding on or off site. Therefore, there would be no impact.

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

No Impact. The Project establishes three water banks that would use existing landowner wells in and outside of the District to recover banked water via exchange or in-ground transfer. The Project would not result in the creation or contribution of runoff water that would exceed the capacity of an existing or planned stormwater drainage system. Stormwater would be collected on site in the recharge basins, or percolate through the ground on-site. In addition, construction at the Jones Corner Water Bank site would be required to use construction BMP's and complete a SWPPP. As a result, the Project would not have an impact on flood flow. Therefore, there would be no impacts.

c-iv) impede or redirect flood flows?

No Impact. Per the DFIRM the Jones Corner and Burns Water Banks are roughly 0.5 miles away from 100-year flood zone. The Los Robles Water Bank is 0.63 Miles from the 100-year flood zone. The Project would not impede or redirect flood flows. Therefore, there would be no impact.

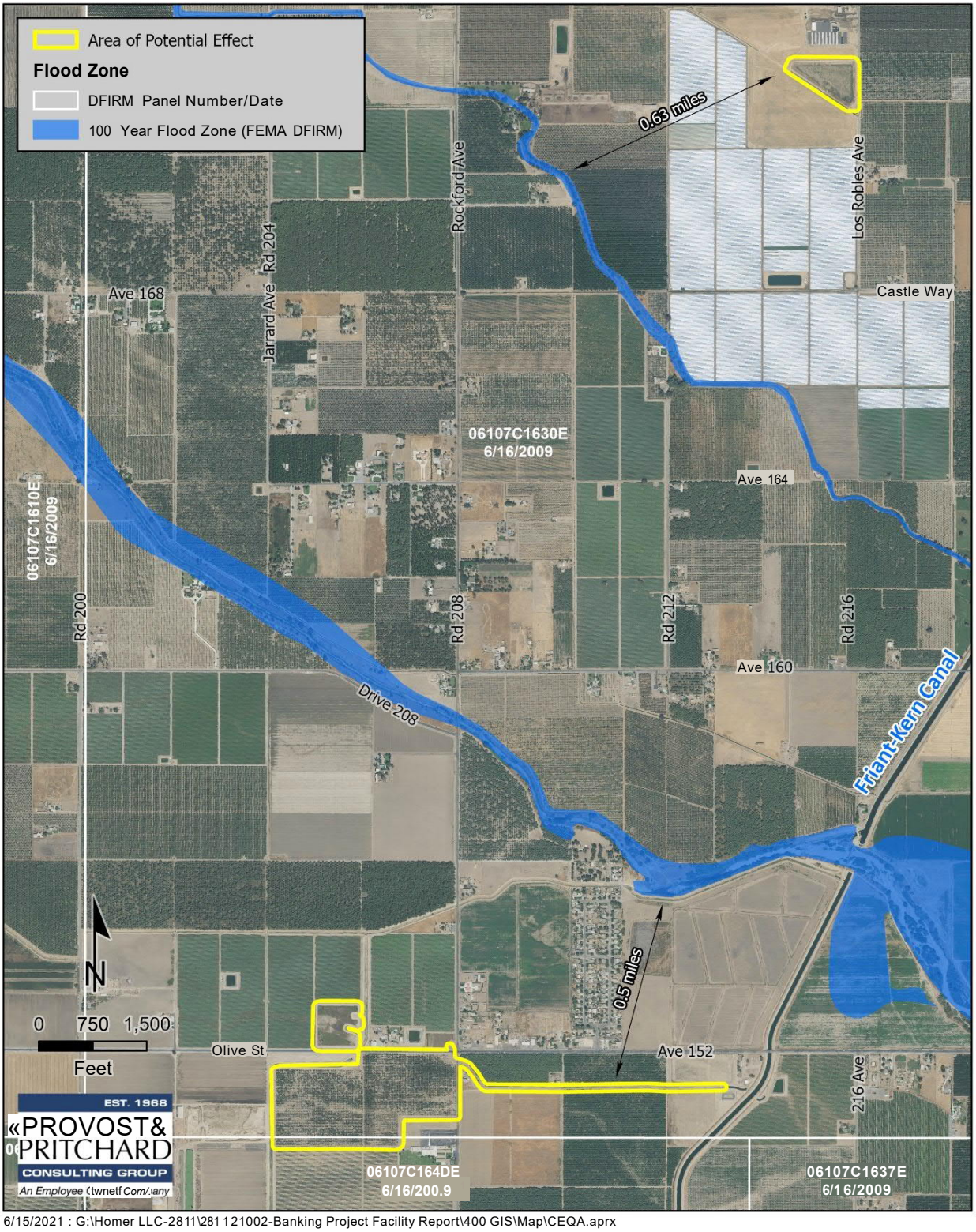
d) Would the project in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundations?

No Impact. The Project is located inland and as a result would not be at risk of tsunamis, nor is it located near a body of water that would put it at risk of a seiche. As demonstrated in **Figure 3-2** the sites are not within a 100-year flood zone. The Project would not be at risk of pollutants due to Project inundations. Therefore, there would be no impact.

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

No Impact. The Project would not conflict with implementation of a water quality control plan or sustainable groundwater management plan. The Project sites are located in the San Joaquin Valley – Tule Groundwater Basin. In addition, the Project sites are located within the boundaries of the ETGSA[8]. The ETGSA implements a Groundwater Sustainability Plan (GSP). The Project would not be in conflict with the ETGSA or its GSP. Therefore, there would be no impact.

[8] California Department of Water Resources. GSA MAP Viewer. Website: https://sgma.water.ca.gov/webgis/index.jsp?appid=gasmaster&rz=true. Accessed 5/14/21.



6/15/2021 : G:\Homer LLC-2811\281 121002-Banking Project Facility Report\400 GIS\Map\CEQA.aprx

Figure 3-2. FEMA Flood Map

3.12 Land Use and Planning

Table 3-18. Land Use and Planning Impacts

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

3.12.1 Environmental Setting and Baseline Conditions

The Project area is classified by DOC's FMMP as Prime Farmland at the Burns Water Bank and the Jones Corner Water Bank and Confined Animal Agriculture at the Los Robles Water Bank.[9] The three Project sites are designated as Valley Agriculture by the Tulare County General Plan. The Los Robles Water Bank site (existing) is located within the AE-40 (Exclusive Agriculture, 40-acre minimum parcel size) zone district, and the Burns Water Bank (existing) and the Jones Corner Water Bank (existing) are located within the AE-20 (Exclusive Agricultural, 20-acre minimum parcel size) zone district. Properties directly surrounding the Proposed Project site are currently in use for agriculture as well. The District is located on the Valley floor east of the Coast Ranges and west of the Sierra Nevada Mountain Range. The three sites are located approximately three miles east of SR 99. Topographically, the Project area is at an elevation of approximately 377 feet above mean sea level. No forest or timber land is present at either of the Project site locations or in their vicinity.

General Plan Land Use and Zoning Designations

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

On-site Land Use Designations

The Project sites are all designated as Valley Agricultural – Rural Valley Lands Plan by the Tulare County General Plan, see **Figure 2-5**. The Project sites are all zoned Exclusive Agriculture by Tulare County, see **Figure 2-6**.

Surrounding Land Use Designations

The Tulare County General Plan designates the areas surrounding the Project sites for agricultural uses, see **Figure 2-5** and **Figure 2-6**.

[9] California Important Farmland Finder (FMMP). https://maps.conservation.ca.gov/DLRP/CIFF/. Accessed June 2021.

3.12.2 Impact Assessment

a) Would the project physically divide an established community?

No Impact. The Project is located on three sites near the city of Porterville and is surrounded by agricultural operations. The Project would allow the construction of a new water bank at the Jones Corner site, reconstruction of a 4,000 linear-foot portion of the Rhodes-Fine Ditch, and water banking to take place at two other existing recharge sites – the Burns Water Bank and the Los Robles Water Bank. The Project would not physically divide any established community. There would be no impact.

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

No Impact. The Project is zoned Exclusive Agriculture at all three sites. There are no residences adjacent to any of the site location boundaries, and the Project would not develop new sources of water that would support any new housing or new permanent population growth that would exceed official regional or local population projections in the District service area. The main purpose of the Project is to improve the District's groundwater supply reliability in order to meet irrigation demands during dry hydrological years; therefore, no impacts to land use are anticipated. Additionally, the Project involves the construction of a new water bank and 4,000 linear-foot reconstruction of Rhodes-Fine Ditch which is consistent with the land uses in the vicinity and current site operations. Therefore, the Project would not conflict with any applicable plans, policies, or regulations. There would be no impact

3.13 Mineral Resources

Table 3-16. Mineral Resources Impacts

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

3.13.1 Environmental Setting and Baseline Conditions

The majority of Tulare County's mineral extraction activities focus on aggregate (sand, gravel, crushed rock and natural gas), which is primarily used in building materials. Minerals that are present but do not exist in the quantities desired for commercial mining include antimony, asbestos, graphite, iron, molybdenum, nickel, radioactive minerals, phosphate, construction rock, and sulfur.[10] Historically, the Kaweah River, Lewis Creek, and the Tule River have provided the main sources of high-quality sand and gravel in Tulare County. The highest quality deposits are located at the Kaweah and Tule Rivers. According to the Tulare County General Plan Background Report, all the known potential mineral resource locations are mapped within the foothills and/or along major watercourses. Similarly, the only active oil and gas fields are located in the foothills along Deer Creek.

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

3.13.2 Impact Assessment

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

No Impact. The California Geological Survey Division of Mines and Geology has not classified any of the Project sites as a Mineral Resource Zone under the Surface Mining and Reclamation Act (SMARA), and there are no known mineral resources within the Project area Therefore, there the Project would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.

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

No Impact. California's Division of Oil, Gas and Geothermal Resources has no records of active oil or gas wells on any of the Project sites. The closest plugged and abandoned oil well to the Burns and Jones Corner Water Banks is Well No. 84-35, owned by Chevron U.S.A. Inc., located approximately one mile southwest of the sites. The closest plugged and abandoned oil well to the Los Robles site is Well No. 1, owned leased by

[10] Tulare County General Plan. Appendix B – Background Report. Tulare County General Plan Recirculated Draft EIR. Accessed June, 2021.

Pacific Exploration Corp. and is located approximately one mile northwest of the site.[11]. Therefore, none of the Project sites would impact the of availability of a known mineral resource, as there are no known mineral resources have been identified in this area. There would be no impact.

[11] California Department of Conservation. Well Finder. DOC CalGEM WellFinder. Accessed June 2021.

3.14 Noise

Table 3-19. Noise Impacts

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

3.14.1 Environmental Setting and Baseline Conditions

The Project sites are situated within a region dominated by agricultural and industrial uses, operations which may require diesel-powered equipment or other relatively loud machinery. The Burns site uses temporary rented diesel pumps as part of current operations. Rural traffic is also a source of noise in the Project's vicinity. While much of unincorporated Tulare County is composed of discrete small communities and remote rural residences, major noise generators include SR 99 and other highways, airports, and industrial operations.[12] Maximum noise levels generated by farm-related tractors typically range from 77 to 85 dB at a distance of 50 feet from the tractor, depending on the horsepower of the tractor and the operating conditions. Due to the seasonal nature of the agricultural industry, there are often extended periods of time when little to no noise is generated at the Project sites, followed by short-term periods of intensive mechanical equipment usage and corresponding noise generation. The Tulare County General Plan identifies the normally acceptable noise range for agricultural land uses between 50 and 75 dB.[13]

Table 3-20: Typical Construction Equipment Noise Levels

Typical Construction Equipment Noise Levels	
Equipment	Typical Noise Levels (dBa Lmax) 50 feet from Source
Backhoe	80
Compactor	82
Dozer	85
Grader	85
Truck	88
Air Compressor	81

[12](Tulare County 2030 General Plan Update, 2010) Accessed June 3, 2021.
[13] Ibid.

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

3.14.2 Impact Assessment

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

Less than Significant Impact. Normal Project operations would not generate significant noise. The Burns and Los Robles Water Banks are existing facilities. No new facilities will be constructed at these sites and future operations will not be different from current operations. Any noise generated from these sites would be considered part of existing conditions. Temporary pumps located at the Jones Corner Water Bank would be used primarily wet years and would be located at least 250 meters away from any sensitive receptors. At this distance the temporary pumps would not exceed the normally acceptable noise range for agricultural land uses between 50 and 75 dB.[14] Project construction at the Jones Corner site will generate temporary noise, mostly from trucks. Other construction equipment could include scrapers, backhoes, and excavators. The Project is located within agricultural and industrial lands, accustomed to noise generated by farm equipment and industrial machinery. The closest sensitive receptors to basin construction would be two rural residences located just to the east of the Burns site and just north of the Jones Corner site. Additionally, Rockford Elementary School, which is located 170 feet to the southwest of the Jones Corner Water Bank. A jack hammer at 170 feet away would result in a typical noise level of 67 dBa, which is normally acceptable noise range for agricultural land uses between 50 and 75 dB.[15] As construction and any pump noise would be temporary, and maintenance would take place as needed, impacts due to noise would be less than significant at the three sites.

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

Less than Significant Impact. The Project will not generate ground borne vibration or noise greater than existing conditions as these sites are located in an area of intensive agricultural and industrial manufacturing operations. Construction at the Jones Corner Water Bank will be temporary, requiring excavation and grading and basin operations would not involve ground borne vibration or noise. Impacts would be less than significant.

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

No Impact. None of the Project sites are located within an airport land use plan or within two miles of a public use airport. There are no private airstrips in the Project vicinity. Therefore, there would be no impact.

[14] (Tulare County 2030 General Plan Update, 2010) Accessed June 3, 2021.
[15] Ibid.

3.15 Population and Housing

Table 3-21. Population and Housing Impacts

Population and Housing Impacts				
Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

3.15.1 Environmental Setting and Baseline Conditions

The immediate areas surrounding each of the three water bank sites are in agricultural production. A variety of water-related facilities and structures are located within the Project vicinity including drainage ditches, wells, pipelines, and associated appurtenances. The Burns and Jones Corner Water Bank sites are designated as AE-20. The Los Robles Water Bank site is designated AE-40.

According to 2019 Census data, Tulare County's population was 466,195 with an estimated percent change from 2010 to 2019 of 5.4%. Porterville's population was 59,599 with a 2.6% change. As of 2015 to 2019, there was an average of 138,238 households in Tulare County with an average of 3.30 persons per house.[16] The City of Porterville was listed at 17,227 households and 3.39 persons per household. [17]

3.15.2 Impact Assessment

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

No Impact. The proposed Project would not involve the construction of any homes, business, or other uses that would result in direct or indirect population growth, nor would it displace people or homes as it involves water banking facilities. There would be no impact.

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

No Impact. The Project would have no effect on direct or indirect population growth, nor would it displace people or homes as it involves the construction of one new water bank and two existing water banking facilities. There would be no impact.

[16] United States Census Bureau, QuickFacts Porterville City. U.S. Census Bureau QuickFacts: United States. Accessed June 22, 2021.

[17] Ibid.

3.16 Public Services

Table 3-22. Public Services Impacts

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

3.16.1 Environmental Setting and Baseline Conditions

Fire Protection: All three water bank sites would be served by the Tulare County Fire Department Battalion, Station 19. Station 19 is located approximately 2.15 miles east of the Burns Water Bank, 2.5-miles south-southeast of the Los Robles Water Bank, and approximately 2 miles east of the Jones Corner Water Bank.

Police Protection: Police protection is provided by the Tulare County Sheriff. The closest station is located in approximately 4.7-miles southeast of the Los Robles Water Bank, approximately 5.5-miles east of the Burns Water Bank, and approximately 5.2 east of the Jones Corner Water Bank.

Schools: The closest schools to the Jones Corner Water Bank are Rockford Elementary School which is adjacent to the Project site to the south and Pleasant View Elementary School, approximately 1.9 miles west of the site. The closest schools to the Burns Water Bank are Rockford Elementary School, approximately 0.3 miles to the southeast, and Pleasant View Elementary School, approximately 2.1 miles west of the site. The closest schools to the Los Robles Water Bank are Burton Middle School, approximately one mile to the southeast, and William R. Buckley Elementary School, located approximately 1.2 miles southeast of the site.

Parks: The Park that is closest to all three water bank sites is the Veterans Park, approximately 2.5 miles southeast of the Los Robles Water Bank, 3.3 miles east-southeast of the Burns Water Bank, and 3.1 miles east-southeast of the Jones Corner Water Bank.

Landfills: The nearest landfill to the water bank sites is the Teapot Dome Landfill, located approximately 5.5 miles south of the Los Robles Water Bank, 3.1 miles south of the Burns Water Bank, and 2.9 miles south of the Jones Corner Water Bank.

3.16.2 **Impact Assessment**

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

a) No Impact. The Project would not require new or altered governmental facilities in order to maintain acceptable service ratios, response times, or other performance objectives for public services for either site location. The Project involves the construction of one new water bank and two existing water banking facilities. There would be no impacts.

3.17 Recreation

Table 3-23. Recreation Impacts

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

3.17.1 Environmental Setting and Baseline Conditions

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

Federal lands, such as wilderness, national forests, monuments, and parks occupy 52.2 percent of land area within Tulare County. Agricultural uses encompass 43 percent of the County's land. The remainder comprises miscellaneous uses, such as County parks, urban uses in cities, unincorporated communities, and hamlets, and infrastructure rights-of-way. The Tulare County General Plan sets forth guidelines in order to maintain an overall standard of five or more acres of public County parkland per 1,000 population in unincorporated areas, regional parks at one-acre per 1,000 population, neighborhood parks at three to six acres per 1,000 population, and community parks at one to two acres per 1,000 population.[18]

As noted in **Section 3.16**, the Park that is closest to all three sites is the Veterans Park. Which is located approximately 2.5 miles southeast of the Los Robles Basin, 3.3 miles east-southeast of the Burns Basin site, and 3.1 miles east-southeast of the Jones Corner Basin site.

[18] Tulare County 2030 General Plan Background Report. Tulare County General Plan Recirculated Draft EIR. Accessed June 2021.

3.17.2 **Impact Assessment**

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

No Impact. The Project does not include recreational facilities and it will have no effect on the use of existing parks or recreational facilities from any of the sites. The Project involves the construction of one new water bank and two existing water banks and their appurtenant facilities and would not increase the use of existing neighborhood and regional parks or other recreational facilities, such that physical deterioration of a facility would occur or be accelerated. There would be no impact.

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

No Impact. The Project does not include new public recreational facilities or require the construction or expansion of recreational facilities. There would be no impact.

3.18 Transportation

Table 3-24. Transportation Impacts

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

3.18.1 Environmental Settings and Baseline Conditions

The three water bank sites are surrounded by agricultural operations and agriculture-related manufacturing. Highway 65 is located approximately 2.5 miles east of the Los Robles Water Bank, four miles east of the Burns Water Bank, and 3.8 miles east of the Jones Corner Water Bank. Avenue 152 is approximately 2.5 miles south of the Los Robles Water Bank, runs along the south boundary of the Burns Water Bank, and runs along the north boundary of the Jones Corner Water Bank. The Porterville Municipal Airport is located approximately 2.9 miles southeast of the Burns Water Bank, 2.3 miles southeast of the Jones Corner Water Bank, and 4.5-miles southeast of Los Robles Water Bank. The Burns and Los Robles Water Banks are existing facilities. No new facilities will be constructed at these sites and future operations will not be different from current operations. Traffic associated with these two sites would be considered to be part of the baseline conditions.

3.18.2 Impact Assessment

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

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

a and b) Less than Significant Impact. Construction traffic associate the Project would be temporary, lasting approximately six months. Construction activities that are typical of the Project would be excavation of soil, grading, site preparation, etc. The Burns Water Bank and the Los Robles Water Bank are existing and would not generate any additional maintenance trips. Operational traffic for the new Jones Corner basin will consist of as-needed maintenance trips that will be conducted with the maintenance trips that are already occurring at the Burns Water Bank. There would not be a permanent adverse effect to existing roadways in the area. Impacts would be less than significant.

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

No Impact. The Project will not change roadway configurations or introduce an incompatible use into the area. Construction equipment will be utilized to make the necessary infrastructure improvements. There will be no impact.

d) Would the project result in inadequate emergency access?

No Impact. Construction for the Jones Corner Water Bank will be temporary and will not have a lasting impact on existing roadways or emergency access routes. The two existing water bank sites would not involve any construction and would therefore have no impact on emergency access. There would be no impact.

3.19 Tribal Cultural Resources

Table 3-25. Tribal Cultural Resources Impacts

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

3.19.1 Environmental Setting and Baseline Conditions

Penutian-speaking Yokuts tribal groups occupied the southern San Joaquin Valley region and much of the nearby Sierra Nevada. For a variety of historical reasons, existing research information emphasizes the central Yokuts tribes who occupied both the valley and particularly the foothills of the Sierra. The northernmost tribes suffered from the influx of Euro-Americans during the Gold Rush and their populations were in substantial decline by the time ethnographic studies began in the early twentieth century. In contrast, the southernmost tribes were partially removed by the Spanish to missions and eventually absorbed into multi-tribal communities on the Sebastian Indian Reservation (on Tejon Ranch), and later the Tule River Reservation and Santa Rosa Rancheria to the north. The result is an unfortunate scarcity of ethnographic detail on southern Valley tribes, especially in relation to the rich information collected from the central foothills tribes where native speakers of the Yokuts dialects are still found. Regardless, the general details of indigenous life-ways were similar across the broad expanse of Yokuts territory, particularly in terms of environmentally influenced subsistence and adaptation and with regard to religion and belief, which were similar everywhere.

A Phase I Cultural Resources Survey was conducted for the Project. A records search of available site files and maps for the Project area and a one-mile buffer around it was conducted at the SSJVIC and a search of the NAHC Sacred Lands File was completed. No Native American sacred sites or cultural resources were identified within or immediately adjacent to the Project study area, and no archaeological sites had been previously recorded within the study area. (**Appendix C**)

The survey fieldwork was conducted on June 17 and September 28, 2021, with a crew of three archaeologists walking parallel transects spaced at approximately 15-m intervals across the study area. One newly identified cultural resource was discovered and recorded: a segment of the Rhodes Fine Ditch, which originally dates to 1869. However, as discussed in **Appendix C** the recorded ditch segment thus lacks integrity of location, setting, materials, design and workmanship and is recommended as not eligible for listing on the NRHP or CRHR under any criteria.

3.19.2 Impact Assessment

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

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

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

Less than Significant Impact with Mitigation Incorporated. The lead agency has not received any formal requests for notification from any State tribes, pursuant to AB52. However, a search of the NAHC Sacred Lands Files was requested. According to the NAHC records no sacred sites or tribal cultural resources are known in or near the Project area. Outreach letters and follow-up emails were sent to tribal organization on the NAHC contact list. One response was received. This was from the Santa Rosa Rancheria – Tachi Yokut Tribe who deferred to the Tule River Indian Reservation but asked that they be informed if any archaeological discoveries were made in the APE.

A copy of Tribal correspondence has been made a part of Confidential Appendix A omitted from **Appendix C**. No Native American areas of concern were identified as a result of consultation with the Native American Heritage Commission and local Native American groups.

As a result of the Phase I Cultural Resources Survey, one newly identified cultural resource was discovered and recorded: a segment of the Rhodes Fine Ditch, which originally dates to 1869. However, upon eligibility evaluation by ASM it was determined that the ditch lacks integrity of location, setting, materials, design and workmanship and is recommended as not eligible for listing on the NRHP or the CRHR under any criteria. No additional cultural resources of any kind were identified during the study.

Therefore, it is unlikely that the proposed Project would have an effect on important archaeological, historical, or other cultural resources. In the unlikely event that buried archaeological deposits are encountered within the Project area, the finds must be evaluated by a qualified archaeologist.

Therefore, it is concluded, barring evidence to the contrary, that the Project has a low probability of causing a substantial adverse change to the significance of a tribal cultural resource as defined. Nonetheless, Mitigation Measures **CUL-1** and **CUL-2**, described above in **Section 3.6** are recommended in the event cultural materials or human remains are unearthed during excavation or construction.

Mitigation Measures

Refer to **CUL-1** and **CUL-2** in **Section 3.6**

3.20 Utilities and Service Systems

Table 3-26. Utilities and Service Systems Impacts

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

3.20.1 Environmental Setting and Baseline Conditions

The Project sites are located within the Tule Sub-basin of the San Joaquin Valley Groundwater Basin; more specifically the Eastern Tule[19], as defined by the California Department of Water Resources. Groundwater overdraft and declines in groundwater basin storage are recurring problems in Tulare County. Measures for ensuring the continued availability of groundwater have been identified and planned in several areas of the county. The measures include groundwater conservation and recharge and supplementing or replacing groundwater sources for irrigation with surface water.

3.20.1.1 Water Supply

The Project would primarily bank water that is periodically available beyond agricultural demand above current needs from the Friant Division of the CVP (Friant) and from the Tule River. The Project might also bank water from other systems, but separate approvals would be required. As required by the Banking Policy, 10% to 30% of the recharged water would be allocated to PID's storage account depending on the source. Recovered water would be delivered to lawful recipients within the allowed places of use of the banked water.

[19] California Department of Water Resources, Basin Boundaries Website. https://sgma.water.ca.gov/webgis/?appid=SGMADataViewer#boundaries. Accessed June 2021.

3.20.1.2 Wastewater Collection and Treatment

The Porterville Wastewater Treatment Plant located at 1333 W. Grand Ave, Porterville, CA is the closest wastewater facility to the Project sites. However, no wastewater will be generated during Project construction or operation.

3.20.1.3 Landfills

The closest landfill to the Project site is the Teapot Dome Landfill located 20801-21169 Teapot Dome Ave, Porterville, CA 93257 is approximately 3.5-miles south of the Jones Corner Water Bank & Burns Water Bank sites and approximately 7.2-miles southwest of the Los Robles Water Bank site. No significant solid waste will be generated during Project construction or operation.

3.20.2 Impact Assessment

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

Less than Significant Impact. The Project would not require relocation or expansion of existing facilities for wastewater treatment, storm water drainage, electric power, natural gas, or telecommunications. The Project does include the construction of a new water banking facility at the Jones Corner site that would follow all required standards and policies in addition to the mitigation measures listed in **Chapter 4**. The Project would increase water supply, improve groundwater conditions, reduce costs to produce groundwater, increase diversification and availability of water supplies, and facilitate compliance with the SGMA.

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

No Impact. The Project consists of the construction of 58 acres of permanent recharge basins and the reconstruction of a 4,000 linear-foot portion of the current Rhodes-Fine Ditch to convey water via gravity to the Jones Corner Water Bank. The Burns and Los Robles Water Bank sites are existing and will not involve any construction. Project operation is would not reduce the area's available water supply under any scenario but rather would increase the supply during normal, dry and multiple dry years. There would be no impact.

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

No Impact. The Project does not require wastewater treatment at any of the water bank locations, so analysis of capacity is unwarranted. There would be no impact.

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

No Impact. The Project would not 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. There would be no impact.

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

No Impact. The Project will comply with all federal, State, and local standards, policies, and goals. There would be no impact.

3.21 Wildfire

Table 3-27. Wildfire Impacts

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

3.21.1 Environmental Setting and Baseline Conditions

The Project sites are located approximately 30-miles west of the nearest very high fire hazard severity zone. The closest State Responsibility Area to the Burns Water Bank is approximately five miles northeast, three miles east of the Los Robles Water Bank, and 4.8 miles northeast of the Jones Corner Water Bank. The Project will not result in population growth, and it does not involve the construction of habitable or non-habitable structures.

3.21.2 Impact Assessment

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

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

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?

a-d) No Impact. The Project is not located in a State Responsibility Area or lands classified as very high severity zones. Further analysis of the Project's potential impacts regarding wildfire are not warranted. There would be no impacts.

3.22 CEQA Mandatory Findings of Significance

Table 3-28. Mandatory Findings of Significance Impacts

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

3.22.1 Impact Assessment

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

Less Than Significant Impact with Mitigation Incorporated. The analysis conducted in this IS/MND results in a determination that the Project, with incorporation of mitigation measures, will have a less than significant effect on the environment. The Burns and Los Robles Water Banks are existing facilities. No new facilities will be constructed at these sites and future operations will not be different from current operations. The potential for impacts to biological, cultural, and tribal cultural resources from the construction and operation of the Jones Corner Water Bank will be less than significant with the incorporation of the mitigation measures discussed in **Chapter 4 Mitigation Monitoring and Reporting Program**. Accordingly, the proposed Project will involve no potential for significant impacts through the degradation of the quality of the environment, the reduction in the habitat or population of fish or wildlife, including endangered plants or animals, the elimination of a plant or animal community or example of a major period of California history or prehistory.

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

Less Than Significant Impact with Mitigation Incorporated. CEQA Guidelines Section 15064(i) States that a Lead Agency shall consider whether the cumulative impact of a project is significant and whether the effects of the project are cumulatively considerable. The assessment of the significance of the cumulative effects of a project must, therefore, be conducted in connection with the effects of past projects, other current projects, and probable future projects. The Jones Corner Water Bank would include the construction of a 58-acre basin for water recharge and banking, and the reconstruction of a portion of the Rhodes-Fine Ditch. Project construction would occur over approximately six months. The Burns and Los Robles Water Banks are existing facilities. No new facilities will be constructed at these sites and future operations will not be different from current operations. No additional roads would be constructed as a result of the Project, nor would any additional public services be required. The proposed Project is not expected to result in direct or indirect population growth.

The Project includes implementation of an MOCP for each water bank, which includes procedures to monitor impacts to neighboring wells, and if necessary, to adjust or constrain operations. This will further reduce the potential for cumulative impacts related to groundwater supplies or groundwater recharge. Please see the detailed MOCP provisions outlined in **Chapter 2** and **Appendix D.** Therefore, implementation of the Project would not result in significant cumulative impacts and all potential impacts would be reduced to less than significant through the implementation of the MOCP, mitigation measures and basic regulatory requirements incorporated into future Project design.

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

Less Than Significant Impact. The proposed Project in and of itself would not create a significant hazard to the public or the environment. Construction-related air quality/dust exposure impacts could occur temporarily as a result of Project construction at the Jones Corner Water Bank site. Implementation of basic regulatory requirements identified in this IS/MND would ensure that any impacts related to air quality/dust exposure would be less than significant.

Therefore, implementation of the Project would not result in substantial adverse effects on human beings either directly or indirectly and all potential impacts would be reduced to less than significant through the MOCP and basic regulatory requirements required for this Project.

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

On the basis of this initial evaluation:

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

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

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

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

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

Nicholas Vegg _____ ll/tc 1 ZoZl _____

Signature Date

NICHOLAS VEgg,/ toruc, ebjew. MMigez.

Printed Name/Position/

Chapter 4 Mitigation Monitoring and Reporting Program

This Mitigation Monitoring and Reporting Program (MMRP) has been formulated based upon the findings of the Initial Study/Mitigated Negative Declaration (IS/MND) for the Jones Corner/Burns/Los Robles Water Banks Project (Project) in the County of Tulare. The MMRP lists mitigation measures recommended in the IS/MND for the Project and identifies monitoring and reporting requirements.

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

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

Table 4-1 Mitigation Monitoring and Reporting Program

Mitigation Measure/Condition of Approval	When Monitoring is to Occur	Frequency of Monitoring	Agency Responsible for Monitoring	Method to Verify Compliance	Verification of Compliance
Biological Resources					
BIO-1 (Avoidance):					
The Jones Corner Water Bank construction activities would occur, if feasible, between September 16 and January 31 (outside of nesting bird season) in an effort to avoid impacts to nesting birds.	Prior to the start of construction at the Jones Corner Water Bank site	Once, prior to construction	PID with the assistance of a qualified biologist		
BIO-2 (Pre-construction Surveys):					
If activities must occur within nesting bird season (February 1 to September 15), a qualified will conduct pre-construction for nesting bird survey (including ground nesting species) within 10 days prior to the start of construction. The survey shall include the proposed work areas and surrounding lands within 50 feet. All raptor nests will be considered "active" upon the nest-building stage.	If construction activities and/or vegetation removal must occur between February 1 and August 31, then within 10 days prior to the start of work	February 1-September 15	PID with the assistance of a qualified biologist		
BIO-3 (Establish Buffers):					
On discovery of any active nests near work areas, the biologist shall determine appropriate construction setback distances based on applicable CDFW and/or USFWS guidelines and/or the biology of the species in question. Construction buffers shall be identified with flagging, fencing, or other easily visible means, and shall be maintained until the biologist has determined that the nestlings have fledged and are no longer dependent on the nest.	Prior to the start of construction .	February 1-September 15	PID with the assistance of a qualified biologist		
Cultural Resources					
CUL-1 (Archaeological Resources):					
In the event that archaeological resources are encountered at any time during construction, development or any ground-moving activities within the entire Project area, all work in the vicinity of the find shall halt until a qualified archaeologist can assess the discovery. The District shall implement all recommendations of the archaeologist necessary to avoid or reduce to a less than significant level potential impacts to cultural resource. Appropriate actions could include a Data Recovery Plan or preservation in place.	During ground disturbing activities and in the event potential archaeological artifacts or resources are uncovered	Daily during ground disturbing activities	PID with assistance of a qualified cultural subconsultant		
CUL-2 (Human Remains):					
If human remains are uncovered, or in any other case when human remains are discovered during construction, the Tulare County Coroner is to be notified to arrange proper treatment and disposition. If the remains are identified—on the basis of	During ground disturbing activities and in the event	Daily during ground	PID with assistance of a qualified		

Mitigation Measure/Condition of Approval	When Monitoring is to Occur	Frequency of Monitoring	Agency Responsible for Monitoring	Method to Verify Compliance	Verification of Compliance
archaeological context, age, cultural associations, or biological traits—as those of a Native American origin, California Health and Safety Code 7050.5 and Public Resource Code 5097.98 require that the coroner notify the NAHC within 24 hours of discovery. The NAHC will then identify the Most Likely Descendent (MLD) who will determine the manner in which the remains are treated.	human remains are uncovered	disturbing activities	cultural subconsultant		

Appendix A

CalEEMod Output Files

Three Basin Project - Tulare County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Three Basin Project

Tulare County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	70.00	Acre	70.00	3,049,200.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	51
Climate Zone	3			**Operational Year**	2022
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	390.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Project is anticipated to take six months to construct.

Construction Off-road Equipment Mitigation -

Stationary Sources - Emergency Generators and Fire Pumps -

Stationary Sources - Emergency Generators and Fire Pumps EF - Pump equipment is Tier 4 Interim

Grading - Assumes project grading will be balanced

Fleet Mix -

Consumer Products - No parking lot

Area Coating - No parking lot

Landscape Equipment - No landscape equipment

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Parking	182952	0
tblConstructionPhase	NumDays	70.00	20.00
tblConstructionPhase	NumDays	110.00	46.00
tblConstructionPhase	NumDays	75.00	18.00
tblConstructionPhase	NumDays	40.00	14.00
tblConsumerProducts	ROG_EF	2.14E-05	0
tblConsumerProducts	ROG_EF_Degreaser	3.542E-07	0
tblConsumerProducts	ROG_EF_PesticidesFertilizers	5.152E-08	0
tblGrading	AcresOfGrading	138.00	275.00
tblGrading	AcresOfGrading	21.00	0.00
tblLandscapeEquipment	NumberSummerDays	180	0
tblStationaryGeneratorsPumpsEF	CO_EF	3.70	2.60
tblStationaryGeneratorsPumpsEF	NOX_EF	2.85	1.50
tblStationaryGeneratorsPumpsEF	PM10_EF	0.15	0.02
tblStationaryGeneratorsPumpsEF	PM2_5_EF	0.15	0.02
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	100.00
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	24.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	4,100.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	6.00

2.0 Emissions Summary

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	0.1452	1.4848	1.1692	2.3500e-003	0.4177	0.0665	0.4842	0.1632	0.0613	0.2245	0.0000	206.5830	206.5830	0.0637	2.0000e-004	208.2344
Maximum	**0.1452**	**1.4848**	**1.1692**	**2.3500e-003**	**0.4177**	**0.0665**	**0.4842**	**0.1632**	**0.0613**	**0.2245**	**0.0000**	**206.5830**	**206.5830**	**0.0637**	**2.0000e-004**	**208.2344**

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	0.1452	1.4848	1.1692	2.3500e-003	0.1918	0.0665	0.2583	0.0745	0.0613	0.1357	0.0000	206.5828	206.5828	0.0637	2.0000e-004	208.2342
Maximum	**0.1452**	**1.4848**	**1.1692**	**2.3500e-003**	**0.1918**	**0.0665**	**0.2583**	**0.0745**	**0.0613**	**0.1357**	**0.0000**	**206.5828**	**206.5828**	**0.0637**	**2.0000e-004**	**208.2342**

	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**	**54.09**	**0.00**	**46.66**	**54.38**	**0.00**	**39.54**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
2	**2-17-2022**	**5-16-2022**	0.5737	0.5737
3	**5-17-2022**	**8-16-2022**	1.0362	1.0362
		Highest	1.0362	1.0362

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	0.0000	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
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
Stationary	2.0185	2.9693	5.1468	9.7000e-003		0.0297	0.0297		0.0297	0.0297	0.0000	936.7611	936.7611	0.1313	0.0000	940.0445
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	**2.0185**	**2.9693**	**5.1468**	**9.7000e-003**	**0.0000**	**0.0297**	**0.0297**	**0.0000**	**0.0297**	**0.0297**	**0.0000**	**936.7611**	**936.7611**	**0.1313**	**0.0000**	**940.0445**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	0.0000	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
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
Stationary	2.0185	2.9693	5.1468	9.7000e-003		0.0297	0.0297		0.0297	0.0297	0.0000	936.7611	936.7611	0.1313	0.0000	940.0445
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	**2.0185**	**2.9693**	**5.1468**	**9.7000e-003**	**0.0000**	**0.0297**	**0.0297**	**0.0000**	**0.0297**	**0.0297**	**0.0000**	**936.7611**	**936.7611**	**0.1313**	**0.0000**	**940.0445**

	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	4/17/2022	5/13/2022	5	20	
2	Site Preparation	Site Preparation	5/1/2022	5/19/2022	5	14	

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3	Grading	Grading	5/11/2022	7/13/2022	5	46	
4	Paving	Paving	6/11/2022	7/6/2022	5	18	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 275

Acres of Paving: 70

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

OffRoad Equipment

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

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

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

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	0.0264	0.2572	0.2059	3.9000e-004		0.0124	0.0124		0.0116	0.0116	0.0000	33.9902	33.9902	9.5500e-003	0.0000	34.2289
Total	**0.0264**	**0.2572**	**0.2059**	**3.9000e-004**		**0.0124**	**0.0124**		**0.0116**	**0.0116**	**0.0000**	**33.9902**	**33.9902**	**9.5500e-003**	**0.0000**	**34.2289**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	5.7000e-004	4.2000e-004	4.5100e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.9869	0.9869	4.0000e-005	3.0000e-005	0.9979
Total	**5.7000e-004**	**4.2000e-004**	**4.5100e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.2000e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**0.9869**	**0.9869**	**4.0000e-005**	**3.0000e-005**	**0.9979**

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	0.0264	0.2572	0.2059	3.9000e-004		0.0124	0.0124		0.0116	0.0116	0.0000	33.9902	33.9902	9.5500e-003	0.0000	34.2289
Total	**0.0264**	**0.2572**	**0.2059**	**3.9000e-004**		**0.0124**	**0.0124**		**0.0116**	**0.0116**	**0.0000**	**33.9902**	**33.9902**	**9.5500e-003**	**0.0000**	**34.2289**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	5.7000e-004	4.2000e-004	4.5100e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.9869	0.9869	4.0000e-005	3.0000e-005	0.9979
Total	**5.7000e-004**	**4.2000e-004**	**4.5100e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.2000e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**0.9869**	**0.9869**	**4.0000e-005**	**3.0000e-005**	**0.9979**

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					0.1265	0.0000	0.1265	0.0695	0.0000	0.0695	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0222	0.2316	0.1379	2.7000e-004		0.0113	0.0113		0.0104	0.0104	0.0000	23.4076	23.4076	7.5700e-003	0.0000	23.5968
Total	**0.0222**	**0.2316**	**0.1379**	**2.7000e-004**	**0.1265**	**0.0113**	**0.1378**	**0.0695**	**0.0104**	**0.0799**	**0.0000**	**23.4076**	**23.4076**	**7.5700e-003**	**0.0000**	**23.5968**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	4.8000e-004	3.5000e-004	3.7900e-003	1.0000e-005	1.0000e-003	1.0000e-005	1.0100e-003	2.7000e-004	1.0000e-005	2.7000e-004	0.0000	0.8290	0.8290	3.0000e-005	3.0000e-005	0.8382
Total	**4.8000e-004**	**3.5000e-004**	**3.7900e-003**	**1.0000e-005**	**1.0000e-003**	**1.0000e-005**	**1.0100e-003**	**2.7000e-004**	**1.0000e-005**	**2.7000e-004**	**0.0000**	**0.8290**	**0.8290**	**3.0000e-005**	**3.0000e-005**	**0.8382**

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					0.0569	0.0000	0.0569	0.0313	0.0000	0.0313	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0222	0.2316	0.1379	2.7000e-004		0.0113	0.0113		0.0104	0.0104	0.0000	23.4076	23.4076	7.5700e-003	0.0000	23.5968
Total	**0.0222**	**0.2316**	**0.1379**	**2.7000e-004**	**0.0569**	**0.0113**	**0.0682**	**0.0313**	**0.0104**	**0.0417**	**0.0000**	**23.4076**	**23.4076**	**7.5700e-003**	**0.0000**	**23.5968**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	4.8000e-004	3.5000e-004	3.7900e-003	1.0000e-005	1.0000e-003	1.0000e-005	1.0100e-003	2.7000e-004	1.0000e-005	2.7000e-004	0.0000	0.8290	0.8290	3.0000e-005	3.0000e-005	0.8382
Total	**4.8000e-004**	**3.5000e-004**	**3.7900e-003**	**1.0000e-005**	**1.0000e-003**	**1.0000e-005**	**1.0100e-003**	**2.7000e-004**	**1.0000e-005**	**2.7000e-004**	**0.0000**	**0.8290**	**0.8290**	**3.0000e-005**	**3.0000e-005**	**0.8382**

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					0.2843	0.0000	0.2843	0.0919	0.0000	0.0919	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0834	0.8934	0.6680	1.4300e-003		0.0376	0.0376		0.0346	0.0346	0.0000	125.4296	125.4296	0.0406	0.0000	126.4437
Total	**0.0834**	**0.8934**	**0.6680**	**1.4300e-003**	**0.2843**	**0.0376**	**0.3219**	**0.0919**	**0.0346**	**0.1265**	**0.0000**	**125.4296**	**125.4296**	**0.0406**	**0.0000**	**126.4437**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	1.7600e-003	1.2900e-003	0.0138	3.0000e-005	3.6600e-003	2.0000e-005	3.6800e-003	9.7000e-004	2.0000e-005	9.9000e-004	0.0000	3.0266	3.0266	1.1000e-004	1.0000e-004	3.0602
Total	**1.7600e-003**	**1.2900e-003**	**0.0138**	**3.0000e-005**	**3.6600e-003**	**2.0000e-005**	**3.6800e-003**	**9.7000e-004**	**2.0000e-005**	**9.9000e-004**	**0.0000**	**3.0266**	**3.0266**	**1.1000e-004**	**1.0000e-004**	**3.0602**

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					0.1280	0.0000	0.1280	0.0414	0.0000	0.0414	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0834	0.8934	0.6680	1.4300e-003		0.0376	0.0376		0.0346	0.0346	0.0000	125.4294	125.4294	0.0406	0.0000	126.4436
Total	**0.0834**	**0.8934**	**0.6680**	**1.4300e-003**	**0.1280**	**0.0376**	**0.1656**	**0.0414**	**0.0346**	**0.0759**	**0.0000**	**125.4294**	**125.4294**	**0.0406**	**0.0000**	**126.4436**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	1.7600e-003	1.2900e-003	0.0138	3.0000e-005	3.6600e-003	2.0000e-005	3.6800e-003	9.7000e-004	2.0000e-005	9.9000e-004	0.0000	3.0266	3.0266	1.1000e-004	1.0000e-004	3.0602
Total	**1.7600e-003**	**1.2900e-003**	**0.0138**	**3.0000e-005**	**3.6600e-003**	**2.0000e-005**	**3.6800e-003**	**9.7000e-004**	**2.0000e-005**	**9.9000e-004**	**0.0000**	**3.0266**	**3.0266**	**1.1000e-004**	**1.0000e-004**	**3.0602**

3.5 Paving - 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	9.9300e-003	0.1001	0.1312	2.1000e-004		5.1100e-003	5.1100e-003		4.7000e-003	4.7000e-003	0.0000	18.0248	18.0248	5.8300e-003	0.0000	18.1705
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**9.9300e-003**	**0.1001**	**0.1312**	**2.1000e-004**		**5.1100e-003**	**5.1100e-003**		**4.7000e-003**	**4.7000e-003**	**0.0000**	**18.0248**	**18.0248**	**5.8300e-003**	**0.0000**	**18.1705**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Paving - 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	5.2000e-004	3.8000e-004	4.0600e-003	1.0000e-005	1.0800e-003	1.0000e-005	1.0800e-003	2.9000e-004	1.0000e-005	2.9000e-004	0.0000	0.8883	0.8883	3.0000e-005	3.0000e-005	0.8981
Total	**5.2000e-004**	**3.8000e-004**	**4.0600e-003**	**1.0000e-005**	**1.0800e-003**	**1.0000e-005**	**1.0800e-003**	**2.9000e-004**	**1.0000e-005**	**2.9000e-004**	**0.0000**	**0.8883**	**0.8883**	**3.0000e-005**	**3.0000e-005**	**0.8981**

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	9.9300e-003	0.1001	0.1312	2.1000e-004		5.1100e-003	5.1100e-003		4.7000e-003	4.7000e-003	0.0000	18.0248	18.0248	5.8300e-003	0.0000	18.1705
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**9.9300e-003**	**0.1001**	**0.1312**	**2.1000e-004**		**5.1100e-003**	**5.1100e-003**		**4.7000e-003**	**4.7000e-003**	**0.0000**	**18.0248**	**18.0248**	**5.8300e-003**	**0.0000**	**18.1705**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Paving - 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	5.2000e-004	3.8000e-004	4.0600e-003	1.0000e-005	1.0800e-003	1.0000e-005	1.0800e-003	2.9000e-004	1.0000e-005	2.9000e-004	0.0000	0.8883	0.8883	3.0000e-005	3.0000e-005	0.8981
Total	**5.2000e-004**	**3.8000e-004**	**4.0600e-003**	**1.0000e-005**	**1.0800e-003**	**1.0000e-005**	**1.0800e-003**	**2.9000e-004**	**1.0000e-005**	**2.9000e-004**	**0.0000**	**0.8883**	**0.8883**	**3.0000e-005**	**3.0000e-005**	**0.8981**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	0.491968	0.051162	0.166648	0.188672	0.034593	0.008513	0.012315	0.015417	0.000659	0.000471	0.024128	0.001541	0.003914

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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 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	0.0000	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

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	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**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	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**

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 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 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 Applied

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	6	24	4100	100	0.73	Diesel

Boilers

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

User Defined Equipment

Equipment Type	Number

10.1 Stationary Sources

Unmitigated/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
Equipment Type	tons/yr										MT/yr					
Emergency Generator - Diesel (100 - 175 HP)	2.0185	2.9693	5.1468	9.7000e-003		0.0297	0.0297		0.0297	0.0297	0.0000	936.7611	936.7611	0.1313	0.0000	940.0445
Total	**2.0185**	**2.9693**	**5.1468**	**9.7000e-003**		**0.0297**	**0.0297**		**0.0297**	**0.0297**	**0.0000**	**936.7611**	**936.7611**	**0.1313**	**0.0000**	**940.0445**

11.0 Vegetation

Name

Prioritization Calculator

Applicability	Use to provide a Prioritization score based on the emission potency method. Entries required in yellow areas, output in gray areas.
Author or updater	Matthew Cegielski *Last Update* November 2, 2020
Facility: **ID#:** **Project #:** **Unit and Process#**	Tier 4 Interim Diesel Engines
Operating Hours hr/yr	4,100.00

Receptor Proximity and Proximity Factors		Cancer Score	Chronic Score	Acute Score	Max Score
0< R<100	**1.000**	110.35	6.62	5.34	110.35
100≤R<250	**0.250**	27.59	1.65	1.34	27.59
250≤R<500	**0.040**	4.41	0.26	0.21	4.41
500≤R<1000	**0.011**	1.21	0.07	0.06	1.21
1000≤R<1500	**0.003**	0.33	0.02	0.02	0.33
1500≤R<2000	**0.002**	0.22	0.01	0.01	0.22
2000<R	**0.001**	0.11	0.01	0.01	0.11

Receptor proximity is in meters. Priortization scores are calculated by multiplying the total scores summed below by the proximity factors. Record the Max score for your receptor distance. If the substance list for the unit is longer than the number of rows here or if there are multiple processes use additional worksheets and sum the totals of the Max Scores.

Six (6) 100HP Tier 4 Interim Diesel Engines

Enter the unit's CAS# of the substances emitted and their amounts.

Prioritzation score for each substance generated below. Totals on last row.

Substance	CAS#	Annual Emissions (lbs/yr)	Maximum Hourly (lbs/hr)	Average Hourly (lbs/hr)	Cancer	Chronic	Acute
1,3-Butadiene	**106990**	3.74E+01	9.13E-03	9.13E-03	4.90E+01	6.85E-01	2.08E-02
Acetaldehyde	**75070**	1.35E+02	3.29E-02	3.29E-02	2.80E+00	3.52E-02	1.05E-01
Acrolein	**107028**	5.84E+00	1.42E-03	1.42E-03	0.00E+00	6.10E-01	8.54E-01
Arsenic	**7440382**	2.76E-01	6.72E-05	6.72E-05	7.00E+00	6.72E-01	5.04E-01
Benzene	**71432**	3.21E+01	7.82E-03	7.82E-03	7.16E+00	3.91E-01	4.35E-01
Cadmium	**7440439**	2.58E-01	6.30E-05	6.30E-05	8.35E+00	4.73E-01	0.00E+00
Chlorobenzene	**108907**	3.44E-02	8.40E-06	8.40E-06	0.00E+00	1.26E-06	0.00E+00
Chromium	**7440473**	1.03E-01	2.52E-05	2.52E-05	0.00E+00	0.00E+00	0.00E+00
Copper	**7440508**	7.06E-01	1.72E-04	1.72E-04	0.00E+00	0.00E+00	2.58E-03
Ethyl benzene	**100414**	1.88E+00	4.58E-04	4.58E-04	3.61E-02	3.43E-05	0.00E+00
Formaldehyde	**50000**	2.97E+02	7.25E-02	7.25E-02	1.37E+01	1.21E+00	1.98E+00
Hexane	**110543**	4.63E+00	1.13E-03	1.13E-03	0.00E+00	2.42E-05	0.00E+00
Chromium, hexavalent	**18540299**	1.72E-02	4.20E-06	4.20E-06	1.99E+01	3.15E-03	0.00E+00
Hydrochloric acid	**7647010**	3.21E+01	7.82E-03	7.82E-03	0.00E+00	1.30E-01	5.59E-03
Lead	**7439921**	1.43E+00	3.49E-04	3.49E-04	1.32E-01	0.00E+00	0.00E+00
Manganese	**7439965**	5.34E-01	1.30E-04	1.30E-04	0.00E+00	2.17E-01	0.00E+00
Mercury	**7439976**	3.44E-01	8.40E-05	8.40E-05	0.00E+00	4.20E-01	2.10E-01

Naphthalene	**91203**	3.39E+00	8.27E-04	8.27E-04	8.88E-01	1.38E-02	0.00E+00
Nickel	**7440020**	6.72E-01	1.64E-04	1.64E-04	1.34E+00	1.76E+00	1.23E+00
PAHs, total, with individ. components also reported	**1150**	9.63E+00	2.35E-03	2.35E-03	0.00E+00	0.00E+00	0.00E+00
Propylene	**115071**	8.04E+01	1.96E-02	1.96E-02	0.00E+00	9.81E-04	0.00E+00
Selenium	**7782492**	3.79E-01	9.24E-05	9.24E-05	0.00E+00	6.93E-04	0.00E+00
Toluene	**108883**	1.81E+01	4.43E-03	4.43E-03	0.00E+00	1.58E-03	1.33E-03
Xylene	**1330207**	7.30E+00	1.78E-03	1.78E-03	0.00E+00	3.82E-04	1.21E-04
Zinc	**7440666**	3.86E+00	9.41E-04	9.41E-04	0.00E+00	0.00E+00	0.00E+00
Diesel engine exhaust, particulate matter (Diesel PM)	**9901**	5.94E+01	1.93E-02	1.45E-02	1.37E+02	4.35E-01	0.00E+00
				Totals	**1.10E+02**	**6.62E+00**	**5.34E+00**

Name

Diesel and Biodiesel-Fired Internal Combustion Engines

Applicability	Use this spreadsheet for Diesel and Biodiesel-Fired Internal Combustion Engines. (Due to the District's Diesel Screening Methodology, this spreadsheet is not in current use for Diesel, only for Biodiesel; however the Diesel values serve the basis for the Biodiesel blends) Entries required in yellow areas, output in grey areas.		
Author or updater	Matthew Cegielski	*Last Update*	February 22, 2016
Facility: **ID#:** **Project #:**			

Inputs	1,000 gallons /hr	1,000 gallons /yr	**Formula**
Diesel Fuel usage	4.20E-02	172.2	Supply the necessary rate in 1,000 gallons. Emissions are calculated by the multiplication of Fuel Rates and Emission Factors.

Substances	**CAS#**	**Diesel Emission Factor lbs/ 1,000 gallons**	**LB/HR**	**LB/YR**	**B20 Biodiesel Blend Emission Factor lbs/ 1,000 gallons**	**LB/HR**	**LB/YR**
1,3 Butadiene	**106990**	2.17E-01	9.13E-03	3.74E+01	2.17E-01	9.13E-03	3.74E+01
Acetaldehyde	**75070**	7.83E-01	3.29E-02	1.35E+02	7.28E-01	3.06E-02	1.25E+02
Acrolein	**107028**	3.39E-02	1.42E-03	5.84E+00	3.34E-02	1.40E-03	5.75E+00
Arsenic	**7440382**	1.60E-03	6.72E-05	2.76E-01	1.60E-03	6.72E-05	2.76E-01
Benzene	**71432**	1.86E-01	7.82E-03	3.21E+01	1.86E-01	7.82E-03	3.21E+01
Cadmium	**7440439**	1.50E-03	6.30E-05	2.58E-01	1.50E-03	6.30E-05	2.58E-01
Chlorobenzene	**108907**	2.00E-04	8.40E-06	3.44E-02	2.00E-04	8.40E-06	3.44E-02
Chromium	**7440473**	6.00E-04	2.52E-05	1.03E-01	6.00E-04	2.52E-05	1.03E-01
Copper	**7440508**	4.10E-03	1.72E-04	7.06E-01	4.10E-03	1.72E-04	7.06E-01
Ethyl Benzene	**100414**	1.09E-02	4.58E-04	1.88E+00	6.01E-03	2.52E-04	1.03E+00
Formaldehyde	**50000**	1.73E+00	7.25E-02	2.97E+02	1.59E+00	6.68E-02	2.74E+02
Hexane	**110543**	2.69E-02	1.13E-03	4.63E+00	2.69E-02	1.13E-03	4.63E+00
Hexavalent Chromium	**18540299**	1.00E-04	4.20E-06	1.72E-02	1.00E-04	4.20E-06	1.72E-02
Hydrogen Chloride	**7647010**	1.86E-01	7.82E-03	3.21E+01	1.86E-01	7.82E-03	3.21E+01
Lead	**7439921**	8.30E-03	3.49E-04	1.43E+00	8.30E-03	3.49E-04	1.43E+00
Manganese	**7439965**	3.10E-03	1.30E-04	5.34E-01	3.10E-03	1.30E-04	5.34E-01
Mercury	**7439976**	2.00E-03	8.40E-05	3.44E-01	2.00E-03	8.40E-05	3.44E-01

Naphthalene	**91203**	1.97E-02	8.27E-04	3.39E+00	1.70E-02	7.13E-04	2.92E+00
Nickel	**7440020**	3.90E-03	1.64E-04	6.72E-01	3.90E-03	1.64E-04	6.72E-01
PAHs	**1150**	5.59E-02	2.35E-03	9.63E+00	5.59E-02	2.35E-03	9.63E+00
Propylene	**115071**	4.67E-01	1.96E-02	8.04E+01	4.67E-01	1.96E-02	8.04E+01
Selenium	**7782492**	2.20E-03	9.24E-05	3.79E-01	2.20E-03	9.24E-05	3.79E-01
Toluene	**108883**	1.05E-01	4.43E-03	1.81E+01	1.05E-01	4.43E-03	1.81E+01
Xylenes	**1330207**	4.24E-02	1.78E-03	7.30E+00	3.72E-02	1.56E-03	6.40E+00
Zinc	**7440666**	2.24E-02	9.41E-04	3.86E+00	2.24E-02	9.41E-04	3.86E+00

References:

* The emission factors were based on the May 2001 update of VCAPCD AB 2588 Combustion Emission Factors and the Biodies 2002 Draft Technical Report, *A Comprehensive Analysis of Biodiesel Impacts on Exhaust Emissions*

Pollutants required for toxic reporting: TACs w/o Risk Factor. Current as of update date.

Compounds Tested for but	

Diesel Combustion Factors

	external combustion	internal combust
Pollutant	Emissions (lb 1000 gal)	
benzene	0 0044	0.1863
formaldehyde	0.3506	1.7261
PAH's (including naphthalene;	0.0498	0.0559
naphthalene	0 0053	0.0197
acetaldehyde	0.3506	0.7833
acrolein	0 3506	0.0339
1.3-butadiene	0 0148	0.2174
chlorobenzene	0.0002	0.0002
dioxins	ND	ND
furans	ND	ND
propylene	0.0100	0.4670
hexane	0.0035	0.0269
toluene	0 0044	0.1054
xylenes	0.0016	0.0424
ethyl benzene	0.0002	0.0109
hydrogen chloride	0.1863	0.1863
arsenic	0 0016	0.0016
beryllium	ND	ND
cadmium	0.0015	0.0015
total chromium	0 0006	0 0006
hexavalent chromium	0 0001	0.0001
copper	0.0041	0.0041
lead	0 0083	0.0083
manganese	0.0031	0.0031
mercury	0.0020	0.0020
nickel	00039	0.0039
selenium	0 0022	0.0022
zinc	0.0224	0.0224

ND - not detected

Appendix B

Biological Evaluation

Biological Evaluation

HOMER LLC

THREE BASINS PROJECT

NOVEMBER 10, 2021

Jacob A. Rogers, Biologist
PROVOST & PRITCHARD CONSULTING GROUP | 455 W. FIR ST, CLOVIS CA 93611

EST 196
PROVOST&
PRITCHARE
CONSULTING GROUI
An Employee Owned Compar

Table of Contents

List of Figures

List of Tables

List of Appendices

I. Introduction

Project Description

The following technical report, prepared by Provost & Pritchard Consulting Group (Provost & Pritchard), in compliance with the California Environmental Quality Act (CEQA) includes a description of the biological resources present or with potential to occur within the proposed Three Basins Project (Project) and surrounding areas, and evaluates potential Project-related impacts to those resources.

Homer LLC (Homer) is a landowner within the district boundary of Porterville Irrigation District (PID). Homer operates permanent recharge facilities within PID in compliance with the *Policy Principles for Porterville Irrigation District Landowner Groundwater Recharge Program*. The Project includes the use of two existing basins, the creation of a new basin, and a pipeline to bring water from the Friant-Kern Canal to the basins for groundwater recharge.

The Project is located west of the City of Porterville, Tulare County, California. Specifically, the Project would primarily bank water that is periodically available from the Friant Division of the Central Valley Project and from the Tule River. Currently there are two existing groundwater recharge facilities named Burns Basin and Los Robles Basin and an additional property was purchased to provide an additional basin named Jones Corner Basin. The Jones Corner Basin is planned to become a permanent groundwater recharge basin, with a new 4,000-foot pipeline to bring water from the Friant-Kern Canal into Jones Corner Basin. As illustrated in Figure 3, the Project Area of Potential Effect (APE) includes approximately 11 acres for the Burns Basin, 13 acres for the Los Robles Basin, 58 acres for the Jones Corner Basin, and 20 acres for the Jones Corner Pipeline, totaling 102 acres of land including a 50-foot buffer around the APE.

Report Objectives

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

This report addresses issues related to the following:

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

Therefore, the objectives of this report are:

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

Study Methodology

A reconnaissance-level field survey of the APE was conducted on June 10, 2021, with a follow up survey on September 23, 2021, by Provost & Pritchard biologist, Jacob Rogers. The surveys consisted of walking through and driving along the APE while identifying and noting land uses, biological habitats and communities, and plant and animal species encountered, and was assessed for suitable habitats of various sensitive species.

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

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

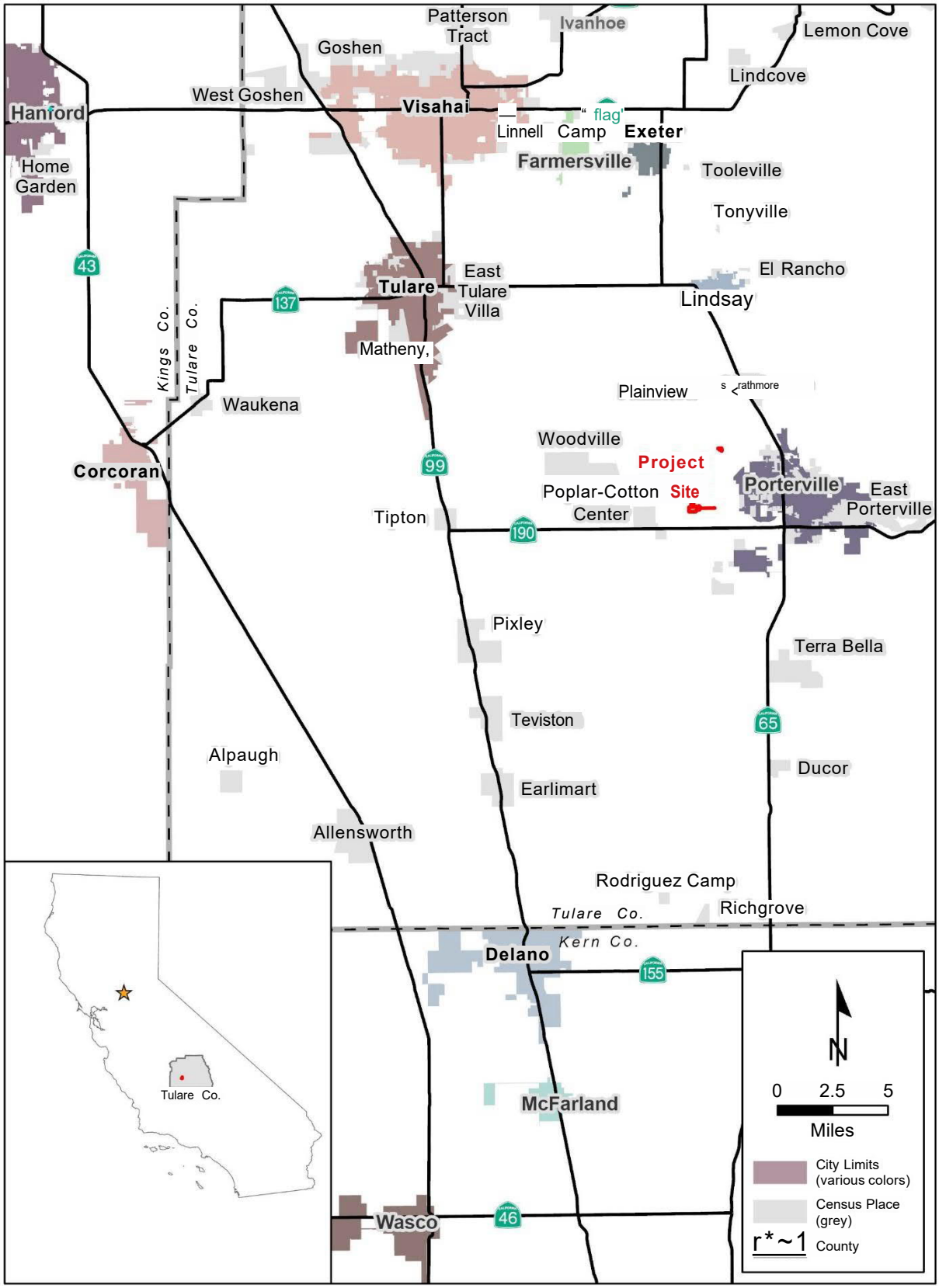


Figure 1. Regional Location

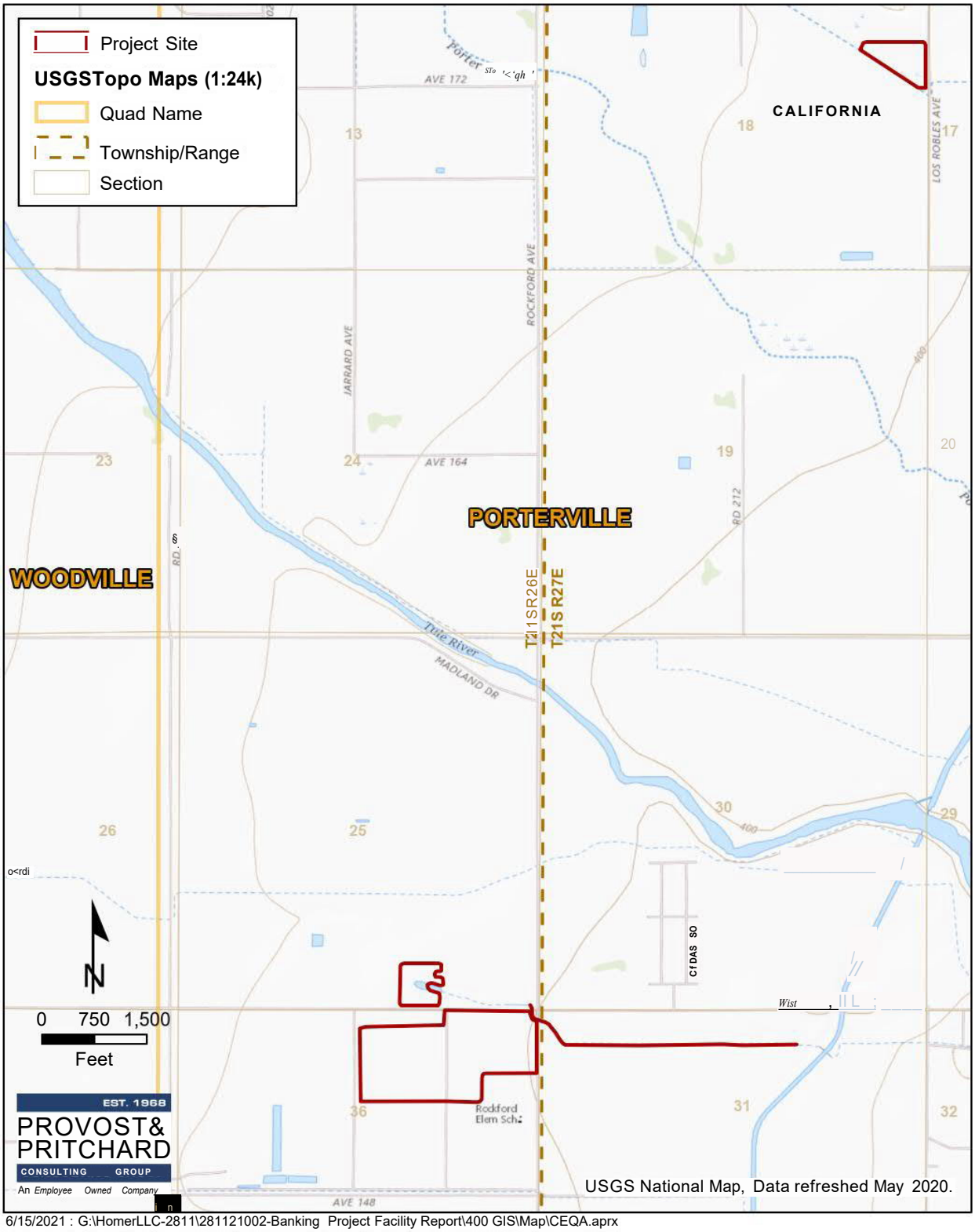


Figure 2. Topographic Quadrangle Map

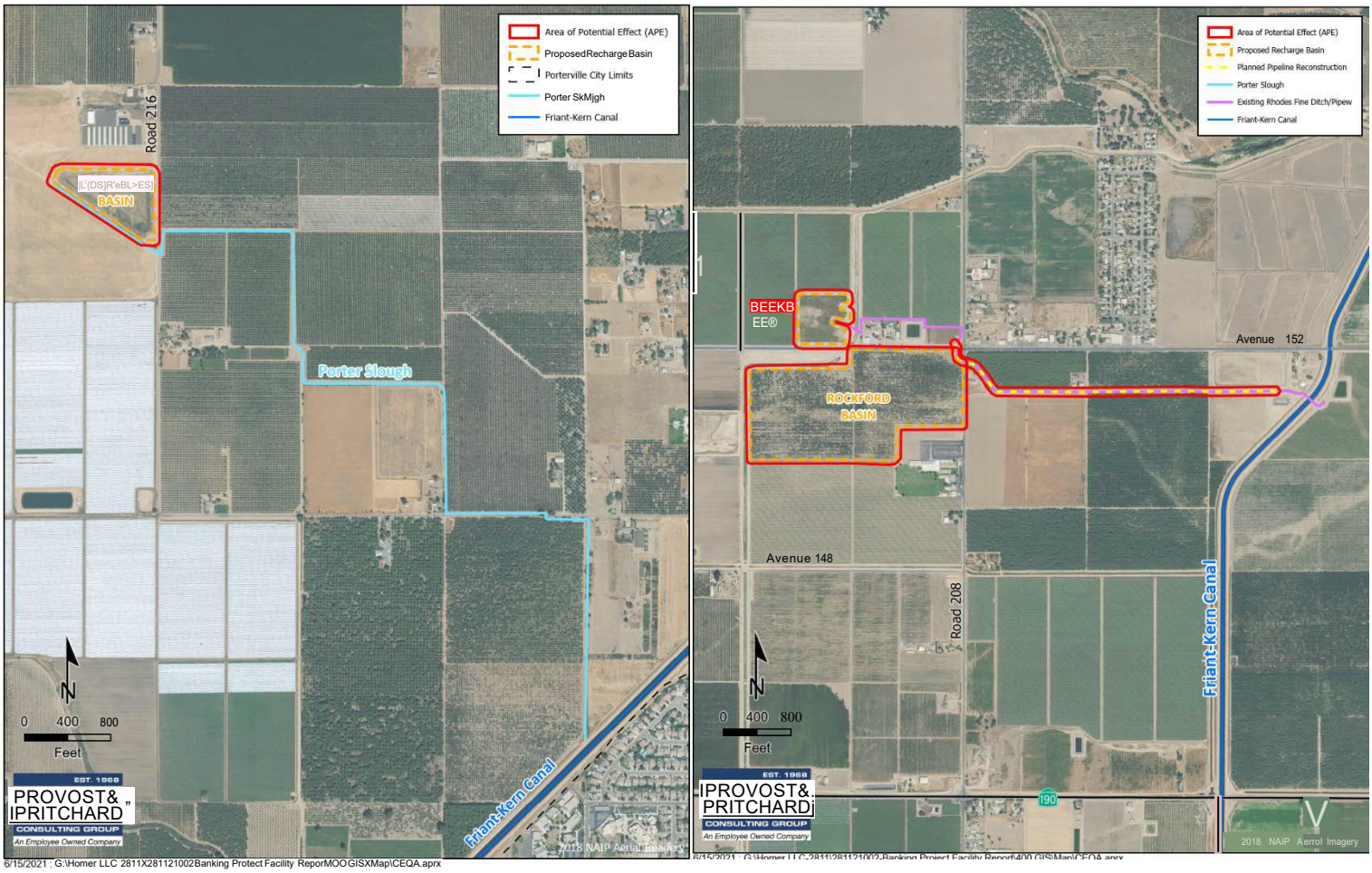


Figure 3. Area of Potential Effect

II. Existing Conditions

Regional Setting

The Project is located in the County of Tulare, near Porterville, CA (see Figures 1 and 2). This area is within the San Joaquin Valley and lies west of the foothills of the Sierra Nevada Mountain Range. The topography is generally level with the underlying rock formations of sandstone and is located near an active portion of the San Andreas Fault.

Like most of California, Tulare County experiences a Mediterranean climate. Warm, dry summers are followed by cool, moist winters. Summer temperatures range between 70- and 80-degrees Fahrenheit (F), but often exceeds 90-degrees F in the upper reaches of the county. Winter minimum temperatures are near 40-degrees F. Drier parts of the county get less than 5 inches of rain annually, and the higher and wetter parts get more than 60 inches annually. Near Porterville the average annual precipitation is approximately 12 inches, falling mainly from October to April.

The APE lies within the Elk Bayou watershed; Hydrologic Unit Code (HUC): 1803000608 and encompasses three subwatersheds: Town of Poplar, Old Channel Tule River, and Middle Elk Bayou; HUCs: 180300122101, 180300061001, and 180300060804, respctively.

The principal drainage comes from the mainstem of the Tule River. Rainfall events from the west slopes of the Sierra Nevada Mountain Range, feed into Lake Success, where the north, middle, and south forks of the Tule River meet. Downstream of Lake Success and the Success Dam, the Tule River flows west through the City of Porterville. There are no water sources that run through or are located within the APE, however the APE borders the Fraint-Kern Canal, which will feed the Jones Corner Pipeline and terminate at the Jones Corner Basin.

Photographs of the APE and vicinity are available in Appendix A at the end of this document.

Project Site

Agricultural/Ruderal

As illustrated in Figure 3, the Project includes the Burns, Los Robles, and Jones Corner Basins, as well as the Jones Corner Pipeline. The APE is located north of Avenue 144, south of Avenue 184, east of Road 192, and west of Westwood Street near Porterville, California. The APE is primarily surrounded by agricultural fields at all three basins and the pipeline route. Residential areas of the unincorporated communities of Jones Corner and Nanceville are adjacent to the Jones Corner and Burns Basins, while residential areas of Porterville are approximately 1.3 miles from the Los Robles Basin.

The Burns Basin is dominated by bare ground, loose soil, and sparse vegetation. Vegetation within the Burns Basin is comprised of Bermuda grass (*Cynodon dactylon*), prickly lettuce (*Lactuca serriola*), and summer cypress (*Bassia scoparia*). The survey of the Burns Basin resulted in the identification of wildlife species including California ground squirrel (*Otospermophilus beecheyi*), Great Blue Heron (*Ardea herodias*), Mourning Dove (*Zenaida macroura*), Red-tailed Hawk (*Buteo jamaicensis*), and western fence lizard (*Sceloporus occidentalis*).

The Los Robles Basin is also dominated by bare ground, loose soil, and sparse vegetation. Vegetation within the Los Robles Basin is comprised of Bermuda grass, prickly lettuce, and Jersey cudweed (*Helichrysum luteoalbum*). Wildlife observations within the Los Robles Basin included American Crow (*Corvus brachyrhynchos*), California ground squirrel, House Finch (*Haemorhous mexicanus*), and Red-tailed Hawk.

The Jones Corner Basin was a former agricultural field comprised of 58 acres of walnut trees (*Juglans regia*) and now is dominated by great brome (*Bromus diandrus*), prickly lettuce, and sacred datura (*Datura wrightii*). The Jones Corner Basin was surveyed twice; before and after the removal of agricultural trees (June 10, 2021, and September 23, 2021). At the time of the second survey, the walnut trees were chipped and removed. Connected to the Jones Corner Basin is the Jones Corner Pipeline, which runs from the eastern boundary of the APE, between agricultural fields, to the Friant-Kern Canal. Wildlife observations of both surveys within the Jones Corner Basin and Jones Corner Pipeline included California ground squirrel, Mourning Dove, and Northern Mockingbird (*Mimus polyglottos*). Representative photographs of all three basins at the time of the survey are presented in Appendix A at the end of this document.

The Jones Corner Pipeline portion of the Project borders and will be drawing water from the Friant-Kern Canal. The canal and its habitat bordering the APE was intensively managed. The banks were concrete, and no vegetation occurred along the canal within the APE. Generally, canal habitats host species of rushes (*Juncus* spp.), cattails (*Typha* spp.), and grasses. Wildlife within canals is often comprised of freshwater fishes, amphibians, reptiles, and waterbirds. Occasionally, aquatic mammal species such as muskrats (*Ondatra zibethicus*) and North American beavers (*Castor canadensis*) are observed within canals. At the time of the survey, no wildlife was observed utilizing the canal habitat.

During the survey, many ground burrows were observed throughout the APE. Due to the size of openings and lack of markings around the structures (e.g., scat, footprints, and tail drags), it was determined that the burrows were likely created by California ground squirrels and Botta's pocket gophers (*Thomomys bottae*) and does not appear the burrows were being utilized by special-status mammals such as Tipton kangaroo rat (*Dipodomys nitratoides nitratoides*) and San Joaquin kit fox (SJKF) (*Vulpes macrotis mutica*). A single den possibly large enough to support SJKF was observed near the southwest edge of Jones Corner Basin but did not have any signs of SJKF activity such as scat or tracks, and lack of multiple entrances. Further, SJKF has not been observed in the region in over 30 years. Therefore, SJKF mitigation measures are not recommended.

Within the entire APE, overall vegetation was sparse and the lack of vegetation and heavy disturbance within the APE offer very little value to wildlife. Mitigation measures designed to avoid impacts to special status species and associated habitat, though minimal, are discussed in Section III.

Soils

Four soil mapping units representing four soil types were identified within the APE. The soils are displayed with their core properties in the table below, according to the Major Land Resource Area of California (MLRA) 19 map area. All four soils are primarily used for agriculture in the form of irrigated cropland, row crops, or rangeland, and naturally feature sparse vegetation consisting of annual grasses and forbs in uncultivated areas.

Table 1. List of Soils and Main Properties within APE

Soil	*Soil Map Unit*	*Percent of APE*	*Hydric Unit*	*Hydric Minor Units*	*Drainage*	*Permeability*	*Runoff*
Exeter	Exeter loam, 0 to 2 percent slopes	11.9%	No	Yes	Moderately well drained	Moderately slow permeability	Medium runoff
Nord	Nord fine sandy loam, 0 to 2 percent slopes	54.2%	No	Yes	Well drained	Moderate permeability	Negligible runoff
Tagus	Tagus loam, 0 to 2 percent slopes	27.5%	No	No	Well drained	Moderate permeability	Low runoff
Tujunga	Tujunga loamy sand, 0 to 2 percent slopes	6.4%	No	Yes	Somewhat excessively drained	Moderate permeability	Negligible runoff

None of the major soil mapping units were identified as hydric; however, three of the four minor soil mapping units are considered hydric. Hydric soils are defined as soils that are saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions such that under sufficiently wet conditions, hydrophytic vegetation can be supported.

Natural Communities of Special Concern

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

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

Designated Critical Habitat of the APE

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

Wildlife Movement Corridors

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

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

Special Status Plants and Animals

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

A thorough search of the CNDDB for published accounts of special status plant and animal species was conducted for the *Porterville* 7.5-minute quadrangle that contains the Project site in its entirety, and for the eight surrounding quadrangles: *Woodville, Sausalito School, Ducor, Fountain Springs, Success Dam, Frazier Valley, Lindsay,* and *Cairns Corner*. These species, and their potential to occur within the APE, are listed in **Table 2 and Table 3** on the following pages. Raw data obtained from CNDDB is available in **Appendix B** at the end of this document. All relevant sources of information, as discussed in the **Study Methodology** section of this report (above), were used to determine if any special status species are known to be within the Project APE. **Figure 2** shows the Project's 7.5-minute quadrangle, according to United States Geological Survey Topographic Maps.

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

Species	*Status*	*Habitat*	*Occurrence on Project Site*
American badger (*Taxidea taxus*)	CSC	Grasslands, savannas, and mountain meadows near timberline are preferred. Most abundant in drier open spaces of shrub and grassland. Burrows in soil.	**Unlikely**. The site is too heavily disturbed and less than marginal foraging is available for this species. No confirmed observations have been recorded in the region.
Blunt-nosed leopard lizard (*Gambelia sila*)	FE, CE, CFP	Inhabits semi-arid grasslands, alkali flats, low foothills, canyon floors, large washes, and arroyos, usually on sandy, gravelly, or loamy substrate, sometimes on hardpan. Often found where there are abundant rodent burrows in dense vegetation or tall grass. Cannot survive on lands under cultivation. Known to bask on kangaroo rat mounds and often seeks shelter at the base of shrubs, in small mammal burrows, or in rock piles. Adults may excavate shallow burrows but rely on deeper pre-existing rodent burrows for hibernation and reproduction.	**Unlikely**. Numerous rodent burrows were observed throughout the survey area, but the vegetation to support this species is not present. There have been no observations of this species in the region in nearly 50 years.

Species	*Status*	*Habitat*	*Occurrence on Project Site*
California Condor (*Gymnogyps californianus*)	CSC	Typically nests in cavities in canyon or cliff faces, but has also been recorded nesting in giant sequoias in Tulare County. Requires vast expanse of open savannah, grassland, and/or foothill chaparral in mountain ranges of moderate altitude. Forages up to 100 miles from roost/nest site.	**Unlikely**. This species is known to occur in the vicinity of Tulare County. However, nesting, roosting, and foraging habitat are absent from the APE and the vicinity. At most, this species could occasionally fly over the Project site. There have been no observations of this species in the region in nearly 50 years.
Crotch bumblebee (*Bombus crotchii*)	CCE	Occurs throughout coastal California, as well as east to the Sierra-Cascade crest, and south into Mexico. Food plant genera include *Antirrhinum, Phacelia*, *Clarkia*, *Dendromecon*, *Eschscholzia*, and *Eriogonum*.	**Absent**. Flora required by this species are absent from the APE. The only regional recorded observation of this species occurred in foothill grassland habitat nearly 60 years ago.
Northern California legless lizard (*Anniella pulchra*)	CSC	Found primarily underground, burrowing in loose, sandy soil. Forages in loose soil and leaf litter during the day. Occasionally observed on the surface at dusk and night.	**Unlikely.** Habitats of the APE are marginally suitable for this species. The APE provides loose soil and sparse vegetation, but, at time of survey, lacks the required moisture to sustain this species. This species was recorded in the region in 2017, 7.5 miles east of APE.
Pallid bat (*Antrozus pallidus*)	CSC	Found in grasslands, chaparral, and woodlands, where it feeds on ground- and vegetation-dwelling arthropods, and occasionally takes insects in flight. Prefers to roost in rock crevices, but may also use tree cavities, caves, bridges, and other man-made structures.	**Unlikely**. Roosting habitat was absent onsite. Individuals could potentially roost in of structures in the vicinity, although frequent disturbance in this region would make this unlikely. At most, this species could forage on flying arthropods over the adjacent agricultural areas or canal.
San Joaquin kit fox (*Vulpes macrotis mutica*)	FE, CT	Underground dens with multiple entrances in alkali sink, valley grassland, and woodland in valleys and adjacent foothills.	**Unlikely**. A single potential, although abandoned, SJKF den was observed during the field survey. The nearest recorded observation occurred approximately two miles south of the APE in 1975. No observations of SJKF have been recorded in the region in 20 years.
Swainson's Hawk (*Buteo swainsoni*)	CT	Nests in large trees in open areas adjacent to grasslands, grain or alfalfa fields, or livestock pastures suitable for supporting rodent populations.	**Unlikely**. The APE lacks suitable nesting habitat for this species and provides marginal foraging habitat. There have been 4 regional recorded observations of this species in the last 20 years, including an observation 1.7 miles west of the APE in 2017. It is possible this species could fly over the project site, but nesting within the APE is very unlikely.

Species	*Status*	*Habitat*	*Occurrence on Project Site*
Tipton kangaroo rat (*Dipodomys nitratoides nitratoides*)	FE, CE	Burrows in soil. Often found in grassland and shrubland.	**Unlikely**. The disturbed habitats of the APE are generally unsuitable for this species. No definite burrow precincts or tail drags were observed during the field survey. There are no recorded observations of this species in the region in over 75 years.
Townsend's big-eared bat (*Corynorhinus townsendii*)	CSC	Occurs in a variety of habitats, but prefers cool, dark roost sites, and are often found in caves and mines. They roost in the open, hanging from walls and ceilings. Western populations typically forage on moths in areas of dense foliage.	**Absent**. Roosting and foraging habitat is absent from the APE. There have been two recorded observations of this species in the region: one historic (1941) observation at an unknown location near "Mine Hill," and one observation in 1988 at an unknown location, possibly within "Porterville Mine."
Tricolored Blackbird (*Agelaius tricolor*)	CT, CSC	Nests colonially near fresh water in dense cattails or tules, or in thickets of riparian shrubs. Forages in grassland and cropland. Large colonies are often found on dairy farm forage fields.	**Unlikely**. While nesting habitat is absent from the APE, adjacent agriculture could support foraging. The nearest recorded observation of this species occurred in 2014 over 10 miles northwest of the APE.
Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*)	FT	Lives in mature elderberry shrubs of the Central Valley and foothills. Adults are active March to June.	**Absent**. Suitable elderberry habitat is absent. Further, the Project is not located within the presumed current distribution of this species. In 2014 USFWS published findings suggesting that previous CNDDB observations of this species within Tulare County should be discounted.
Vernal pool fairy shrimp (*Branchinecta lynchi*)	FT	Occupies vernal pools, clear to tea-colored water, in grass or mud-bottomed swales, and basalt depression pools.	**Absent**. Suitable vernal pool habitat for this species is absent from the APE and surrounding lands. The APE is subject to frequent ground disturbance and therefore generally unsuitable for this species.
Western mastiff bat (*Eumops perotis californicus*)	CSC	Found in open, arid to semi-arid habitats, including dry desert washes, flood plains, chaparral, oak woodland, open ponderosa pine forest, grassland, and agricultural areas, where it feeds on insects in flight. Roosts most commonly in crevices in cliff faces but may also use high buildings and tunnels.	**Unlikely**. Suitable roosting habitat is absent from the APE and surrounding lands, and foraging habitat is less than marginal within the APE. There have been no regional recorded observations of this species in the last 25 years.

Species	*Status*	*Habitat*	*Occurrence on Project Site*
Western spadefoot (*Spea hammondii*)	CSC	Prefers open areas with sandy or gravelly soils, in a variety of habitats including mixed woodlands, grasslands, coastal sage scrub, chaparral, sandy washes, lowlands, river floodplains, alluvial fans, playas, alkali flats, foothills, and mountains. Vernal pools or temporary wetlands, lasting a minimum of three weeks, which do not contain bullfrogs, fish, or crayfish are necessary for breeding.	**Unlikely**. Aquatic habitat required by this species is absent from the APE. The disturbed habitats of the APE are also unsuitable for this species. The nearest recorded observation occurred 10 miles northwest of the APE in 2010.

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

Species	*Status*	*Habitat*	*Occurrence on Project Site*
Alkali-sink goldfields (*Lasthenia chrysantha*)	CNPS 1B	Found in vernal pool and wet saline flat habitats. Occurrences documented in the San Joaquin and Sacramento Valleys at elevations below 656 feet. Blooms February – April.	**Unlikely**. Vernal pool habitat is absent from the APE. The single regional recorded observation occurred more than 20 years ago.
Brittlescale (*Atriplex depressa*)	CNPS 1B	Found in the San Joaquin Valley and Sacramento Valley in alkaline or clay soils, typically in meadows or annual grassland at elevations below 1,050 feet. Sometimes associated with vernal pools. Blooms June – October.	**Unlikely**. The disturbed habitats of the APE are unsuitable for this species. The single regional recorded observation of this species occurred more than 50 years ago.
Calico monkeyflower (*Diplacus pictus* / *Mimulus pictus* / *Eunanus pictus*)	CNPS 1B	Found in the Sierra Nevada foothills and the Tehachapi mountains in bare, sunny, shrubby areas, and around granite outcrops within foothill woodland communities at elevations between 450 and 4,100 feet. Blooms March – May.	**Absent**. Habitats required by this species are absent from the project sites. The Project site is outside of the elevational range of this species.
California alkali grass (*Puccinellia simplex*)	CNPS 1B	Found in the San Joaquin Valley and other parts of California in saline flats and mineral springs within valley grassland and wetland-riparian communities at elevations below 3,000 feet. Blooms March – May.	**Absent**. Suitable habitat required by this species is absent from the APE and surrounding lands. Has not been observed in region in 20 years.

Species	*Status*	*Habitat*	*Occurrence on Project Site*
California jewelflower (*Caulanthus californicus*)	FE, CE, CNPS 1B	Found in the San Joaquin Valley and Western Transverse Ranges in sandy soils. Occurs on flats and slopes, generally in non-alkaline grassland at elevations between 230 feet and 6,100 feet. Blooms February – April.	**Absent**. The disturbed habitats of the Project site are unsuitable for this species. Has not been observed in over 30 years. All regional observations list this species as "Possibly Extirpated" from the area.
Chaparral ragwort (*Senecio aphanactis*)	CNPS 2B	Found in chaparral, cismontane woodland, and coastal scrub, typically within drying alkaline flats at elevations between 65 feet and 2,800 feet. Blooms February – May.	**Absent**. The disturbed habitats of the Project site are unsuitable for this species. There have been no regional recorded observations of this species on the valley floor.
Earlimart orache (*Atriplex cordulata var. erecticaulis*)	CNPS 1B	Found in the San Joaquin Valley in saline or alkaline soils, typically within valley and foothill grassland at elevations below 375 feet. Blooms August – September.	**Absent**. The disturbed habitats of the Project site are unsuitable for this species. The only recent observation of this species in the vicinity was 9.5 miles northwest of the site in 2010. Suitable grassland habitat is absent from the APE.
Keck's checkerbloom (*Sidalcea keckii*)	FE, CNPS 1B	Occurs in cismontane woodland, valley and foothill grassland, typically on grassy slopes in clay soils at elevations between 275 feet and 1,650 feet. Blooms April – May.	**Absent**. The disturbed habitats of the Project site are unsuitable for this species. There have been no regional recorded observations of this species on the valley floor. Considered extirpated from region.
Lesser saltscale (*Atriplex minuscula*)	CNPS 1B	Found in the San Joaquin Valley in sandy, alkaline soils in alkali scrub, valley and foothill grassland, and alkali sink communities at elevations below 750 feet. Blooms April – October.	**Unlikely**. The disturbed habitats of the APE are unsuitable for this species. The only regional recorded observation of this species is from 2010 approximately 9.5 miles northwest of the APE in high-quality habitat.
Lost Hills crownscale (*Atriplex coronata var. vallicola*)	CNPS 1B	Found in the San Joaquin Valley in dried ponds and alkaline soils in alkali scrub, valley and foothill grassland, and vernal pools at elevations below 2,900 feet. Blooms April – September.	**Absent**. The disturbed habitats of the APE are unsuitable for this species. This species has not been observed in the region in over 50 years.

Species	*Status*	*Habitat*	*Occurrence on Project Site*
Madera leptosiphon (*Leptosiphon serrulatus*)	CNPS 1B	Found in openings in foothill woodland, often yellow-pine forest, and chaparral at elevations between 1,000 feet and 4,300 feet. Blooms April – May.	**Absent**. The disturbed habitats of the Project site are unsuitable for this species. The APE is outside the current known elevational range for this species. There have been no regional recorded observations of this species on the valley floor.
Recurved larkspur (*Delphinium recurvatum*)	CNPS 1B	Occurs in poorly drained, fine, alkaline soils in grassland and alkali scrub communities at elevations between 100 feet and 2,600 feet. Blooms March – June.	**Unlikely**. The disturbed habitats of the APE are unsuitable for this species. This species has not been observed in the region in over 10 years.
San Joaquin adobe sunburst (*Pseudobahia peirsonii*)	FT, CE, CNPS 1B	Found in the San Joaquin Valley and the Sierra Nevada Foothills in bare dark clay soils in valley and foothill grassland and cismontane woodland communities at elevations between 325 feet and 2,950 feet. Blooms March – May.	**Unlikely**. The disturbed habitats of the Project site are likely unsuitable for this species. Suitable soils and habitats required by this species are absent from the APE. However, it was observed in the region twice in 2016, 9.5 miles away.
San Joaquin woollythreads (*Monolopia congdonii*)	FE, CNPS 1B	Occurs in the San Joaquin Valley in sandy soils on alkaline or loamy plains in valley and foothill grassland and alkali scrub communities at elevations between 180 feet and 2,750 feet. Blooms February – May.	**Unlikely**. Suitable habitat is present for this species, however it has not been observed in over 100 years and is listed as "Possibly Extirpated".
Shining navarretia (*Navarretia nigelliformis ssp. radians*)	CNPS 1B	Found in cismontane woodland and valley and foothill grassland communities, sometimes in vernal pools. Occurs at elevations between 200 feet and 3,200 feet. Blooms May – July.	**Unlikely**. The disturbed habitats of the APE are unsuitable for this species. This species was observed in the region in 2016, 9.5 miles away.
Spiny-sepaled button-celery (*Eryngium spinosepalum*)	CNPS 1B	Found in the Sierra Nevada Foothills and the San Joaquin Valley. Occurs in vernal pools, swales, and roadside ditches. Often associated with clay soils in vernal pools within grassland communities. Occurs at elevations between 50 feet and 4,160 feet. Blooms April – July.	**Unlikely**. The disturbed habitats of the APE are unsuitable for this species. This species was observed in 2017, 9.5 miles northwest of APE.

Species	*Status*	*Habitat*	*Occurrence on Project Site*
Springville clarkia (*Clarkia springvillensis*)	FT, CE, CNPS 1B	Endemic to the woodlands and grasslands of the southern portion of the Sierra Nevada range, occurring primarily in the Tule River watershed. Found at elevations between 690 feet and 7,400 feet. Blooms in May.	**Absent**. Suitable habitat required by this species is absent from the APE and surrounding lands. The Project site is near or outside of the elevational range for this species. This species was last observed in 2017 9 miles northwest of APE.
Striped adobe-lily (*Fritillaria striata*)	CT, CNPS 1B	Found in the Sierra Nevada foothills in adobe soil within valley grassland and foothill woodland communities at elevations below 3,300 feet. Blooms February – April.	**Unlikely**. The disturbed habitats of the APE, which consists almost entirely of orchard in agricultural production, are unsuitable for this species. Vernal pool and grassland habitats are absent from the Project site.
Subtle orache (*Atriplex subtilis*)	CNPS 1B	Found in the San Joaquin Valley in saline depressions in alkaline soils within valley and foothill grassland communities at elevations below 330 feet. Blooms June – October.	**Absent**. Suitable habitat required by this species is absent from the APE and surrounding lands. The Project site is near or outside of the elevational range for this species.
Vernal pool smallscale (*Atriplex persistens*)	CNPS 1B	Occurs in the San Joaquin Valley and Sacramento Valley in alkaline vernal pools at elevations below 375 feet. Blooms June – September.	**Absent**. Suitable habitat required by this species is absent from the APE and surrounding lands. This species was last observed over 35 years ago 8 miles from APE.

EXPLANATION OF OCCURRENCE DESIGNATIONS AND STATUS CODES

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

STATUS CODES

FE	Federally Endangered
FT	Federally Threatened
FPE	Federally Endangered (Proposed)
FPT	Federally Threatened (Proposed)
FC	Federal Candidate

CE	California Endangered
CT	California Threatened
CCT	California Threatened (Candidate)
CFP	California Fully Protected
CSC	California Species of Concern
CWL	California Watch List
CCE	California Endangered (Candidate)
CR	California Rare

CNPS LISTING

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

III. Impacts and Mitigation

Significance Criteria

CEQA

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

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

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

> "Substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of an endangered, rare or threatened species, or eliminate important examples of the major periods of California history or prehistory."

Relevant Goals, Policies, and Laws

Tulare County General Plan

The Tulare County General Plan sets forth the following goals and policies that protect biological resources and which have potential relevance to the Project's environmental review:

- The County will ensure the protection of environmentally sensitive wildlife and plant life, including those species designated as rare, threatened, and/or endangered by state and/or federal government, through compatible land use development.
- The County will limit or modify proposed development within areas that contain sensitive habitat for special status species and direct development into less significant habitat areas. Development in natural habitats will be controlled so as to minimize erosion and maximize beneficial vegetative growth.
- The County will protect riparian areas through habitat preservation, designation as open space or recreational land uses, bank stabilization, and development controls.
- The County will support the preservation and management of wetland and riparian plant communities for passive recreation, groundwater recharge, and wildlife habitats.
- The County will require buffer areas between development projects and significant watercourses, riparian vegetation, wetlands, and other sensitive habitats and natural communities. These buffers should be sufficient to assure the continued existence of the waterways and riparian habitat in their natural state.
- The County will support the conservation and management of oak woodland communities and their habitats.
- The County will support the establishment and administration of a mitigation banking program, including working cooperatively with Tulare County Association of Governments, federal, state, not-for-profit and other agencies and groups to evaluate and identify appropriate lands for protection and recovery of threatened and endangered species impacted during the land development process.
- The County will cooperate with state and federal wildlife agencies to address linkages between habitat areas.
- The County will coordinate with local, state, and federal habitat conservation planning efforts to protect critical habitat areas that support endangered species and other special-status species.

Porterville Area General Plan

The Porterville Area (Area) General Plan sets forth the following goals and policies that protect biological resources and which have potential relevance to the Project's environmental review:

- The Area will adopt habitat conservation regulations, including requirements and incentives to incorporate natural wildlife habitat features into new development and public landscapes, parks, and other public facilities. The regulations will require adequate mitigation measures (e.g., selective preservation, replanting, sensitive site planning, etc.) for all development that will adversely impact significant biological resources, consistent with state and federal law.
- The Area will protect and enhance the natural habitat features of the Tule River and open space corridors within the Planning Area through protection of sensitive habitat areas and special status species in new development site designs in the following order: 1) avoidance, 2) onsite mitigation, 3) offsite mitigation, and 4) purchase of mitigation credits.
- The Area will require assessments of biological resources prior to approval of any development within 300 feet of any creeks, sensitive habitat areas, or areas of potential sensitive status species. These

priorities are consistent with the CDFW guidelines. When habitat preservation on-site is not feasible (i.e., preserved parcels would be too small to be of any value), then off-site mitigation should occur.

- The Area will adopt regulations to promote water-conserving landscape plans, including the use of drought tolerant plants; require, as part of the proposed Tule River Corridor Plan, measures to protect and enhance riparian zones, natural areas and wildlife habitat qualities; and establish and maintain a buffer along the river where development will not occur, except as part of the parkway enhancement (e.g., trails and bikeways). For park improvements and commercial recreation (campground) proposals, the plan will require a buffer zone along the river in which no grading or construction activities will occur, except as needed for shoreline uses.
- The Area will identify and protect wildlife movement corridors that serve critical habitats to minimize wildlife-urban conflicts, as well as protect, revitalize, and expand Porterville's urban forest through public education, sensitive regulation, and a long-term financial commitment that is adequate to protect this resource.
- The Area will consult with all responsible agencies about wetland and vernal pool habitat potentially affected by development. This consultation will occur as part of the environmental review process; establish a "no net loss" policy for wetlands and vernal pools, including credits for land banking and off-site mitigation, and maintain a protection zone around wetlands, riparian corridors, and identified habit areas where development will not occur, except as part of a parkway enhancement program (e.g., trails and bikeways). Protection zones will be determined on case-by-case based on biological studies and field assessment.

Threatened and Endangered Species

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

Designated Critical Habitat

When species are listed as threatened or endangered, the USFWS often designates areas of "Critical Habitat" as defined by section 3(5)(A) of the federal Endangered Species Act (ESA). Critical Habitat is a term defined in the ESA as a specific geographic area that contains features essential for the conservation of a threatened or endangered species and that may require special management and protection. Critical Habitat is a tool that supports the continued conservation of imperiled species by guiding cooperation with the federal government. Designations only affect federal agency actions or federally funded or permitted activities. Critical Habitat does not prevent activities that occur within the designated area. Only activities that involve a federal permit, license, or funding and are likely to destroy or adversely modify Critical Habitat will be affected.

Migratory Birds

The Federal Migratory Bird Treaty Act (MBTA) (16 USC 703-712) prohibits killing, possessing, or trading in any bird species covered in one of four international conventions to which the United States is a party, except in accordance with regulations prescribed by the Secretary of the Interior. The name of the act is misleading, as it truly covers almost all bird's native to the United States, even those that are non-migratory. The MBTA

encompasses whole birds, parts of birds, and bird nests and eggs. Additionally, CDFW Code makes it unlawful to take or possess any non-game bird covered by the MBTA (Section 3513), as well as any other native non-game bird (Section 3800).

Birds of Prey

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

Nesting Birds

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

Wetlands and other "Jurisdictional Waters"

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

- All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
- All interstate waters including interstate wetlands;
- All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce;
- All impoundments of waters otherwise defined as waters of the U.S. under the definition;
- Tributaries of waters identified in paragraphs (a)(1)-(4) (i.e. the bulleted items above).

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

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

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

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

Potentially Significant Project-Related Impacts and Mitigation

Species identified as candidate, sensitive, or special status species in local or regional plans, policies, or regulations by CDFW or USFWS that have the potential to be impacted by the Project are identified below with corresponding mitigation measures. Swainson's Hawk and Tricolored Blackbird have potential to occur within the APE or vicinity.

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

The APE contains suitable nesting and/or foraging habitat for avian species, including those mentioned in **Table 2**. Ground nesting birds, such as Killdeer, could potentially nest on the bare ground or compacted dirt roads onsite; however, no nests were observed at the time of survey. Birds nesting within the APE during construction have the potential to be injured or killed by Project-related activities. In addition to the direct "take" of nesting birds, nesting birds within the Project site or adjacent areas could be disturbed by Project-related activities resulting in nest abandonment. Projects that adversely affect the nesting success of raptors and migratory birds or result in the mortality of individual birds is considered a violation of state and federal laws and are considered a potentially significant impact under CEQA.

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

> **Mitigation Measure BIO-1a (*Avoidance*):** The Project's construction activities will occur, if feasible, between September 16 and January 31 (outside of nesting bird season) to avoid impacts to nesting birds.
>
> **Mitigation Measure BIO-1b (*Pre-construction Surveys*):** If activities must occur within nesting bird season (February 1 to September 15), a qualified biologist will conduct pre-construction surveys for nesting birds 10 days prior to the start of construction. The survey will include the proposed work area

and surrounding lands within 50 feet. All raptor nests will be considered "active" upon the nest-building stage.

Mitigation Measure BIO-1c (*Establish Buffers*)*:* On discovery of any active nests near work areas, the biologist will determine appropriate construction setback distances based on applicable CDFW and/or USFWS guidelines and/or the biology of the species in question. Construction buffers will be identified with flagging, fencing, or other easily visible means, and will be maintained until the biologist has determined that the nestlings have fledged and are no longer dependent on the nest.

Less Than Significant Project-Related Impacts

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

All 15 of the regionally occurring special status animal species are considered absent from or unlikely to occur within the APE due to past or ongoing disturbance and/or the absence of suitable habitat. As explained in Table 2, the following species were deemed absent or unlikely to occur within the Project site: American badger, blunt-nosed leopard lizard, California Condor, Crotch bumblebee, Northern California legless lizard, pallid bat, San Joaquin kit fox, Swainson's Hawk, Tricolored Blackbird, Tipton kangaroo rat, Townsend's big-eared bat, Valley elderberry longhorn beetle, vernal pool fairy shrimp, western mastiff bat, and western spadefoot. Since it is highly unlikely that these species would occur onsite, implementation of the Project should have no impact on these 15 special status species through construction mortality, disturbance, or loss of habitat. Mitigation measures are not warranted.

Project-Related Impacts to Special Status Plant Species

All 20 of the special status plant species which have been documented in the Project vicinity are considered absent from or unlikely to occur within the APE due to past or ongoing disturbance and/or the absence of suitable habitat. The following species were deemed absent or unlikely to occur within the Project site: alkali-sink goldfields, brittlescale, Calico monkeyflower, California alkali grass, California jewelflower, chaparral ragwort, Earlimart orache, Keck's checkerbloom, lesser saltscale, Lost Hills crownscale, Madera leptosiphon, recurved larkspur, San Joaquin adobe sunburst, San Joaquin woollythreads, shining navarretia, spiny-sepaled button-celery, Springville clarkia, striped adobe-lily, subtle orache, and vernal pool smallscale.

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

There are no CNDDB-designated natural communities of special concern or riparian habitat recorded within the APE or surrounding lands. Mitigation is not warranted.

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

Potential Waters of the United States riparian habitat, typical wetlands, vernal pools, lakes, or streams, and other sensitive natural communities were not observed onsite at the time of the biological survey. The nearest water source is the Friant-Kern Canal located to the east of the APE. Undoubtedly, some native wildlife species use the APE in the absence of preferred habitat. However, because of the aforementioned disturbance and the presence of invasive species, the APE represents relatively low-quality habitat for native plants and animals. Friant-Kern Canal is an artificial water feature and is typically not regulated by USACE or RWQCB as a jurisdictional water.

Since construction will involve ground disturbance over an area greater than 1 acre, the Project proponent may be required to obtain a Construction General Permit under the Construction Storm Water Program administered

by the RWQCB. A prerequisite for this permit is the development of a SWPPP to ensure construction activities do not adversely affect water quality.

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

The APE does not contain features that would be likely to function as wildlife movement corridors. Furthermore, the Project is located in a region often disturbed by human activities related to agricultural production which would discourage dispersal and migration. Therefore, the Project will have no impact on wildlife movement corridors, and mitigation is not warranted.

Project-Related Impacts to Critical Habitat

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

Local Policies or Habitat Conservation Plans

The Project appears to be consistent with the goals and policies of the Tulare County and Porterville Area General Plans. There are no known Habitat Conservation Plans or a Natural Community Conservation Plan in the Project vicinity. Mitigation is not warranted.

IV. References

Baldwin, B., Goldman, D. H., Keil, D., Patterson, R., Rosatti, T., & Wilken, D. (2012). *The Jepson Manual; Vascular Plants of California, second edition*. Berkeley: University of California Press (Accessed November 2021).

Calflora. (2019). Retrieved from Calflora: Information on California Plants for Education, Research and Conservation: http://www.calflora.org/ (Accessed November 2021).

California Department of Fish and Wildlife. (2021, November). *California Natural Diversity Database*. (Accessed November 2021).

California Native Plant Society. (2019). Retrieved from Inventory of Rare and Endangered Vascular Plants of California: http://www.rareplants.cnps.org/ (Accessed November 2021).

DWR. (2021, November). Retrieved from Groundwater Basin Boundary Assessment Tool (BBAT): http://gis.water.ca.gov/app/bbat/ (Accessed November 2021).

eBird, Cornell Lab of Ornithology. (2019). Retrieved from eBird: An online database of bird distribution and abundance: https://ebird.org/ (Accessed November 2021).

EPA. (2021, November). Retrieved from Waters GeoViewer: https://www.epa.gov/waterdata/waters-geoviewer (Accessed November 2021).

Jepson Flora Project (eds.). (2019). Retrieved from Jepson eFlora: http://ucjeps.berkeley.edu/eflora/ (Accessed November 2021).

Nafis, G. (2019). Retrieved from CaliforniaHerps: A Guide to the Amphibians and Reptiles of California: http://www.californiaherps.com/ (Accessed November 2021).

National Wetlands Inventory (NWI) map. (2021). Retrieved from http://fws.gov/wetlands/Data/Mapper.html (Accessed November 2021).

NatureServe Explorer. (2021, November). *An Online Encyclopedia of Life*. Retrieved from http://explorer.natureserve.org/ (Accessed November 2021).

Porterville Area. (2015, February). Porterville Area Community Plan. Tulare County, CA (Accessed November 2021).

Shuford, W., & Gardali, T. (2008). *California Bird Species of Special Concern: A ranked assessment of species, subspecies, and distinct populations of birds of immediate conservation concern in California. Studies of Western Birds 1.* . Camarillo and Sacramento, CA: Western Field Ornithologists and California Department of Fish and Game. (Accessed November, 2021).

Smith, D., Ralls, K., Cypher, B., Clark Jr., H., Kelly, P., Williams, D., & Maldonado, J. (2006). Relative Abundance of Endangered San Joaquin Kit Foxes (Vulpes macrotis mutica) Based on Scat-detection Dog Surveys. *The Southwestern Naturalist 51* (*2*), 210-219.

Swainson's Hawk Technical Advisory Committee. (2000, May). Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley. CA: CDFW(Accessed November, 2021).

Tulare County. (2012, August). Tulare County General Plan: 2030 Update. Tulare County, CA (Accessed November 2021).

United States Army Corps of Engineers. (1987). *Corps of Engineers Wetlands Delineation Manual*. Department of the Army. (Accessed November, 2021).

United States Department of Agriculture, Natural Recources Conservation Service. (2019). *The Plants Database*. Retrieved from http://plants.sc.egov.usda.gov/java/(Accessed November, 2021).

United States Department of Agriculture, Natural Resources Conservation Service. (2019). *Custom Soil Resources Report, California*. Retrieved from http://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx (Accessed November, 2021).

United States Fish and Wildlife Service. (1998). *Recovery Plan for Upland Species of the San Joaquin Valley, California* (Accessed November, 2021).

United States Fish and Wildlife Service. (2017). *Recovery Plan for the Giant Garter Snake* (*Thamnophis gigas*). Sacramento: U.S. Fish and Wlidlife Service, Pacific Southwest Region (Accessed November, 2021).

United States Fish and Wildlife Service. (2019). *Environmental Conservation Online System* (*ECOS*). Retrieved from https://ecos.fws.gov/ecp/ (Accessed November, 2021).

United States Fish and Wildlife Service. (2019). *Information on Planning and Consultation* (*IPaC*). Retrieved from https://ecos.fws.gov/ipac/ (Accessed November, 2021).

Appendix A: Photos of the Project Area

HOMER LLC

THREE BASINS PROJECT

Photograph 1

Photograph was taken facing southwest. Photograph shows overview of Burns Basin from northeast corner of the APE.

Photograph 2

Photograph was taken facing southeast. Photograph shows overview of Burns Basin from northwest corner of the APE.

Photograph 3

Photograph was taken facing northwest. Photograph shows overview of Burns Basin from southeast corner of the APE.

Photograph 4

Photograph was taken facing northeast. Photograph shows overview of Burns Basin from southwest corner of the APE.

Photograph 5

Photograph was taken facing north. Photograph shows a potential burrow from a CA ground squirrel or Botta's pocket gopher within the Burns Basin.

Photograph 6

Photograph was taken facing southwest. Photograph shows large vehicle tracks within the Burns Basin, indicating heavy disturbance in the APE.

Photograph 7

Photograph was taken facing southwest. Photograph shows overview of Los Robles Basin from northeast corner of the APE.

Photograph 8

Photograph was taken facing east. Photograph shows overview of Los Robles Basin from northwest corner of the APE.

Photograph 9

Photograph was taken facing northwest. Photograph shows overview of Los Robles Basin from southeast corner of the APE.

Photograph 10

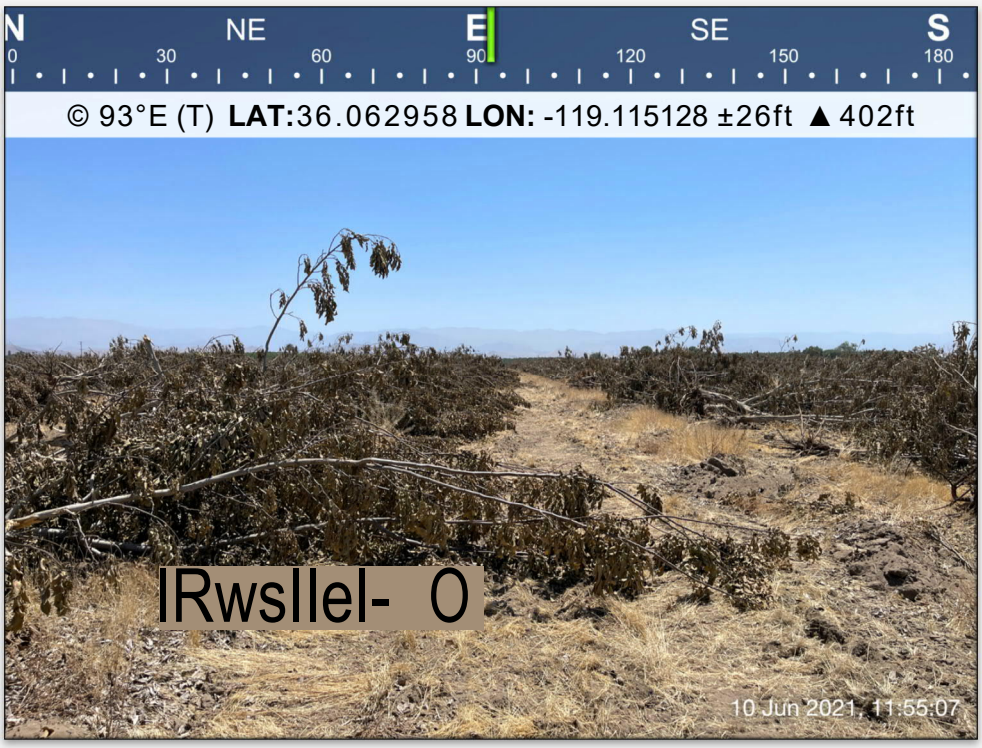
Photograph was taken facing northwest. Photograph shows remnants of a Botta's pocket gopher within Los Robles Basin. The rodent was likely eaten by a bird. These animals are known to create small burrows similar to CA ground squirrels.

Photograph 11

Photograph was taken facing southeast. Photograph shows overview of Rockford Basin, and the historic agricultural land, from northwest corner of the APE.

Photograph 12

Photograph was taken facing west. Photograph shows overview of Rockford Basin from the east boundary of the APE.



Photograph 13

Photograph was taken facing east. Photograph shows overview of Rockford Basin from the west boundary of the APE.

Photograph 14

Photograph was taken facing southwest. Photograph shows overview of Rockford Basin from the center of the APE.

Photograph 15

Photograph was taken facing north. Photograph shows overview of Rockford Basin after removal of walnut trees.

Photograph 16

Photograph was taken facing west. Photograph shows overview of Rockford Basin after removal of walnut trees.

Photograph 17

Photograph was taken facing north. Photograph shows agricultural land adjacent to the proposed pipeline terminating at the Rockford Basin, near the western boundary of the pipeline.

Photograph 18

Photograph was taken facing north. Photograph shows agricultural land adjacent to the proposed pipeline terminating at the Rockford Basin, near the center of the pipeline.

Photograph 19

Photograph was taken facing south. Photograph shows agricultural land adjacent to the proposed pipeline terminating at the Rockford Basin, near the eastern boundary of the pipeline.

Photograph 20

Photograph was taken facing east. Photograph shows agricultural land adjacent to the proposed pipeline terminating at the Rockford Basin, near the eastern boundary of the pipeline.

Photograph 21

Photograph was taken facing northwest. Photograph shows a potential SJKF den near the southwest corner of the Rockford Basin. Biologists determined this den inactive. Six-inch notebook for scale.

Photograph 22

Photograph was taken facing northwest. Photograph shows a potential SJKF den near the southwest corner of the Rockford Basin. Biologists determined this den inactive. Six-inch notebook for scale.

Appendix B: CNDDB 9-Quad Search

HOMER LLC

THREE BASINS PROJECT

Selected Elements by Common Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Porterville (3611911) OR Cairns Corner (3611922) OR Lindsay (3611921) OR Frazier Valley (3611828) OR Success Dam (3611818) OR Fountain Springs (3511888) OR Ducor (3511981) OR Sausalito School (3511982) OR Woodville (3611912))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
alkali-sink goldfields *Lasthenia chrysantha*	PDAST5L030	None	None	G2	S2	1B.1
American badger *Taxidea taxus*	AMAJF04010	None	None	G5	S3	SSC
blunt-nosed leopard lizard *Gambelia sila*	ARACF07010	Endangered	Endangered	G1	S1	FP
brittlescale *Atriplex depressa*	PDCHE042L0	None	None	G2	S2	1B.2
calico monkeyflower *Diplacus pictus*	PDSCR1B240	None	None	G2	S2	1B.2
California alkali grass *Puccinellia simplex*	PMPOA53110	None	None	G3	S2	1B.2
California condor *Gymnogyps californianus*	ABNKA03010	Endangered	Endangered	G1	S1	FP
California jewelflower *Caulanthus californicus*	PDBRA31010	Endangered	Endangered	G1	S1	1B.1
chaparral ragwort *Senecio aphanactis*	PDAST8H060	None	None	G3	S2	2B.2
Crotch bumble bee *Bombus crotchii*	IIHYM24480	None	Candidate Endangered	G3G4	S1S2	
Earlimart orache *Atriplex cordulata var. erecticaulis*	PDCHE042V0	None	None	G3T1	S1	1B.2
hoary bat *Lasiurus cinereus*	AMACC05030	None	None	G3G4	S4	
Hopping's blister beetle *Lytta hoppingi*	IICOL4C010	None	None	G1G2	S1S2	
Keck's checkerbloom *Sidalcea keckii*	PDMAL110D0	Endangered	None	G2	S2	1B.1
lesser saltscale *Atriplex minuscula*	PDCHE042M0	None	None	G2	S2	1B.1
Lost Hills crownscale *Atriplex coronata var. vallicola*	PDCHE04371	None	None	G4T3	S3	1B.2
Madera leptosiphon *Leptosiphon serrulatus*	PDPLM09130	None	None	G3	S3	1B.2
molestan blister beetle *Lytta molesta*	IICOL4C030	None	None	G2	S2	

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Morrison's blister beetle *Lytta morrisoni*	IICOL4C040	None	None	G1G2	S1S2	
Northern California legless lizard *Anniella pulchra*	ARACC01020	None	None	G3	S3	SSC
Northern Claypan Vernal Pool *Northern Claypan Vernal Pool*	CTT44120CA	None	None	G1	S1.1	
pallid bat *Antrozous pallidus*	AMACC10010	None	None	G4	S3	SSC
recurved larkspur *Delphinium recurvatum*	PDRAN0B1J0	None	None	G2?	S2?	1B.2
San Joaquin adobe sunburst *Pseudobahia peirsonii*	PDAST7P030	Threatened	Endangered	G1	S1	1B.1
San Joaquin kit fox *Vulpes macrotis mutica*	AMAJA03041	Endangered	Threatened	G4T2	S2	
San Joaquin pocket mouse *Perognathus inornatus*	AMAFD01060	None	None	G2G3	S2S3	
San Joaquin woollythreads *Monolopia congdonii*	PDASTA8010	Endangered	None	G2	S2	1B.2
shining navarretia *Navarretia nigelliformis ssp. radians*	PDPLM0C0J2	None	None	G4T2	S2	1B.2
spiny-sepaled button-celery *Eryngium spinosepalum*	PDAPI0Z0Y0	None	None	G2	S2	1B.2
Springville clarkia *Clarkia springvillensis*	PDONA05120	Threatened	Endangered	G2	S2	1B.2
striped adobe-lily *Fritillaria striata*	PMLIL0V0K0	None	Threatened	G1	S1	1B.1
subtle orache *Atriplex subtilis*	PDCHE042T0	None	None	G1	S1	1B.2
Swainson's hawk *Buteo swainsoni*	ABNKC19070	None	Threatened	G5	S3	
Sycamore Alluvial Woodland *Sycamore Alluvial Woodland*	CTT62100CA	None	None	G1	S1.1	
Tipton kangaroo rat *Dipodomys nitratoides nitratoides*	AMAFD03152	Endangered	Endangered	G3T1T2	S1S2	
Townsend's big-eared bat *Corynorhinus townsendii*	AMACC08010	None	None	G4	S2	SSC
tricolored blackbird *Agelaius tricolor*	ABPBXB0020	None	Threatened	G1G2	S1S2	SSC
valley elderberry longhorn beetle *Desmocerus californicus dimorphus*	IICOL48011	Threatened	None	G3T2	S3	
vernal pool fairy shrimp *Branchinecta lynchi*	ICBRA03030	Threatened	None	G3	S3	

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
vernal pool smallscale	PDCHE042P0	None	None	G2	S2	1B.2
Atriplex persistens						
western mastiff bat	AMACD02011	None	None	G4G5T4	S3S4	SSC
Eumops perotis californicus						
western spadefoot	AAABF02020	None	None	G2G3	S3	SSC
Spea hammondii						

Record Count: 42

Appendix C: NRCS Soils Report

HOMER LLC

THREE BASINS PROJECT

United States Department of Agriculture

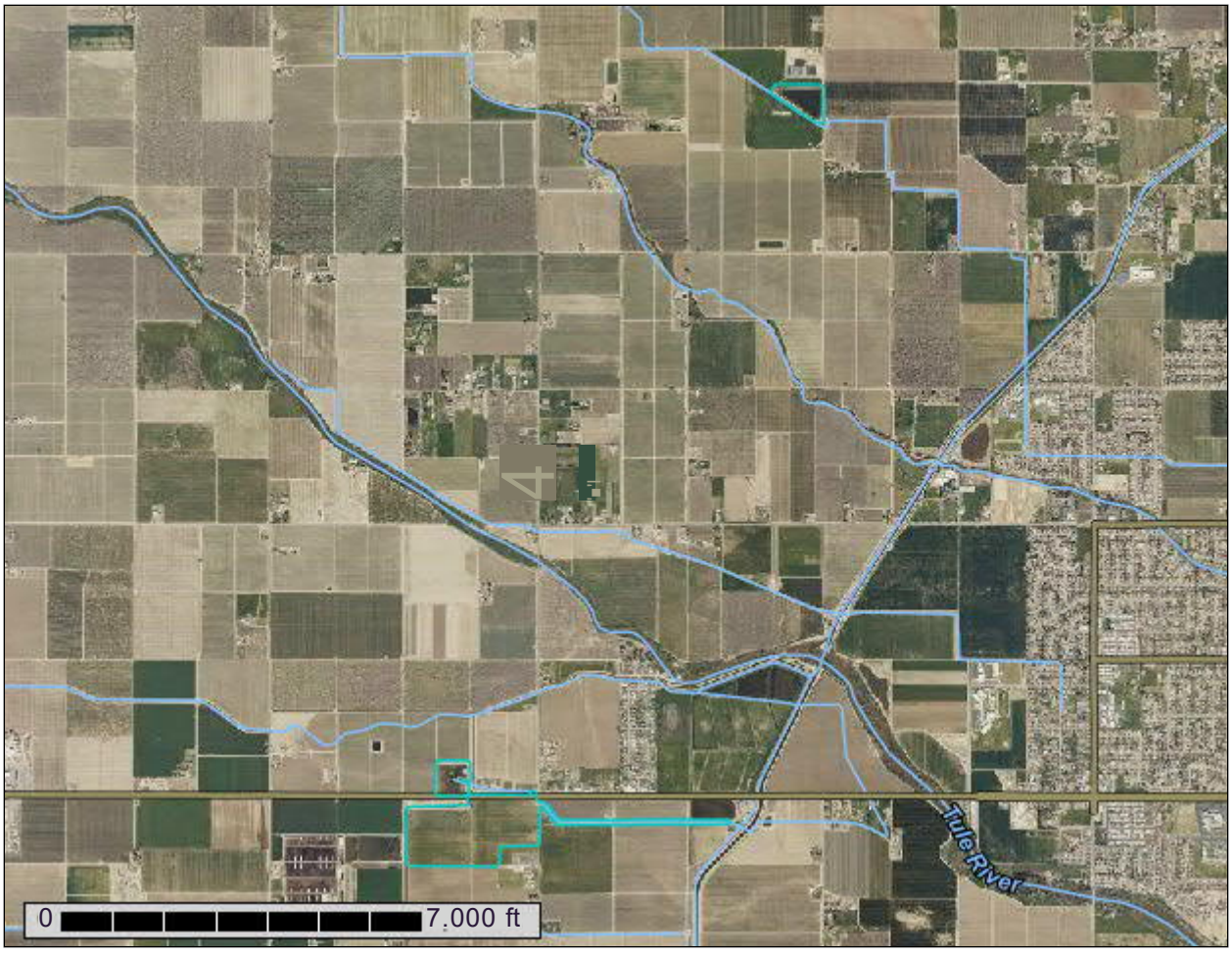
NRCS

Natural Resources Conservation Service

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

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

Three Basins soils



June 16, 2021

Preface

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

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

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

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

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

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

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

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

Contents

How Soil Surveys Are Made

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

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

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

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

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

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

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

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

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

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

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

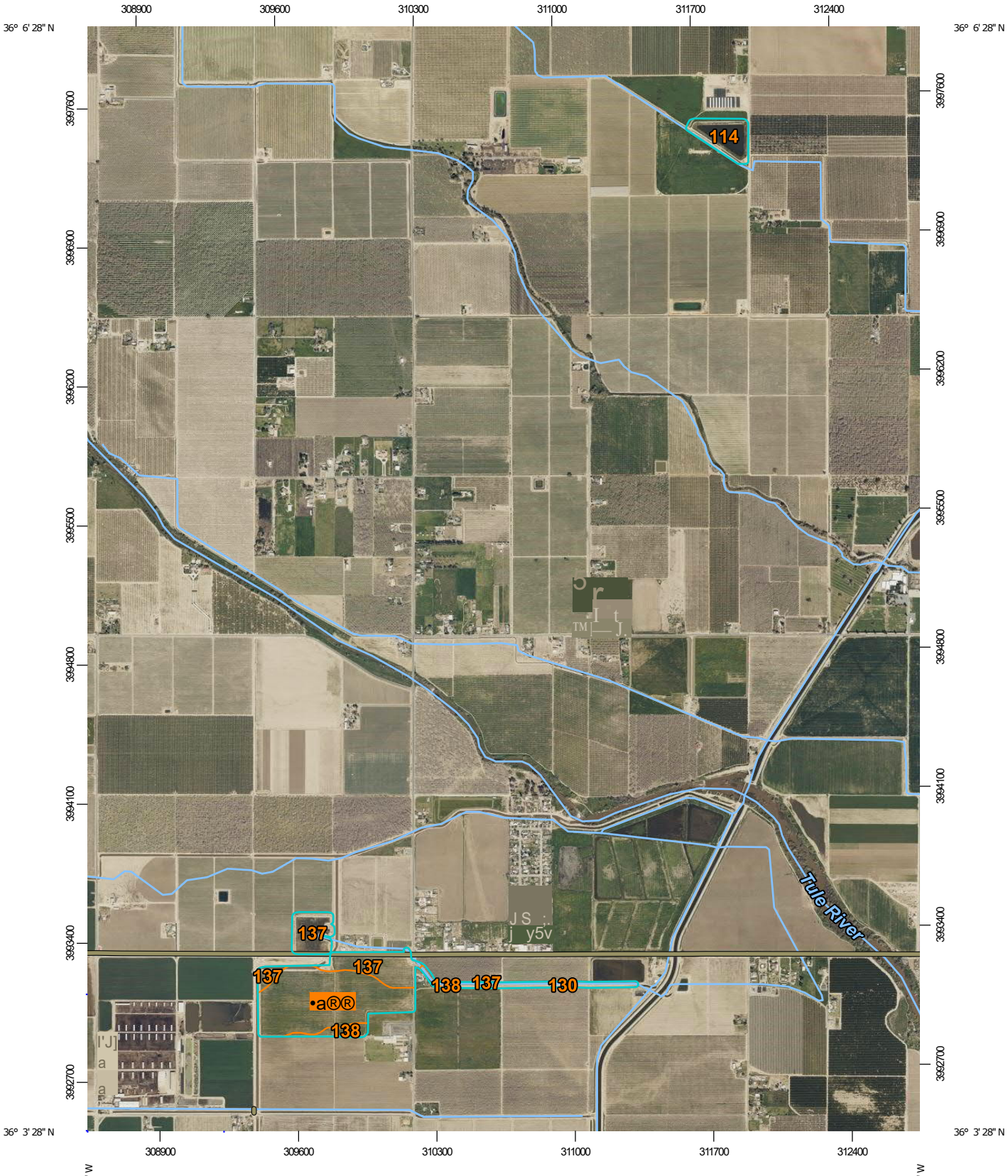
After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

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

Soil Map

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

Custom Soil Resource Report
Soil Map



Map Scale: 1:27,100 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 400 800 1600 2400

Feet: 0 1000 2000 4000 6000

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

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

Special Point Features

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

Water Features

- Streams and Canals

Transportation

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

Background

- Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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

Date(s) aerial images were photographed: Mar 17, 2019—Mar 24, 2019

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
114	Exeter loam, 0 to 2 percent slopes	12.1	11.9%
130	Nord fine sandy loam, 0 to 2 percent slopes	55.2	54.2%
137	Tagus loam, 0 to 2 percent slopes	28.0	27.5%
138	Tujunga loamy sand, 0 to 2 percent slopes	6.5	6.4%
Totals for Area of Interest		**101.8**	**100.0%**

Map Unit Descriptions

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

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

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

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

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

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

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

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

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

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

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

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

Tulare County, Western Part, California

114—Exeter loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: hp4j
Elevation: 250 to 570 feet
Mean annual precipitation: 8 to 12 inches
Mean annual air temperature: 63 to 64 degrees F
Frost-free period: 250 to 300 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Exeter, 0-2% slopes, and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Exeter, 0-2% Slopes

Setting

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

Typical profile

Ap - 0 to 9 inches: loam
Bt1 - 9 to 26 inches: sandy clay loam
Bt2 - 26 to 28 inches: clay loam
Btqm - 28 to 46 inches: indurated
2Bt - 46 to 72 inches: stratified very gravelly loamy coarse sand to gravelly loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: 20 to 40 inches to duripan
Drainage class: Moderately well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Low to moderately low (0.01 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Very rare
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water capacity: Low (about 4.4 inches)

Interpretive groups

Land capability classification (irrigated): 3s
Land capability classification (nonirrigated): 4s
Hydrologic Soil Group: C
Hydric soil rating: No

Minor Components

Hanford
Percent of map unit: 4 percent
Landform: Flood plains, alluvial fans
Hydric soil rating: No

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

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

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

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

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

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

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

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

Description of Nord

Setting

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

Typical profile

Ap - 0 to 11 inches: fine sandy loam
C1 - 11 to 38 inches: stratified sandy loam to loam
C2 - 38 to 50 inches: stratified loamy coarse sand to coarse sandy loam
2Btb - 50 to 72 inches: stratified sandy loam to silt loam

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches; More than 80 inches
Drainage class: Well drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Very rare
Frequency of ponding: None
Calcium carbonate, maximum content: 4 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 10.0
Available water capacity: Low (about 4.9 inches)

Interpretive groups

Land capability classification (irrigated): 1
Land capability classification (nonirrigated): 4c
Hydrologic Soil Group: B
Hydric soil rating: No

Minor Components

Hanford

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

Grangeville, saline-sodic

Percent of map unit: 3 percent
Landform: Flood plains, alluvial fans
Hydric soil rating: Yes

Tujunga

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

Akers

Percent of map unit: 2 percent
Landform: Fan remnants

Hydric soil rating: No

Tagus

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

Colpien

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

137—Tagus loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: hp58
Elevation: 230 to 400 feet
Mean annual precipitation: 9 to 12 inches
Mean annual air temperature: 63 to 64 degrees F
Frost-free period: 250 to 300 days
Farmland classification: Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season

Map Unit Composition

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

Description of Tagus

Setting

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

Typical profile

Ap - 0 to 17 inches: loam
Bk1 - 17 to 40 inches: loam
Bk2 - 40 to 63 inches: loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches

Frequency of flooding: Very rare
Frequency of ponding: None
Calcium carbonate, maximum content: 10 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 12.0
Available water capacity: Moderate (about 8.4 inches)

Interpretive groups

Land capability classification (irrigated): 1
Land capability classification (nonirrigated): 4c
Hydrologic Soil Group: B
Hydric soil rating: No

Minor Components

Tujunga

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

Hanford

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

Grangeville

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

Colpien

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

138—Tujunga loamy sand, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: hp59
Elevation: 210 to 520 feet
Mean annual precipitation: 10 to 12 inches
Mean annual air temperature: 63 to 64 degrees F
Frost-free period: 250 to 300 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

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

Description of Tujunga

Setting

Landform: Flood plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from granite

Typical profile

Ap - 0 to 14 inches: loamy sand
C - 14 to 70 inches: stratified coarse sand to loamy sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): High to very high (6.00 to 20.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Rare
Frequency of ponding: None
Available water capacity: Low (about 3.1 inches)

Interpretive groups

Land capability classification (irrigated): 3s
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: A
Hydric soil rating: No

Minor Components

Grangeville

Percent of map unit: 5 percent
Landform: Flood plains, alluvial fans
Hydric soil rating: Yes

Yettem

Percent of map unit: 4 percent
Landform: Flood plains, alluvial fans
Hydric soil rating: No

Akers, saline-sodic

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

Akers

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

References

American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.

American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

National Research Council. 1995. Wetlands: Characteristics and boundaries.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_054262

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053577

Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053580

Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.

United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.

United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374

United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf

Appendix D: IPaC Search

HOMER LLC

THREE BASINS PROJECT

Mammals

NAME	STATUS
SanJoaquin Kit Fox Vulpes macrotis m utica Wherever found	Endangered
Tipton Kangaroo Rat Dipodomys nitratoides n'tratoides Wherever found	Endangered

Reptiles

NAME	STATUS
Blunt-nosed Leopard Lizard Gambe ia siius Wherever found	Endangered
Giant Garter Snake Thamnophis gigas Wherever found	Threatened

Amphibians

NAME	STATUS
California Red-legged Frog Rana draytonii Wherever found	Threatened

Fishes

NAME	STATUS
Delta Smelt Hypomesus transpacific Wherever found	Threatened

Crustaceans

NAME	STATUS
Vernal Pool Fairy Shrimp Branchinecta lynch! Wherever found	Threatened

Flowering Plants

NAME	STATUS
Sanjoaquin Adobe Sunburst Pseudobahia personii Wherever found	Threatened
Springville Clarkia Clarkia springvillensis Wherever found	Threatened

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Appendix C

Cultural Resources Class III Inventory/Phase I Survey

CLASS III INVENTORY/PHASE I SURVEY, JONES CORNER, BURNS AND LOS ROBLES WATER BANK PROJECT, TULARE COUNTY, CALIFORNIA

Prepared for:

Ms. Amy M. Wilson
Provost & Pritchard Consulting Group
130 N. Garden Street
Visalia, CA 9329l-6362

Prepared by:

David S. Whitley, Ph.D., RPA

and

Robert Azpitarte, B.A.

ASM Affiliates, Inc.
20424 West Valley Blvd., Suite A
Tehachapi, California 93561

November 2021
PN 36510.04

TABLE OF CONTENTS

Chapter **Page**

LIST OF FIGURES

Page

LIST OF TABLES

Page

MANAGEMENT SUMMARY

An intensive Class III cultural resources inventory/Phase I survey was conducted for the Jones Corner, Burns and Los Robles Water Bank Project, Tulare County, California. The Project area is located west of the City of Porterville within the Porterville Irrigation District (PID). ASM Affiliates, Inc., conducted this study, with David S. Whitley, Ph.D., RPA, serving as principal investigator. The study was undertaken to assist with compliance with Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, and the California Environmental Protection Act (CEQA).

The proposed PID Project consists of the creation and use of three recharge basis/water banks, using one to be newly constructed and two existing basins. The new recharge basin will be employed with a pipeline, approximately 4,000 linear feet (lf) in length connecting to an existing siphon on the Friant Kern Canal (FKC). The horizontal Project area of potential effect (APE) was defined as all areas of potential ground-surface disturbance, comprising the proposed water banking basins and the pipeline route, totaling proximately 88 acres (ac). The vertical APE, consisting of the maximum depth of excavation, is 10-feet.

A records search of site files and maps was conducted at the Southern San Joaquin Valley Archaeological Information Center (IC), California State University, Bakersfield. A Sacred Lands File Request was also submitted to the Native American Heritage Commission (NAHC). Outreach letters and follow-up emails were sent to tribal organizations on the NAHC contact list to solicit any additional information about tribal cultural resources in the Project area. The records searches indicated that three previous studies had surveyed portions of the current Project APE but no cultural resources were known within it, and no sacred sites or tribal cultural resources were identified in or I the vicinity of the Project APE.

The Class III inventory/Phase I survey fieldwork was conducted with parallel transects spaced at 15-meter (m) intervals walked across the APE. A 15-m buffer was surveyed on both sides of the pipeline route. One newly identified cultural resource was discovered and recorded: a segment of the Rhodes Fine Ditch, which originally dates to 1869. Based on historical topographical quadrangles and aerial photographs, the ditch was realigned circa 1940 and again in the early 1980s and its water control systems (culverts, weirs, lift gates) have been modernized. The ditch thus lacks integrity of location, setting, materials, design and workmanship and is recommended as not eligible for listing on the National Register of Historic Places (NRHP) or the California Register of Historical Resources (CRHR) under any criteria. No other cultural resources were identified during the survey. A determination of No Adverse Effect/No Impact to significant or unique cultural resources is recommended for the Project.

1. INTRODUCTION AND REGULATORY CONTEXT

ASM Affiliates, Inc., was retained by the Provost and Pritchard Consulting Group to conduct an intensive Class III inventory/Phase I cultural resources survey for the Jones Corner, Burns and Los Robles Water Bank Project. The Project is located in the PID, west of the City Porterville, Tulare County, California (Figures 1 and 2). The study was undertaken to assist with compliance with Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, and the California Environmental Protection Act (CEQA). The investigation was conducted, specifically, to ensure that significant impacts or adverse effects to historical resources or historic properties do not occur as a result of project construction.

This current study included:

- A background records search and literature review to determine if any known cultural resources were present in the project zone and/or whether the area had been previously and systematically studied by archaeologists;
- An on-foot, intensive inventory of the study area to identify and record previously undiscovered cultural resources and to examine known sites; and
- A preliminary assessment of any such resources found within the subject property.

David S. Whitley, Ph.D., RPA, served as principal investigator and Robert Azpitarte, B.A., ASM Associate Archaeologist, conducted the fieldwork.

This document constitutes a report on the Class III inventory/Phase I survey. Subsequent chapters provide background to the investigation, including historic context studies; the findings of the archival records search; Native American outreach; a summary of the field surveying techniques employed; and the results of the fieldwork. We conclude with management recommendations for the study area.

1.1 PROJECT LOCATION

The Project involves three locations: the Jones Corner water bank and approximately 4000-lf of pipeline; the Burns water bank; and Los Robles water bank. All three locations are a few miles west of the City of Porterville, on the open flats of the San Joaquin Valley. The Jones Corner and Burns water banks are located on either side of Avenue 152 west of Jones Corner, a small commercial/industrial strip at the intersection of Avenue 152 and Road 208, south of the Tule River. The Jones Corner water bank is at about 400 feet (ft) above mean sea level (asml). It is bordered to the north by Avenue 152 and the Lower Tule River Intertie Canal, constructed in 2009, and to the east by Road 208. The Lower Tule River Intertie Canal also forms its western boundary, with farm fields further to the west and to the south. The pipeline will extend east from the northeast corner of the Jones Corner water bank, approximately following the route of the old Rhodes-Fine Ditch to an existing siphon on the west side of the Friant Kern Canal (FKC).

The Burns water bank is located north of an abandoned segment of the Rhodes-Fine Ditch, which itself parallels Avenue 152, at approximately 395-ft amsl. Farm fields are present to the east and

north of this basin, with a farm-house compound to the west. The Burns basin was constructed between 2014 and 2017 according to Google Earth imagery.

Los Robles water bank is located north of the Tule River and the Porter Sough at about 390-ft asml. It is bordered by Los Robles Avenue to the east, the Porter Slough Ditch to the southwest, and an agriculture equipment storage area to the north, with farm fields in the surrounding area. This basin was constructed between 2014 and 2017 based on Google Earth imagery. The current route of the Porter Slough Ditch adjacent to the water bank was constructed in 1969.

1.2 PROJECT DESCRIPTION AND APE

The proposed Project includes the construction of a new recharge basin and a pipeline, and the use of two existing basin. These Project components are as follows:

Jones Corner Water Bank (Planned)

The Jones Corner water bank APE will include 58-acres of permanent recharge basins. The Project would also replace approximately 4,000-lf of the current Rhodes-Fine Ditch with a pipeline to convey water via gravity to the location and allow for more reliable, higher flows to the Project. It is anticipated that the Project would primarily bank FKC and Tule River water. It is possible that the Project might bank water from other systems, but separate approvals would be required. The Project would use existing landowner wells in and outside of PID to recover banked water via exchange or in-ground transfer. No recovery from on-site wells is planned. The Project would receive water from the FKC via the Rhodes-Fine Ditch pipeline. When extra capacity is needed, temporary pumps and pipes from the Lower Tule River Intertie Canal would be placed along the eastern border of the water bank. The Project specifically includes:

- *Construction of 58 acres of permanent recharge basins;*
- *Construction of a 4,000-lf pipeline, which would replace a portion of the current Rhodes-Fine Ditch to convey water via gravity to the property to allow for more reliable, higher flows to the Project.*

Burns Water Bank (Existing)

The Burns water bank APE includes 8.8 acres of existing recharge basins on the Burns property, across the street from the Jones Corner water bank, north of Avenue 152. It is anticipated that the Project would primarily bank Friant and Tule River water. It is possible that the Project might bank water from other systems, but separate approvals would be required. The Project would use existing landowner wells in and outside of PID to recover banked water via exchange or in-ground transfer. No recovery from on-site wells is planned. When extra capacity is needed, or the electric pump is not functioning, temporary pumps and pipes from the Lower Tule River Intertie Canal would be placed along the eastern border of the water bank.

Los Robles Water Bank (Existing)

Los Robles water bank APE includes 8.5 acres of existing recharge basins on the Los Robles property, along the Porter Slough Ditch, west of Los Robles Ave. It is anticipated that the Project would primarily bank Friant and Tule River. Water. It is possible that the Project might bank water from other systems, but separate approvals would be required. The Project would use existing landowner wells in and outside of PID to recover banked water via exchange or in-ground transfer. No recovery from on-site wells is planned.

The horizontal Project area of potential effect (APE) was defined as all areas of potential ground-surface disturbance, including work, staging and lay-down areas. It totals proximately 88 acres (ac). The vertical APE, consisting of the maximum depth of excavation, is 10-feet.

1.3 REGULATORY CONTEXT

1.3.1 CEQA

CEQA is applicable to discretionary actions by state or local lead agencies. Under CEQA, lead agencies must analyze impacts to cultural resources. Significant impacts under CEQA occur when "historically significant" or "unique" cultural resources are adversely affected, which occurs when such resources could be altered or destroyed through project implementation. Historically significant cultural resources are defined by eligibility for or by listing in the California Register of Historical Resources (CRHR). In practice, the federal NRHP criteria (below) for significance applied under Section 106 are generally (although not entirely) consistent with CRHR criteria (see PRC § 5024.1, Title 14 CCR, Section 4852 and § 15064.5(a)(3)).

Significant cultural resources are those archaeological resources and historical properties that:

(A) Are associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

(B) Are associated with the lives of persons important in our past;

(C) Embody the distinctive characteristics of a type, period, region, or method of construction, or represent the work of an important creative individual, or possess high artistic values; or

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

Unique resources under CEQA, in slight contrast, are those that represent:

> An archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:
>
> (1) Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.
>
> (2) Has a special and particular quality such as being the oldest of its type or the best available example of its type.

(3) Is directly associated with a scientifically recognized important prehistoric or historic event or person (PRC § 21083.2(g)).

Preservation in place is the preferred approach under CEQA to mitigating adverse impacts to significant or unique cultural resources.

1.3.2 NHPA Section 106

NHPA Section 106 is applicable to federal undertakings, including projects financed or permitted by federal agencies regardless of whether the activities occur on federally managed or privately-owned land. Its purpose is to determine whether adverse effects will occur to significant cultural resources, defined as "historical properties" that are listed in or determined eligible for listing in the National Register of Historic Places (NRHP). The criteria for NRHP eligibility are defined at 36 CFR § 60.4 as follows:

> The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and that:
>
> (A) are associated with events that have made a significant contribution to the broad patterns of our history; or
>
> (B) are associated with the lives of persons significant in our past; or
>
> (C) embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
>
> (D) have yielded or may be likely to yield, information important in prehistory or history.

There are, however, restrictions on the kinds of historical properties that can be NRHP listed. These have been identified by the Advisory Council on Historic Preservation (ACHP), as follows:

> Ordinarily cemeteries, birthplaces, or graves of historical figures, properties owned by religious institutions or used for religious purposes, structures that have been moved from their original locations, reconstructed historic buildings, properties primarily commemorative in nature, and properties that have achieved significance within the past 50 years shall not be considered eligible for the National Register. However, such properties will qualify if they are integral parts of districts that do meet the criteria or if they fall within the following categories:
>
> (a) A religious property deriving primary significance from architectural or artistic distinction or historical importance; or
>
> (b) A building or structure removed from its original location but which is significant primarily for architectural value, or which is the surviving structure most importantly associated with a historic person or event; or

(c) A birthplace or grave of a historical figure of outstanding importance if there is no appropriate site or building directly associated with his productive life.

(d) A cemetery which derives its primary significance from graves of persons of transcendent importance, from age, from distinctive design features, or from association with historic events; or

(e) A reconstructed building when accurately executed in a suitable environment and presented in a dignified manner as part of a restoration master plan, and when no other building or structure with the same association has survived; or

(f) A property primarily commemorative in intent if design, age, tradition, or symbolic value has invested it with its own exceptional significance; or

(g) A property achieving significance within the past 50 years if it is of exceptional importance. (http://www.achp.gov/nrcriteria.html)

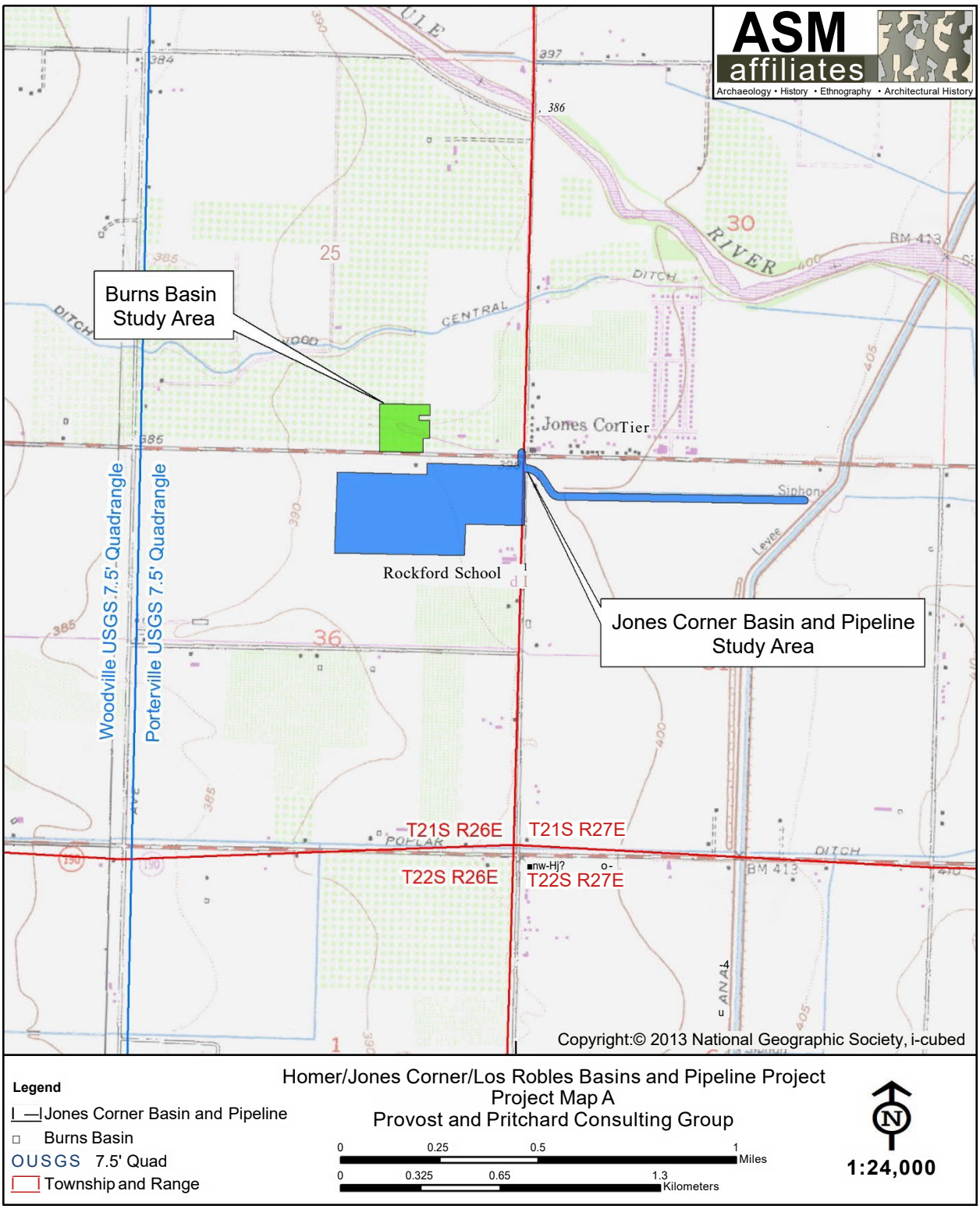


Figure 1. Location of the Jones Corner and Banks Water Banks, Tulare County, California.

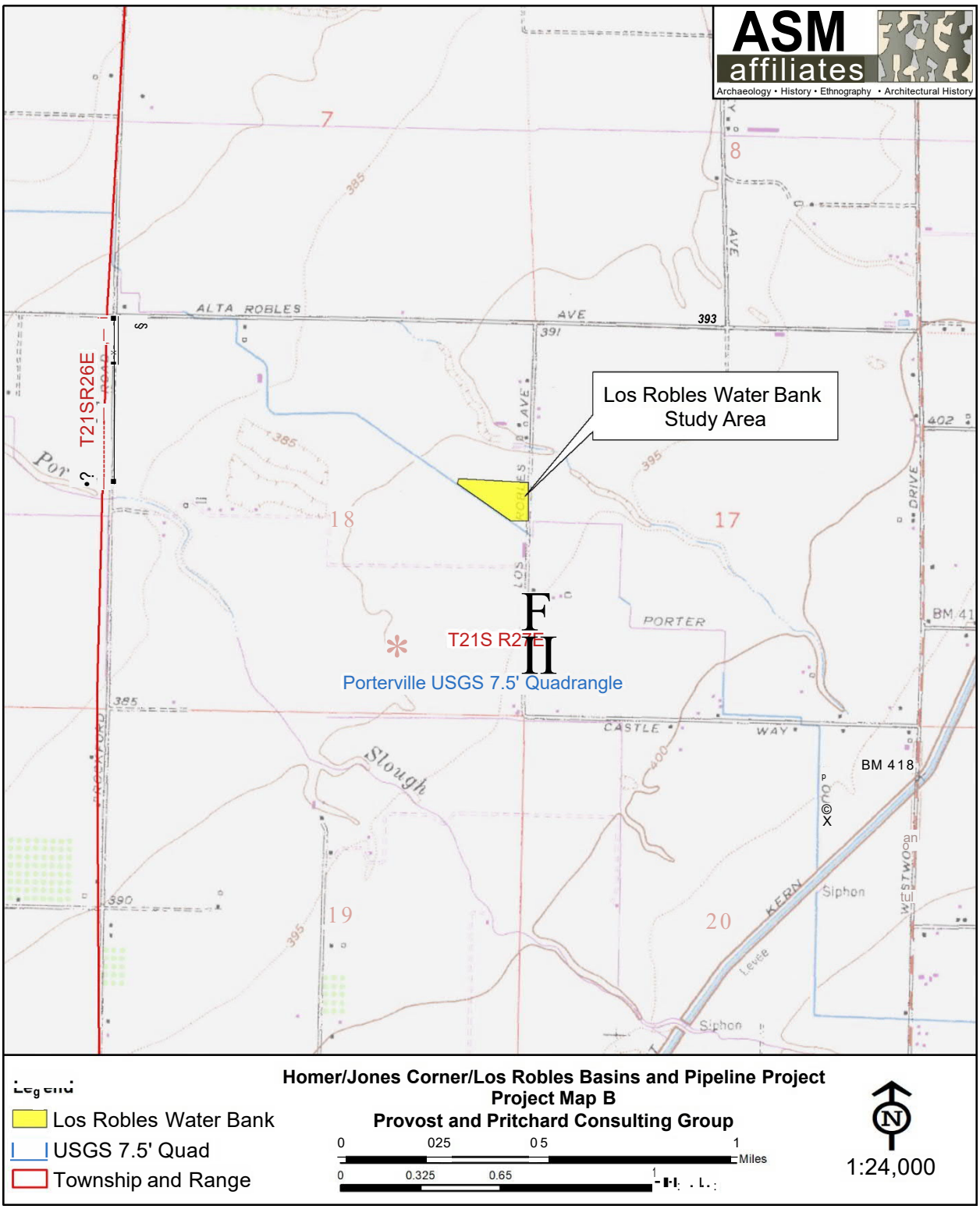


Figure 2. Location of Los Robles Water Bank, Tulare County, California

2. ENVIRONMENTAL AND CULTURAL BACKGROUND

2.1 ENVIRONMENTAL BACKGROUND AND GEOARCHAEOLOGICAL SENSITIVITY

As noted above, the Project involves three locations with elevations ranging from about 390 to 400-ft amsl. All three locations are the open flats of the San Joaquin Valley, a short distance west of the City of Porterville. The Tule River is roughly three-quarters of a mile north of the Jones Corner and Burns water banks, while it is about 1.5-miles south of Los Robles water bank. This river is perennial only above Porterville, east of the study area, with seasonal flow occurring below that point.

Prior to the appearance of agriculture, starting in the nineteenth century, this location would have been prairie grasslands, grading into tree savannas in the foothills to the east (Preston 1981). Historically, and likely prehistorically, riparian environments would have been present along the drainages, waterways and marshes. The study area and immediate surroundings have been farmed and grazed for many years and no native vegetation is present. Perennial bunchgrasses such as purple needlegrass and nodding needlegrass most likely would have been the dominant plant cover in the study area prior to cultivation.

The Project APE falls on the Tule River Fan. According to the geoarchaeological model developed by Meyer et al. (2010), the APE has moderately to very high potential for buried archaeological deposits. Buried sites and cultural resources are therefore considered to be possible within the Project APE.

2.2 ETHNOGRAPHIC BACKGROUND

Penutian-speaking Yokuts tribal groups occupied the southern San Joaquin Valley region and much of the nearby Sierra Nevada. Ethnographic information about the Yokuts was collected primarily by Powers (1971, 1976 [originally 1877]), Kroeber (1925), Gayton (1930, 1948), Driver (1937), Latta (1977) and Harrington (n.d.). For a variety of historical reasons, existing research information emphasizes the central Yokuts tribes who occupied both the valley and particularly the foothills of the Sierra. The northernmost tribes suffered from the influx of Euro-Americans during the Gold Rush and their populations were in substantial decline by the time ethnographic studies began in the early twentieth century. In contrast, the southernmost tribes were partially removed by the Spanish to missions and eventually absorbed into multi-tribal communities on the Sebastian Indian Reservation (on Tejon Ranch), and later the Tule River Reservation and Santa Rosa Rancheria to the north. The result is an unfortunate scarcity of ethnographic detail on southern Valley tribes, especially in relation to the rich information collected from the central foothills tribes where native speakers of the Yokuts dialects are still found. Regardless, the general details of indigenous life-ways were similar across the broad expanse of Yokuts territory, particularly in terms of environmentally influenced subsistence and adaptation and with regard to religion and belief, which were similar everywhere.

Following Kroeber (1925: Plate 47), the study area most likely lies in Koyete Yokuts territory. The principal historic village for this group was *Chokowisho*, located on the north bank of the Tule River, a short distance east of Porterville (Kroeber 1925: Plate 47; Latta1977:195). No historic villages are recorded for the immediate project area, per se, by Kroeber (1925) or by Latta (1977), however.

The Yokuts settlement pattern was largely consistent, regardless of specific tribe involved. Winter villages were typically located along lakeshores and major stream courses (as these existed circa AD 1800), with dispersal phase family camps located at elevated spots on the valley floor and near gathering areas in the foothills.

Most Yokuts groups, again regardless of specific tribal affiliation, were organized as a recognized and distinct tribelet; a circumstance that almost certainly pertained to the tribal groups noted above. Tribelets were land-owning groups organized around a central village and linked by shared territory and descent from a common ancestor. The population of most tribelets ranged from about 150 to 500 peoples (Kroeber 1925).

Each tribelet was headed by a chief who was assisted by a variety of assistants, the most important of whom was the *winatum*, a herald or messenger and assistant chief. A shaman also served as religious officer. While shamans did not have any direct political authority, as Gayton (1930) has illustrated, they maintained substantial influence within their tribelet.

Shamanism is a religious system common to most Native American tribes. It involves a direct and personal relationship between the individual and the supernatural world enacted by entering a trance or hallucinatory state (usually based on the ingestion of psychotropic plants, such as jimsonweed or more typically native tobacco). Shamans were considered individuals with an unusual degree of supernatural power, serving as healers or curers, diviners, and controllers of natural phenomena (such as rain or thunder). Shamans also produced the rock art of this region, depicting the visions they experienced in vision quests believed to represent their spirit helpers and events in the supernatural realm (Whitley 1992, 2000).

The centrality of shamanism to the religious and spiritual life of the Yokuts was demonstrated by the role of shamans in the yearly ceremonial round. The ritual round, performed the same each year, started in the spring with the jimsonweed ceremony, followed by rattlesnake dance and (where appropriate) first salmon ceremony. After returning from seed camps, fall rituals began in the late summer with the mourning ceremony, followed by first seed and acorn rites and then bear dance (Gayton 1930:379). In each case, shamans served as ceremonial officials responsible for specific dances involving a display of their supernatural powers (Kroeber 1925).

Subsistence practices varied from tribelet to tribelet based on the environment of residence. Throughout Native California, and Yokuts territory in general, the acorn was a primary dietary component, along with a variety of gathered seeds. Valley tribes augmented this resource with lacustrine and riverine foods, especially fish and wildfowl. As with many Native California tribes, the settlement and subsistence rounds included the winter aggregation into a few large villages, where stored resources (like acorns) served as staples, followed by dispersal into smaller camps,

often occupied by extended families, where seasonally available resources would be gathered and consumed.

Although population estimates vary and population size was greatly affected by the introduction of Euro-American diseases and social disruption, the Yokuts were one of the largest, most successful groups in Native California. Cook (1978) estimates that the Yokuts region contained 27 percent of the aboriginal population in the state at the time of contact; other estimates are even higher. Many Yokuts people continue to reside in the southern San Joaquin Valley today.

2.2.1 Significant Themes

The ethnographic period in the southern San Joaquin Valley extended from first Euro-American contact, in AD 1772, to 1853, when tribal populations were first moved to reservations. The major significant historic themes during this period of significance involve the related topics of Historic-Aboriginal Archaeology, and Native American Ethnic Heritage. More specifically, these concern the Adaptation of the Indigenous Population to Euro-American Encroachment and Settlement, and their Acculturation to Western Society. These processes included the impact of missionization on the San Joaquin Valley (circa 1800 to about 1845); the introduction of the horse and the development of a San Joaquin Valley "horse culture," including raiding onto the coast and Los Angeles Basin (after about 1810); the use of the region as a refuge for mission neophyte escapees (after 1820); responses to epidemics from introduced diseases (especially in the 1830s); armed resistance to Euro-American encroachment (in the 1840s and early 1850s); and, ultimately, the adoption of the Euro-American society's economic system and subsistence practices and acculturation into that society.

2.2.2 Associated Property Types

Site types that have been identified in the San Joaquin Valley in the general vicinity of the study area dating to the ethnographic period of significance primarily include villages and habitations, some of which contain cemeteries. The different social processes associated with this historical theme may be manifest in the material cultural record in terms of changing settlement patterns and village organization; the breakdown of traditional trading networks with their replacement by new economic relationships; changing subsistence practices, especially the introduction of agriculture initially via escaped mission neophytes; the use of Euro-American artifacts and materials rather than traditional tools and materials; and, possibly, changing mortuary practices.

Inasmuch as culture change is a primary intellectual interest in archaeology, ethnographic villages and habitations may be NRHP eligible under Criterion D, research potential. They may also be eligible under Criterion A, association with events contributing to broad patterns of history. Ethnographic sites, further, may be NRHP eligible as Traditional Cultural Properties due to potential continued connections to tribal descendants, and their resulting importance in traditional practices and beliefs, including their significance for historical memory, tribal- and self-identity formation, and tribal education. For Criteria A and D, eligibility requires site integrity (including the ability to convey historical association for Criterion A). These may include intact archaeological deposits for Criterion D, as well as setting and feel for Criterion A. Historical properties may lack physical integrity, as normally understood in heritage management, but still

retain their significance to Native American tribes as Traditional Cultural Properties if they retain their tribal associations and uses.

2.3 PRE-CONTACT ARCHAEOLOGICAL BACKGROUND

The southern San Joaquin Valley region has received minimal archaeological attention compared to other areas of the state. In part, this is because the majority of California archaeological work has concentrated in the Sacramento Delta, Santa Barbara Channel, and central Mojave Desert areas (see Moratto 1984). Although knowledge of the region's prehistory is limited, enough is known to determine that the archaeological record is broadly similar to south-central California as a whole (see Gifford and Schenk 1926; Hewes 1941; Wedel 1941; Fenenga 1952; Elsasser 1962; Fredrickson and Grossman 1977; Schiffman and Garfinkel 1981). Based on these sources, the general prehistory of the region can be outlined as follows.

Initial occupation of the region occurred at least as early as the *Paleoindian Period*, or prior to about 10,000 years before present (YBP). Evidence of early use of the region is indicated by characteristic fluted and stemmed points found around the margin of Tulare Lake, in the foothills of the Sierra, and in the Mojave Desert proper.

Both fluted and stemmed points are particularly common around lake margins, suggesting a terminal Pleistocene/early Holocene lakeshore adaptation similar to that found throughout the far west at the same time; little else is known about these earliest peoples. Over 250 fluted points have been recovered from the Witt Site (CA-KIN-32), located along the western shoreline of ancient Tulare Lake west of the study area, demonstrating the importance of this early occupation in the San Joaquin Valley specifically (see Fenenga 1993). Additional finds consist of a Clovis-like projectile point discovered in a flash-flood cut-bank near White Oak Lodge in 1953 on Tejon Ranch (Glennan 1987a, 1987b). More recently, a similar fluted point was found near Bakersfield (Zimmerman et al. 1989), and a number are known from the Edwards Air Force Base and Boron area of the western Mojave Desert. Although human occupation of the state is well-established during the Late Pleistocene, relatively little can be inferred about the nature and distribution of this occupation with a few exceptions. First, little evidence exists to support the idea that people at that time were big-game hunters, similar to those found on the Great Plains. Second, the western Mojave Desert evidence suggests small, very mobile populations that left a minimal archaeological signature. The evidence from the ancient Tulare Lake shore, in contrast, suggests much more substantial population and settlements which, instead of relying on big game hunting, were tied to the lacustrine lake edge. Variability in subsistence and settlement patterns is thus apparent in California, in contrast to the Great Plains.

Substantial evidence for human occupation across California, however, first occurs during the middle Holocene, roughly 7,500 to 4,000 YBP. This period is known as the *Early Horizon*, or alternatively as the Early Millingstone along the Santa Barbara Channel. In the south, populations concentrated along the coast with minimal visible use of inland areas. Adaptation emphasized hard seeds and nuts with tool-kits dominated by mullers and grindstones (manos and metates). Additionally, little evidence for Early Horizon occupation exists in most inland portions of the state, partly due to a severe cold and dry paleoclimatic period occurring at this time, although a

site deposit dating to this age has been identified along the ancient Buena Vista shoreline in Kern County to the south (Rosenthal et al. 2007). Regardless of specifics, Early Horizon population density was low with a subsistence adaptation more likely tied to plant food gathering than hunting.

Environmental conditions improved dramatically after about 4,000 YBP during the *Middle Horizon* (or Intermediate Period). This period is known climatically as the Holocene Maximum (circa 3,800 YBP) and was characterized by significantly warmer and wetter conditions than previously experienced. It was marked archaeologically by large population increase and radiation into new environments along coastal and interior south-central California and the Mojave Desert (Whitley 2000). In the Delta region to the north, this same period of favorable environmental conditions was characterized by the appearance of the Windmiller culture which exhibited a high degree of ritual elaboration (especially in burial practices) and perhaps even a rudimentary mound-building tradition (Meighan, personal communication, 1985). Along with ritual elaboration, Middle Horizon times experienced increasing subsistence specialization, perhaps correlating with the appearance of acorn processing technology. Penutian speaking peoples (including the Yokuts) are also posited to have entered the state roughly at the beginning of this period and, perhaps to have brought this technology with them (cf. Moratto 1984). Likewise, it appears the so-called "Shoshonean Wedge" in southern California, the Takic speaking groups that include the Gabrielino/Fernandeño, Tataviam and Kitanemuk, may have moved into the region at that time (Sutton 2009, rather than at about 1500 YBP as first suggested by Kroeber (1925).

Evidence for Middle Horizon occupation of interior south-central California is substantial. For example, in northern Los Angeles County along the upper Santa Clara River, to the south of the San Joaquin Valley, the Agua Dulce village complex indicates occupation extending back to the Intermediate Period, when the population of the village may have been 50 or more people (King et al n.d.). Similarly, inhabitation of the Hathaway Ranch region near Lake Piru, and the Newhall Ranch near Valencia, appears to date to the Intermediate Period (W & S Consultants 1994). To the west, little or no evidence exists for pre-Middle Horizon occupation in the upper Sisquoc and Cuyama River drainages; populations first appear there at roughly 3,500 YBP (Horne 1981). The Carrizo Plain, the valley immediately west of the San Joaquin, experienced a major population expansion during the Middle Horizon (W & S Consultants 2004; Whitley et al. 2007), and recently collected data indicates the Tehachapi Mountains region was first significantly occupied during the Middle Horizon (W & S Consultants 2006). A parallel can be drawn to the inland Ventura County region where a similar pattern has been identified (Whitley and Beaudry 1991), as well as the western Mojave Desert (Sutton 1988a, 1988b), the southern Sierra Nevada (W & S Consultants 1999), and the Coso Range region (Whitley et al. 1988). In all of these areas a major expansion in settlement, the establishment of large site complexes and an increase in the range of environments exploited appear to have occurred sometime roughly around 4,000 years ago. Although most efforts to explain this expansion have focused on local circumstances and events, it is increasingly apparent this was a major southern California-wide occurrence and any explanation must be sought at a larger level of analysis (Whitley 2000). Additionally, evidence from the Carrizo Plain suggests the origins of the tribelet level of political organization developed during this period (W & S Consultants 2004; Whitley et al. 2007). Whether this same demographic process holds for the southern San Joaquin Valley, including the study area, is yet to be determined.

The beginning of the *Late Horizon* is set variously at 1,500 and 800 YBP, with a growing archaeological consensus for the shorter chronology. Increasing evidence suggests the importance of the Middle-Late Horizons transition (AD 800 to 1200) in the understanding of south-central California prehistory. This corresponds to the so-called Medieval Climatic Anomaly, followed by the Little Ice Age, and this general period of climatic instability extended to about A.D. 1860. It included major droughts matched by intermittent "mega-floods," and resulted in demographic disturbances across much of the west (Jones et al. 1999). It is believed to have resulted in major population decline and abandonments across south-central California, involving as much as 90% of the interior populations in some regions, including the Carrizo Plain (Whitley et al. 2007). It is not clear whether site abandonment was accompanied by a true reduction in population or an agglomeration of the same numbers of peoples into fewer but larger villages in more favorable locations. Population along the Santa Barbara coast appears to have spiked at about the same time that it collapsed on the Carrizo Plain (ibid). Along Buena Vista Lake, in Kern County, population appears to have been increasingly concentrated towards the later end of the Medieval Climatic Anomaly (Culleton 2006), and population intensification also appears to have occurred in the well-watered Tehachapi Mountains during this same period (W & S Consultants 2006).

What is then clear is that Middle Period villages and settlements were widely dispersed across the south-central California landscape, including in the Sierras and the Mojave Desert. Many of these sites are found at locations that lack existing or known historical fresh water sources. Late Horizon sites, in contrast, are typically concentrated in areas where fresh water was available during the historical period, if not currently.

One extensively studied site that shows evidence of intensive occupation during the Middle-Late Horizons transition (~1,500 – 500 YBP) is the Redtfeldt Mound (CA-KIN-66/H), located northwest of the current study area, near the north shore of ancient Tulare Lake. There, Siefkin (1999) reported on human burials and a host of artifacts and ecofacts excavated from a modest-sized mound. He found that both Middle Horizon and Middle-Late Horizons transition occupations were more intensive than Late Horizon occupations, which were sporadic and less intensive (Siefkin 1999:110-111).

The Late Horizon can then be understood as a period of recovery from a major demographic collapse. One result is the development of regional archaeological cultures as the precursors to ethnographic Native California; suggesting that ethnographic life-ways recorded by anthropologists extend roughly 800 years into the past.

The position of southern San Joaquin Valley prehistory relative to patterns seen in surrounding areas is still somewhat unknown. The presence of large lake systems in the valley bottoms appears to have mediated some of the desiccation seen elsewhere. But, as the reconstruction of Soda Lake in the nearby Carrizo Plain demonstrates (see Whitley et al. 2007) environmental perturbations had serious impacts on lake systems too. Identifying certain of the prehistoric demographic trends for the southern San Joaquin Valley and determining how these trends (if present) correlate with those seen elsewhere, is a current important research objective.

2.3.1 Significant Themes

Previous research and the nature of the pre-contact archaeological record suggest two significant themes, both of which fall under the general Prehistoric Archaeology area of significance. These are the Expansion of Prehistoric Populations and Their Adaptation to New Environments; and Adaptation to Changing Environmental Conditions.

The Expansion of Prehistoric Populations and Their Adaptation to New Environments theme primarily concerns the Middle Horizon/Holocene Maximum. Its period of significance runs from about 4,000 to 1,500 YBP. It involves a period during which the prehistoric population appears to have expanded into a variety of new regions, developing new adaptive strategies in the process.

The Adaptation to Changing Environmental Conditions theme is partly related to the Holocene Maximum, but especially to the Medieval Climatic Anomaly. The period of significance for this theme, accordingly, extends from about 4,000 to 800 YBP. This theme involves the apparent collapse of many inland populations, presumably with population movements to better environments such as the coast. It is not yet known whether the southern San Joaquin Valley, with its system of lakes, sloughs and swamps, experienced population decline or, more likely, population increase due to the relatively favorable conditions of this region during this period of environmental stress.

2.3.2 Associated Property Types

Given the physiographic and hydrographic nature of the southern San Joaquin Valley (low-lying alluvial flats prehistorically containing streams, sloughs, swamps and lakes), two primary site types can be expected for both themes: villages and camps, and resource exploitation/special activity areas. Archaeological evidence potentially pertinent to these themes could include settlement locations and sizes, trade patterns, and especially subsistence evidence.

Pre-contact sites would be primarily eligible under NRHP Criterion D, research potential. Eligibility would require integrity in the form of intact archaeological deposits, including preserved stratigraphic relationships, internal site features, and artifact associations.

2.4 HISTORICAL BACKGROUND

Spanish explorers first visited the San Joaquin Valley in 1772, but its lengthy distance from the missions and presidios along the Pacific Coast delayed permanent settlement for many years, including during the Mexican period of control over the Californian region. In the 1840s, Mexican rancho owners along the Pacific Coast allowed their cattle to wander and graze in the San Joaquin Valley (JRP Historical Consulting 2009). The Mexican government granted the first ranchos in the southern part of the San Joaquin Valley in the early 1840s, but these did not result in permanent settlement. It was not until the annexation of California in 1848 that the exploitation of the southern San Joaquin Valley began (Pacific Legacy 2006).

The discovery of gold in northern California in 1848 resulted in a dramatic increase of population, consisting in good part of fortune seekers and gold miners, who began to scour other parts of the state. After 1851, when gold was discovered in the Sierra Nevada Mountains in eastern Kern County, the population of the area grew rapidly. Some new immigrants began ranching in the San Joaquin Valley to supply the miners and mining towns. Ranchers grazed cattle and sheep, and farmers dry-farmed or used limited irrigation to grow grain crops, leading to the creation of small agricultural communities throughout the valley (JRP Historical Consulting 2009).

After the American annexation of California, the southern San Joaquin Valley became significant as a center of food production for this new influx of people in California. The expansive unfenced and principally public foothill spaces were well suited for grazing both sheep and cattle (Boyd 1997). As the Sierra Nevada gold rush presented extensive financial opportunities, ranchers introduced new breeds of livestock, consisting of cattle, sheep and pig (Boyd 1997).

With the increase of ranching in the southern San Joaquin came the dramatic change in the landscape, as non-native grasses more beneficial for grazing and pasture replaced native flora (Preston 1981). After the passing of the Arkansas Act in 1850, efforts were made to reclaim small tracts of land in order to create more usable spaces for ranching. Eventually, as farming supplanted ranching as a more profitable enterprise, large tracts of land began to be reclaimed for agricultural use, aided in part by the extension of the railroad in the 1870s (Pacific Legacy 2006).

Following the passage of state wide 'No-Fence' laws in 1874, ranching practices began to decline, while farming expanded in the San Joaquin Valley in both large land holdings and smaller, subdivided properties. As the farming population grew, so did the demand for irrigation. Preston (1981) has described the history of farming and irrigation in the Tulare Basin as a whole, and its role in transforming the landscape. Swamp reclamation, stream diversion and water conveyance systems were ultimately as important as the No Fence Law in the growth of agriculture. Prior to the Euro-American incursion, the region consisted of oak woodlands in the foothills of the Sierra Nevada; riparian woodlands along the streams flowing west from these mountains; prairie on the eastern, open valley flats; swamps, marshes, sloughs and lakes in the basin bottom; and a desert-like saltbush expanse on the west side of the valley. The first water diversion for agriculture was created in the mid-1850s on the upper Tule River near Visalia. By 1869, at least some diversions had been created on the Kings River, and on Deer and Sand creeks. Between 1872 and 1894, agricultural expansion was promoted by the diversion of the Kings, Kaweah and Tule rivers, and Deer Creek, with the construction of canalized distributaries and ditches. These diversions typically consisted of shallow ditches, created by individual farmers or groups of farmers, promoted by a state act to encourage irrigation in 1872. The legal issues involving water rights and the creation of irrigation districts were still ambiguous until the passage of the Wright Act, in 1887, however, although this did not fully resolve water rights claims on the Tule River: "In no portion of the state has the necessity for harmonizing conflicting claims to water and adequate control of its diversion and use been greater than on Kaweah and Tule rivers" (Grunsky 1898:90).

Aside from lawsuits (which generally have limited information beyond specifics of water rights), the historical record on early Tule River irrigation ditches is very limited, at best, to non-existent. Some early ditches and ditch corporations were described in an 1898 USGS water supply and irrigation paper (Grunsky 1898), with the note that "numerous small, unimportant diversions"

(ibid:78) were omitted. Those described include the Porter Slough Canal, created by the Tule River Irrigation District, which was organized in 1891, and the South Side Tule River Canal. This was also called the South Side Canal, Big Ditch and the Poplar Ditch.

Three competing partnerships developed during this period which had a great impact on control of water, land reclamation and ultimately agricultural development in the San Joaquin Valley: Livermore and Chester, Haggin and Carr, and Miller and Lux, perhaps the most famous of the enterprises. Livermore and Chester were responsible, among other things, for developing the large Hollister plow (three feet wide by two feet deep), pulled by a 40-mule team, which was used for ditch digging. Haggin and Carr were largely responsible for reclaiming the beds of the Buena Vista and Kern lakes, and for creating the Calloway Canal, which drained through the Rosedale area in Bakersfield to Goose Lake (Morgan 1914). Miller and Lux ultimately became one of the biggest private property holders in the country, controlling the rights to over 22,000 square miles. Miller and Lux's impact extended beyond Kern County, however. They recognized early-on that control of water would have important economic implications, and they played a major role in the water development of the state. They controlled, for example, over 100 miles of the San Joaquin River with the San Joaquin and Kings River Canal and Irrigation System. They were also embroiled for many years in litigation against Haggin and Carr over control of the water rights to the Kern River.

The San Joaquin Valley was dominated by agricultural pursuits until the oil boom of the early 1900s, which saw a shift in the region, as some reclaimed lands previously used for farming were leased to oil companies. Nonetheless, the shift of the San Joaquin Valley towards oil production did not halt the continued growth of agriculture (Pacific Legacy 2006). The Great Depression of the 1930s brought with it the arrival of great number of migrants from the drought-affected Dust Bowl region, looking for agricultural labor. These migrants established temporary camps in the valley, staying on long past the end of the drought and the Great Depression, eventually settling in towns such as Bakersfield where their descendants live today (Boyd 1997).

The town of Porterville, which is located east of the Project APE, was founded in 1854. It initially served as a stop for the Butterfield Overland Mail stage route which ran from Los Angeles to Stockton. Originally called the Tule River Station, it became known as Porterville in 1864, a name based on the middle name of Royal Porter Putnam who owned the area at the stage stop. It first saw development in the late 19th century with the extension of the Southern Pacific Railway branch line from Fresno in 1888. In 1902 the town was incorporated, the Chamber of Commerce was formed in 1907, and a Charter was adopted from a City Manager-Council form of government in 1926. A USGS Porterville (1929, 1:31,680) topographic quadrangle indicates the town had developed to over half of its current size (excluding East Porterville) shortly after the adoption of the Charter. The town has continued to grow due to industry and agriculture in the surrounding area (ibid.).

The PID was formed in 1949 under the Irrigation District Law to collect, store and deliver irrigation water to farmers within the district. It includes over 16,900 acres of land. The PID receives water from the Friant Division of the Central Valley Project (CVP). It also has pre-1914 water rights to Tule River, representing about 9% of this supply. The PID delivers water through underground and aboveground facilities, some of which are owned by the district, and others of which are operated under long-term agreements. PID facilities include four miles of underground

pipeline and 3.3 miles of open ditches. Through a 1964 agreement with the Lower Tule River Irrigation District (LTRID), the PID delivers water within the District using 13 miles of unlined LTRID canals.

The PID also employs about 13 miles of unlined canals owned by the Porter Slough Ditch Company, the Hubbs-Miner Ditch Company, the Rhodes-Fine Ditch Company, and the Gilliam-McGee Ditch Company (PID 2012). Their consolidation into a single organization in the mid-20th century reflects the improved control and management of water resources promoted by the CVP.

The Porter Slough Ditch, constructed in 1871, was originally called the Hunsaker Ditch. It was described as a "small ditch" about 2-mi long by Grunsky (1898) at the turn of the century. The Porter Slough Ditch Company was incorporated on 29 September 1891 https://opencorporates.com/companies/us_ca/C0020733). Aerial photos indicate that its route was regularized prior to 1985, again between 1964 and 1968, and finally in 1969. The segment adjacent to Los Robles water bank dates to 1969. The Lower Tule River Intertie, which borders the Jones Corner water bank, was constructed in 2009.

The Rhodes-Fine Ditch was originally constructed in 1869 by Rhodes and S.H. Fine. It transported water west from the Tule River for five miles and averaged about 8-ft wide and 1-ft deep. It was initially called the "Rhodes and Fine Ditch." The ditch was extended three miles west and enlarged in 1876 by another group of farmers led by Jacob Hayes (California Supreme Court 1892). Typical of many water conveyance systems at that time, it soon became the subject of litigation. Hayes et al. sued Fine and others circa 1890 because they had diverted water from the ditch upstream of the 1876 extension, depriving Hayes' group of what they claimed were their water rights, due to a putative unwritten agreement based on the labor they had invested in 1876, and their previous decade of its use. The Tulare County Supreme Court ruled against the Hayes group and the California Supreme Court upheld the decision (California Supreme Court 1892). As pointed out by the California Supreme Court in their decision, Hayes et al. at once claimed that they had valid rights to the water in the ditch, but also that they had created "virtually a new ditch" by their labor, with the second claim effectively negating the first. The Rhodes-Fine Ditch Company was incorporated on 3 October 1918 (https://opencorporates.com/companies/us_ca/C0087128). As noted above, is now operated by the PID.

2.4.1 Significant Themes

Theme 1: Development of Irrigated Agriculture in the San Joaquin Valley, 1852-1964

As identified by Caltrans in the *Water Conveyance Systems in California Historic Context Development and Evaluation Procedures,* the "Development of Irrigated Agriculture" is a historically significant theme or event in the history of California and the Central Valley region. In the years following California's statehood and the gold rush, increasing population created an increasing market for agricultural products. The total irrigated acreage in the state grew from 60,000 acres in 1860 to nearly 400,000 acres by 1880, an increase of more than 650 percent, and the San Joaquin Valley contained the highest percentage of that land (approximately 47 percent) (Caltrans 2000). Private water companies, land colonies, mutual water companies, and irrigation districts were established in the mid- to late nineteenth century to build irrigation systems to further

develop the state's agriculture industry. Irrigation districts became the most influential of these organizations, especially after state legislation—the Wright Act of 1887—causing irrigation districts to grow in number, power, as well as the actual amount of irrigated land throughout the state. Forty-nine irrigation districts were organized between 1887 and 1896, most of them located between Stockton and Bakersfield. However, by the late 1920s, only seven of the original districts were still in existence, among them the Modesto, Turlock, and Tulare irrigation districts (Caltrans 2000). Under the impetus of increased demand during World War I, agricultural production reached a new peak in 1920. Companies like Pacific Gas & Electric and San Joaquin Valley Light and Power helped finance large irrigation reservoirs to feed district canals in return for the power generated. By 1930, there were 94 active districts in California, and the land watered by these agencies mushroomed to 1.6 million acres (Caltrans 2000). Irrigation districts provided more than 90 percent of the surface water used for irrigation in the San Joaquin Valley before the Central Valley Project came on-line in the 1940s (Caltrans 2000). Most were located in the San Joaquin Valley, with the most successful in Modesto, Turlock, Merced, and Fresno.

The period of significance for this theme begins with the earliest developments of irrigated agriculture in the San Joaquin Valley, with the construction of the earliest earthen ditches in Visalia in 1852. Irrigated agriculture continues to be an important industry and influence in the Valley. The period of significance ends in 1964 following recommended guidance for closing a period of significance 50 years ago when activities continued to have importance, but no more specific date can be defined to end the historic period, and there is no justification for exceptional significance to extend the period of significance to an end date within the last 50 years (National Register of Historic Places 1997).

Associated Property Types:

Water Conveyance Systems

Following the framework established by Caltrans in *Water Conveyance Systems in California Historic Context Development and Evaluation Procedures*, the water conveyance system is the property type that has the potential to reflect this theme and period. Components and features of water conveyance systems include diversion structures, conduits, flow control devices, cleansing devices, and associated resources and settings. Water Conveyance Systems that are associated with Development of Irrigated Agriculture in the San Joaquin Valley, 1852-1964 will be eligible under NRHP Criterion A/CRHR Criterion 1 for their association with this significant theme if:

- the association with the theme is important--simply because a water conveyance existed during the period of significant is not enough for that system to be eligible;
- the resource retains high overall integrity because of the high number of comparable examples. The property should retain most of the seven aspects of integrity: location, design, setting, materials, workmanship, feeling, and association.
- Due to the nature of this type of resource, repairs and modifications are acceptable but not if those modifications substantially modified the resource.

Water Conveyance Systems that are associated with Development of Irrigated Agriculture in the San Joaquin Valley, 1852-1964 will be eligible under NRHP Criterion B/CRHR Criterion 2 for their association with this significant theme if they:

- associated with an important person's productive life ***and*** the property that is most closely associated with that person;
- the resource retains high overall integrity because of the high number of comparable examples. The property should retain most of the seven aspects of integrity: location, design, setting, materials, workmanship, feeling, and association.
- Due to the nature of this type of resource, repairs and modifications are acceptable but not if those modifications substantially modified the resource.

Water conveyance systems will rarely be found eligible under Criterion B. In California notable names for which there might be associations with water planning, construction, or engineering include: Anthony Chabot, George Chaffey, Frederick Eaton, William Mulholland, George Maxwell, Robert Marshall, Elwood Mead and C. E. Grunsky (Caltrans 2000).

Theme 2: Technological Innovation in Irrigated Agriculture in California, 1852-1964

Caltrans clearly defines the historic context for this theme in the "Legacy of Irrigation Canals" section of the context, while ASM has defined a period of significance based on the Caltrans context (Caltrans 2000). The below is a direct excerpt from the context:

> "The earliest irrigation water conveyances in California were roughly made, earthen ditches to divert water. Techniques used to construct irrigation canals have varied widely during the various periods of California's history, from the relatively short, hand-dug, early masonry and tile ditches, to horse-scraped and hand-dug earthen irrigation ditches, to the large concrete-lined, machine-formed irrigation canals of the middle decades of the twentieth century. Evidence of these changes in scale, methods of construction, and knowledge of engineering are reflected in the remaining physical resources found on the landscape today. Substantial regional variation exists with respect to the adoption and dissemination of the new technologies, such as where and when concrete replaced wood in the engineering works of major irrigation canals. These regional differences can be explained in part by cultural traditions with respect to water management, ownership of water rights, and environmental factors, but economics, politics, and the formation of particular types of irrigation institutions also played a significant role.
>
> "Older canals were often subject to substantial change over time. A common change was to expand the system in order to serve more acreage. Unless pumps are used, irrigation canals rely on gravity to move water, and they can provide service only to land lying below the canal's water level. As irrigated acreage expanded, water companies frequently consolidated smaller ditch systems, moved the point of diversion upstream, and built a high-line canal to service new acreage. In this manner, pioneer canals were often absorbed into larger systems, frequently by irrigation districts, to pull in more potentially irrigable lands. Segments of earlier irrigation systems might remain largely intact within the larger framework of a new irrigation system, or the changes could be such that the old separate irrigation system would become, in essence, a typical component of a new 1920s irrigation district canal.

> "Another important factor is that water is notoriously difficult to control; it can be, and frequently is, an engine of destruction. Flood waters, for example, repeatedly overwhelmed the flimsy wooden control structures built on nineteenth and early-twentieth century irrigation systems in the San Joaquin Valley. Canals required periodic maintenance and were also often altered as a result of improvements designed to counteract the normal erosion that occurs from water moving through earth-lined canals. Improvements to stabilize canals ranged from realigning segments of the channel, to lining ditches or putting them in pipe, to replacement of checks, drops, culverts, or other regulation structures. These improvements were sometimes carried out system-wide, sometimes on a piecemeal basis. In light of the proclivity for change and the wide diversity of canal materials and modes of construction, adequate documentary research is essential to understand the evolution of an important irrigation canal and to assess its integrity" (Caltrans 2000).

The period of significance for this theme begins with the earliest developments of irrigated agriculture in the San Joaquin Valley, with the construction of the earliest earthen ditches in Visalia in 1852. Technological innovations in agricultural irrigation are ongoing, but the period of significance ends in 1964 following recommended guidance for closing a period of significance 50 years ago when activities continued to have importance, but no more specific date can be defined to end the historic period, and there is no justification for exceptional significance to extend the period of significance to an end date within the last 50 years (National Register of Historic Places 1997).

Associated Property Types:

Water Conveyance Systems

Following the framework established by Caltrans in *Water Conveyance Systems in California Historic Context Development and Evaluation Procedures*, the water conveyance system is the property type that has the potential to reflect this theme and period. Components and features of water conveyance systems include diversion structures, conduits, flow control devices, cleansing devices, and associated resources and settings. Water Conveyance Systems that are associated with Technological Innovation in Irrigated Agriculture in California, 1852-1964 will be eligible under NRHP Criterion C/CRHR Criterion 3 for their association with this significant theme if they are/have:

- unique values;
- the best or good example of the property type as one that possess distinctive characteristics of the type and through those characteristics clearly illustrates at least one of the following;
    - the pattern of features common to a particular class of resources
    - the individuality or variation of features that occurs within the class;
    - the evolution of that class; or
    - the transition between classes of resources
- the earliest, best preserved, largest, or sole surviving example of particular types of water conveyance systems;
- a design innovation of evolutionary trends in engineering

- designed by a figure of acknowledged greatness in the field or by someone unknown whose workmanship is distinguishable from others by its style and quality ***and*** be a good example of that designer's work;
- the resource retains high overall integrity because of the high number of comparable examples. The property should retain most of the seven aspects of integrity: location, design, setting, materials, workmanship, feeling, and association.

A large water conveyance system with multiple components will often be evaluated as a district rather than as a single property. An eligible historic district must possess a significant concentration or linkage of resources that are united historically or aesthetically by plan or physical development. It should be a significant and distinguishable entity, although its components need not possess individual distinction (Caltrans 2000).

3. ARCHIVAL RECORDS SEARCH

3.1 ARCHIVAL RECORDS SEARCH

In order to determine whether the Project APE had been previously surveyed for cultural resources, and/or whether any such resources were known to exist on any of them, an archival records search was conducted by the staff of the Southern San Joaquin Valley Information Center (IC) on 7 June 2021. The records search was completed to determine: (i) if prehistoric or historical archaeological sites had previously been recorded within the APE; (ii) if the APE had been systematically surveyed by archaeologists prior to the initiation of this field study; and/or (iii) whether the region of the field project was known to contain archaeological sites and to thereby be archaeologically sensitive. Records examined included archaeological site files and maps, the NRHP, Historic Property Data File, California Inventory of Historic Resources, and the California Points of Historic Interest.

According to the IC records search (Confidential Appendix A), the Project APE had not been previously surveyed in its entirety although three studies had covered portions of it (Table 1). No previously recorded resources were known to exist within the APE. Three cultural resources had been recorded within a half-mile radius of the study area (Table 2).

A search of the Native American Heritage Commission (NAHC Sacred Lands Files was also requested. According to the NAHC records no sacred sites or tribal cultural resources are known in or near the project area. Outreach letters and follow-up emails were sent to tribal organization on the NAHC contact list. One response was received. This was from the Santa Rosa Rancheria – Tachi Yokut Tribe who deferred to the Tule River Indian Reservation but asked that they be informed if any archaeological discoveries were made in the APE

Table 1. Reports within the Study Area

Report No.	Year	Author (s)/Affiliation	Title
TU-00269	1981	RJ Cantwell/ Individual Consultant	Archaeological and Historical Survey Report for Avenue 152 from Road 152 to Road 224, Tulare County, California
TU-01442	2007	CL Pruett/ Three Girls and a Shovel, LLC.	A Cultural Resources Assessment for the Tule River Intertie Project Near Porterville, Tulare County, California
TU-01568	2009	RS Orfila./ RSO Consulting,	A Cultural Resources Assessment of 35 Acres for the Tulare River Intertie Canal, Tulare County, California

Table 2. Resources within the 0.5-mi of the Study Area

Primary #	Type	Description
P-54-004614	Structure	Friant-Kern Canal
P-54-004702	Isolate	Obsidian Nodule
P-54-004703	Structure	Wood Central Ditch

Historical maps that included the Project APE were consulted to identify potential historical structures or resources. According to USGS topographic quadrangles, historical aerials, and Google Earth imagery, the APE has undergone development since at least the early 20th century. The 1929 USGS Porterville 1: 31,680 topographical quadrangle shows Porter Slough Ditch labeled as Hunsaker Ditch and already in place near the Los Robles basin APE. The Hunsaker Ditch was renamed the Porter Slough in the mid-20th century, and the adjacent Los Robles Ave (paved) is present on the 1951 (HTMC 1952 ed.) USGS Coalinga 1: 24,000 topographical quadrangle. By the 1990s, a dairy immediately north is present but had been removed by 2014, based on aerial photography. The Los Robles basin itself seems to initially appear as a reservoir at some point after 1970. It was later expanded and developed after 2014.

The 1929 USGS Porterville 1:31,680 topographical quadrangle shows the Rhodes-Fine Ditch as in-place by that date with the nearby Rockford School (now Rockford Elementary School) and multiple unknown structures in the vicinity. The 1942 (HTMC 1942 ed.) USGS Porterville 1:62,500 topographical quadrangle shows reservoirs appearing in the vicinity, the adjacent Rockford Road (paved) in-place, and a subdivision of the nearby unincorporated community of Jones Corner. Aerial photography shows latter structure development that includes an unknown building in the Jones Corner basin around 1968 (now destroyed) and the construction of a branch of Porter Slough irrigation canal west of the study area around 2010. No other significant development is shown in the Project APE.

Based on the records search results, the Project APE appears to have low archaeological and tribal cultural resources sensitivity.

4. METHODS AND RESULTS

4.1 FIELD METHODS

An intensive Class III inventor/Phase I survey of the Project APE was conducted by Robert Azpitarte, B.A., ASM Associate Archaeologist/Crew Chief, assisted by Stacey Escamilla, M.A, and Maria Silva, B.A., ASM Assistant Archaeologists, on 6/17/2021 and 9/28/2021. The field methods employed included intensive pedestrian examination of the ground surface for evidence of archaeological sites in the form of artifacts, surface features (such as bedrock mortars, historical mining equipment), and archaeological indicators (e.g., organically enriched midden soil, burnt animal bone); the identification and location of any discovered sites, should they be present; tabulation and recording of surface diagnostic artifacts; site sketch mapping; preliminary evaluation of site integrity; and site recording, following the California Office of Historic Preservation Instructions for Recording Historic Resources using DPR 523 forms. Parallel survey transects spaced at 15-m apart were employed for the inventory. A 15-m buffer was surveyed for the pipeline APE component. The other Project APE components were surveyed to the limit of the associated property lines.

4.2 SURVEY RESULTS

The Jones Corner APE encompasses an area of approximately 58-acres and consists of a former walnut orchard (Figure 3). The APE is bordered by active agricultural fields on the west and south, a residential property on the east, Rockford Elementary School along the southeast, and the proposed Burns Basin to the north. Surface visibility within the basin was moderate to excellent for the survey. No cultural resources of any kind were identified within the recharge basin portion of this APE. The proposed pipeline corridor will follow existing dirt road rights-of-way along the Rhodes-Fine Ditch before terminating at the location of an existing siphon off the FKC. As noted above, the Rhodes-Fine Ditch was first constructed in dates to 1869. The segment of the ditch within the Project APE was documented (below and Confidential Appendix B).

The proposed Burns Basin APE encompasses an area of approximately 8.8-acres and consists of a gradually sloped basin that is approximately 10-ft deep and was dry at time of survey (Figure 4). The basin is bordered by active orchards on the east, west and north, and the proposed Jones Corner basin on the south. Contemporary irrigation features (i.e., standing pipes, culverts, pumps) were noted within the basin. Surface visibility within the basin was excellent for Phase I survey. No resources of any kind were identified within the Burns Basin APE.

The proposed Los Robles basin APE encompasses an area of approximately 8.5-acres and consists of a gradually sloped basin that is approximately 10-ft deep and was dry at time of survey (Figure 5). The basin is bordered by active almond orchards on the east, a lay-down yard on the north, and Porter Slough (irrigation ditch) to the south. Standing fence lines and contemporary irrigation features (i.e., pipes, culverts) were noted within the basin. Surface visibility within the basin was

excellent for Phase I survey. No resources of any kind were identified within the Los Robles basin APE.

4.2.1 Rhodes-Fine Ditch

This resource, associated with the Jones Corner basin, is a short segment of the 19th century Rhodes-Fine Ditch (south branch). The recorded segment measures approximately 4080-ft by 25-ft by 3-ft deep, and is situated between 396-ft and 405-ft amsl.

ASM documented that portion of the linear resource within the APE in Sections 31 and 36 (T21S/R26E, T21S/R27E), which runs in an east-west direction for approximately ¾ -mile. The ditch originally dates to 1869 and is a shallow earthen ditch. Based on historical topographical quadrangles and aerial photographs, the ditch was realigned circa 1940 and again in the early 1980s and its water control systems (culverts, weirs, lift gates) have been modernized. These include road crossings under Avenue 152 and Road 208, concrete culverts, weir and lift gates. No artifacts or related cultural materials of any kind were observed on or immediately adjacent to the ditch.

The ditch thus lacks integrity of location, setting, materials, design and workmanship and is recommended as not eligible for listing on the National Register of Historic Places (NRHP) or the California Register of Historical Resources (CRHR) under any criteria.

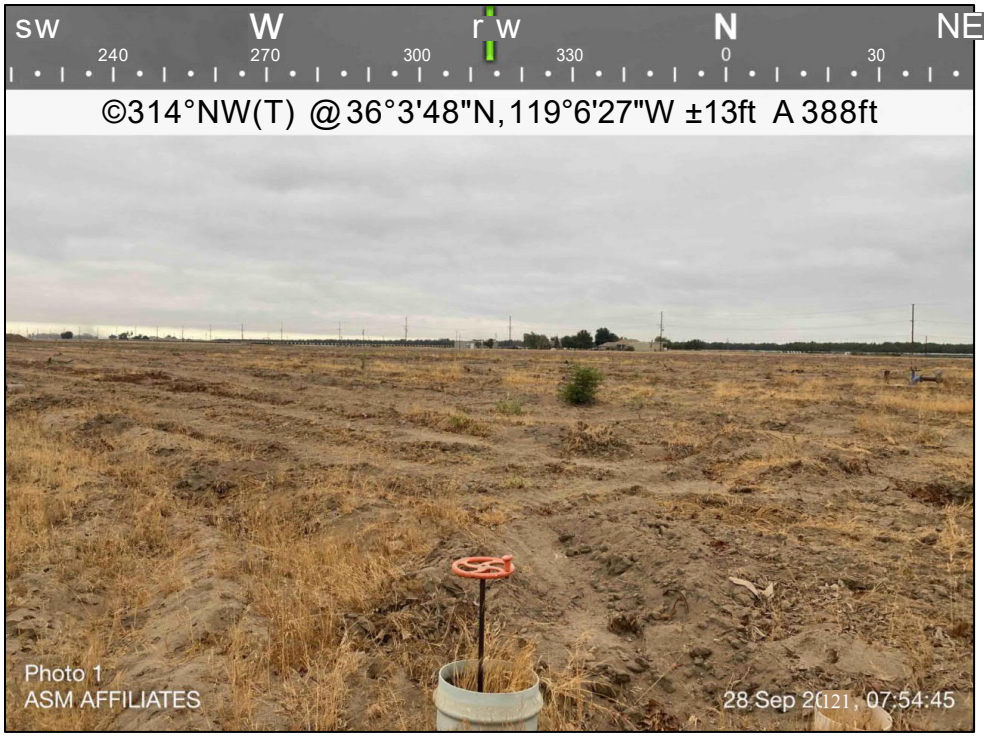


Figure 3. Overview of the Jones Corner Recharge Basin APE looking northwest.

Figure 4. Overview Burns Recharge Basin APE looking southeast.

Figure 5. Overview of Los Robles Basin looking east/southeast.

Figure 6. Rhodes-Fine Ditch segment west of Road 208. Note mix of modern (road-crossing) and older but not original (steel gate at corrugated pipe farm crossing) features, and the current modern road landscape setting.

5. SUMMARY AND RECOMMENDATIONS

An intensive Class III cultural resources inventory/Phase I survey was conducted for the Jones Corner, Burns and Los Robles Water Bank Project, Tulare County, California. The horizontal Project APE was defined as all areas of potential ground-surface disturbance, comprising the proposed water banking basins and the pipeline route, totaling proximately 88 acres (ac). The vertical APE, consisting of the maximum depth of excavation, is 10-feet.

A records search of site files and maps was obtained from the Southern San Joaquin Valley Archaeological Information Center, California State University, Bakersfield. A Sacred Lands File Request was also submitted to the Native American Heritage Commission. Outreach letters and follow-up emails were sent to tribal organizations on the NAHC contact list to solicit any additional information about tribal cultural resources in the Project area. The records searches indicated that three previous studies had surveyed portions of the current Project APE but no cultural resources were known within it, and no sacred sites or tribal cultural resources were identified in or I the vicinity of the Project APE.

The Class III inventory/Phase I survey fieldwork was conducted with parallel transects spaced at 15-meter (m) intervals walked across the APE. A 15-m buffer was surveyed on both sides of the pipeline route. One newly identified cultural resource was discovered and recorded: a segment of the Rhodes Fine Ditch, which originally dates to 1869. No additional cultural resources of any kind were identified during the study.

5.1 ELIGIBILITY EVALUATION AND RECOMMENDATIONS

ASM considered whether the documented segment of the Rhodes-Fine Ditch is eligible for listing in the NRHP or CRHP. The ditch dates to 1869 and it represents one of the early efforts at irrigation in the region. It is thus potentially eligible under Criterion A/1, association with important historical events, and the identified NRHP theme of the Development of Irrigated Agriculture in the San Joaquin Valley, with a period of significance from 1852-1964. It has no known association with an important historical individual nor represents an unusual, innovative or especially typical example of this common property type. It is thus not eligible under Criteria B/2 or C/3, respectively. It also has no potential research value not better provided in documentary sources and it is not eligible under Criterion D/4.

Based on historical topographical quadrangles and aerial photographs, however, the ditch was realigned circa 1940 and again in the early 1980s and its water control systems (culverts, weirs, lift gates) have been modernized. These include crossings under two modern roads with landscape changes to the surrounding terrain. The recorded ditch segment thus lacks integrity of location, setting, materials, design and workmanship and is recommended as not eligible for listing on the NRHP or CRHR under any criteria.

No other cultural resources were identified during the survey. A determination of No Adverse Effect/No Impact to significant or unique cultural resources is recommended for the Project.

REFERENCES

Boyd, W.H.
1997 *Lower Kern River Country 1850-1950: Wilderness to Empire*. Kings River Press, Lemoore.

California Supreme Court
1892 *Reports of Cases Determined in the Supreme Court of the State of California*, Volume 91. San Francisco: Bancroft-Whitney Company.

Caltrans
1999 *General Guidelines for Identifying and Evaluating Historic Landscapes*. Sacramento: Caltrans.
2000 *Water Conveyance Systems in California: Historic Context Development and Evaluation Procedures*. Sacramento: Caltrans.
2007 *A Historical Context and Archaeological Research Design for Agricultural Properties in California*. Sacramento: Caltrans.
2008 *A Historical Context and Archaeological Research Design for Mining Properties in California*. Sacramento: Caltrans.

Cook, S. F.
1978 Historical Demography. In *Handbook of North American Indians, Volume 8, California*, R. F. Heizer, editor, pp. 91-98. Washington, D.C., Smithsonian Institute.

Driver, H.E.
1937 Cultural Element Distributions: VI, Southern Sierra Nevada. *University of California Anthropological Records* 1(2):53-154. Berkeley

Elsasser, A.
1962 *Indians of Sequoia and Kings Canyon National Parks*. Three Rivers: Sequoia Natural History Association.

Fenenga, F.
1952 The Archaeology of the Slick Rock Village, Tulare County, California. *American Antiquity* 17:339-347.

Fredrickson, D.A. and J. Grossman
1977 A San Dieguito component at Buena Vista Lake, California. *Journal of California and Great Basin Anthropology* 4:173-190.

Gayton, A.H.
1930 Yokuts-Mono Chiefs and Shamans. *University of California Publications in American Archaeology and Ethnology* 24. Berkeley, 361-420.
1948 Yokuts and Western Mono Ethnography. *University of California Anthropological Records* 10:1–290. Berkeley.

Gifford, E.W. and W.E. Schenck
1926 Archaeology of the Southern San Joaquin Valley. *University of California Publications in American Archaeology and Ethnology* 23(1):1-122.

Grunsky, C.E.
1898 Irrigation Near Bakersfield. *Water-Supply and Irrigation Papers of the United States Geological Survey, No. 17*-23. Washington, Government Printing Office.

Harrington, John Peabody
n.d. Yokuts ethnographic notes. National Anthropological Archives.

Hewes, G.
1941 Archaeological reconnaissance of the central San Joaquin Valley. *American Antiquity* 7:123-133.

Horne, S.P.
1981 *The Inland Chumash: Ethnography, Ethnohistory and Archaeology*. Ph.D. dissertation, UCSB. University Microfilms, Ann Arbor.

Jones. T.L., G.M. Brown, L.M. Raab, J.L. McVickar, W.G. Spaulding. D.J. Kennett, A. York and P.L. Walker
1999 Demographic Crisis in Western North America during the Medieval Climatic Anomaly. *Current Anthropology* 40:137-170.

King, C., C. Smith and T. King
n.d. Archaeological Report Related to the Interpretation of Archaeological Resources Present at the Vasquez Rocks County Park. Report on file, UCLA AIC.

Kroeber, A.L.
1925 Handbook of the Indians of California. *Bureau of American Ethnology, Bulletin 78*. Washington, D.C.

Latta, F. F.
1977 *Handbook of the Yokuts Indians*. Bear State Books, Santa Cruz.

Moratto, M.
1984 *California Archaeology*. New York: Academic Press.

Morgan, W.A.
1914 *History of Kern County, California with Biographical Sketches*. Los Angeles: Historic Record Company.

Pacific Legacy, Inc.
2006 Southern San Joaquin Valley Oil Fields Comprehensive Study. Manuscript on file, BLM Bakersfield office.

PID
2012 Five Year Update: Agricultural Management Plan. Report on file, Porterville Irrigation District.

Powers, Stephen
1971 The Yokuts Dance for the Dead. In R.F. Heizer and M.A. Whipple, editors, pp. 513-519, *The California Indians: A Source Book* (second edition). Berkeley, University of California Press (original 1877).
1976 *Tribes of California*. Berkeley, University of California Press (original 1877).

Preston, William L.
1981 *Vanishing Landscapes: Land and Life in the Tulare Lake Basin*. Berkeley, University of California Press.

Schiffman, R.A. and A.P. Garfinkel
1981 Prehistory of Kern County: An Overview. *Bakersfield College Publications in Archaeology, Number 1*.

Siefkin, Nelson
1999 Archaeology of the Redfeldt Mound (CA-KIN-66), Tulare Basin, California. M.A. Thesis, Department of Sociology and Anthropology, California State University, Bakersfield.

Sutton, M.Q.
1988a An Introduction to the Archaeology of the Western Mojave Desert, California. *Archives of California Prehistory, No. 14*. Salinas: Coyote Press.
1988b On the Late Prehistory of the Western Mojave Desert. *Pacific Coast Archaeological Society Quarterly* 24(1):22-29.
2009 People and Language: Defining the Takic Expansion into the Southern California. *Pacific Coast Archaeological Society Quarterly* 40(2, 3): 31-73.

W&S Consultants
2006 Phase II Test Excavations and Determinations of Significance for the Tejon Mountain Village Project, Kern County, California. Report on file, Tejon Ranch Company.

Wedel, W.
1941 Archaeological Investigations at Buena Vista Lake, Kern County, California. *Bureau of American Ethnology Bulletin* 130.

Whitley, D.S.
1992 Shamanism and Rock Art in Far Western North America. *Cambridge Archaeological Journal* 2(1):89-113.
2000 *The Art of the Shaman: Rock Art of California*. Salt Lake City: University of Utah Press.

Whitley, D.S. and M.P. Beaudry
1991 Chiefs on the Coast: The Development of Complex Society in the Tiquisate Region in Ethnographic Perspective. *The Development of Complex Civilizations in Southeastern Mesoamerica*, W. Fowler, ed., pp. 101-120. Orlando: CRC Press.

Whitley, D.S., G. Gumerman IV, J. Simon and E. Rose
1988 The Late Prehistoric Period in the Coso Range and Environs. *Pacific Coast Archaeological Society Quarterly* 24(1):2-10.

Whitley, D.S., J. Simon and J.H.N. Loubser
2007 The Carrizo Collapse: Art and Politics in the Past. In *A Festschrift Honoring the Contributions of California Archaeologist Jay von Werlhof*, ed RL Kaldenberg, pp. 199-208. Ridgecrest: Maturango Museum Publication 20.

Appendix D

Facility Reports for Jones Corner, Burns and Los Robles Water Banks

BURNS WATER BANK

Banking Project Facility Report

December 2021

Homer LLC

Introduction

Homer LLC (Homer) operates an existing groundwater recharge facility in Porterville Irrigation District (PID or District) under a sub-lease from a tenant (Appendix A). Homer desires to re-classify this existing recharge basin, which has been operating for five years, into a water bank. No new facilities will be constructed as part of this Project and physical operations will not be different from current operations. The facility is currently operated in accordance with the PID "*Policy Principles for Porterville Irrigation District Landowner Groundwater Recharge Program"* (adopted on March 8, 2016). After re-classification, the facility will be operated in accordance with the PID "*Policy Principles for Porterville Irrigation District Groundwater Banking Program*" (adopted on December 12, 2017, Banking Policy) and in accordance with a water banking agreement between Homer and PID (Homer – PID Banking Agreement) as required by the Banking Policy (Project). In addition, the Project will be operated in compliance with the Eastern Tule Groundwater Sustainability Agency (ETGSA) Groundwater Sustainability Plan (GSP) that was submitted to the Department of Water Resources (DWR) in January of 2020 and the ETGSA Land Subsidence and Management Plan ("Subsidence Plan"), currently in draft form, once adopted.

The facility recharges water delivered through the Friant-Kern Canal (FKC), the Rhodes Fine Ditch, the Wood Central Ditch, and the Tule River Intertie Ditch. Figure 1 and Figure 2 depict the Project facilities. These facilities include an 8.8-acre water bank, a pipeline that delivers water via gravity from the Rhodes-Fine Ditch, a flow meter, a basin water level datalogger, and two piezometers. Temporary pumps are periodically used to deliver water from the Lower Tule River Irrigation District (LTRID) Tule River Intertie Ditch which receives water from the Wood Central Ditch. Temporary pumps may also be periodically used to deliver water from the FKC into the Rhodes-Fine Ditch. The Project does not include recovery wells. Under both current and future operations, recharged and banked water are/will be transferred in-ground to others in accordance with the cited policies, rules, and plans. The purpose of this report is to provide PID with information about the Project in accordance with requirements of the Banking Policy.

Project Purpose

The Project will primarily bank water that is periodically available above current needs from the Friant Division of the Central Valley Project (Friant). The Project might also bank water from other systems, but separate approvals will be secured if required. As required by the Banking Policy, 10% to 30% of the recharged water will be allocated to PID's storage account depending on the source and destination. Recovered water will be delivered to lawful recipients within the allowed Places of Use of the banked water. Project objectives will be as follows:

- Increase water supply: The Project will increase supplies available to PID, Homer, and other participants.
- Improve groundwater conditions: The Project will reduce aquifer overdraft in the PID, the ETGSA, the Tule Sub Basin and in other areas that receive recovered water.
- Reduce costs to produce groundwater: The Project will cause water levels to rise, thus reducing groundwater pumping costs.
- Increase diversification and availability of water supplies: The Project will increase the diversity of water supplies available to PID, its landowners, and other participants.
- Facilitate compliance with the Sustainable Groundwater Management Act (SGMA): The Project will significantly advance PID's efforts to comply with SGMA.
- Subsidence reduction: The Project will help to reduce ground subsidence by accruing more water to the local aquifer system and by reducing groundwater pumping in the places of use.

Project Location

Figure 1 presents an overview map and Figure 2 presents a Project facilities map of the location of existing facilities. Appendix B also includes design sheets of the Burns grading plan.

Table 1: Estimated Project Capacities

RECHARGE CAPACITIES								
Facility	**Gross Acres**	**Recharge Acres**	**Est. Peak Recharge Rate**	**Est. Long-Term Recharge Rate**	**Est. Long-Term Recharge**	**Anticipated Avg. Recharge Window**	**Anticipated Avg. Annual Recharge Capacity**	**Maximum Est. Annual Recharge Capacity**
	ac	***ac***	***ft/day***	***ft/day***	***AF/month***	***months***	***AF/year***	***AF/year***
Burns Water Bank	8.8	7.9	1.0	1.0	238	4	950	2,860

Note

All operations are to be monitored and if necessary constrained in accordance with an PID approved MOCP and the Homer-PID Banking Agreement

Project Capacities

Table 1 summarizes the estimated Project recharge capacities. The maximum estimated annual capacities were computed based on 12 months of operation. However, as indicated it is anticipated that recharge operations will average 4 months in wet years. The water bank has been operational since 2016, and Table 2 below displays the annual recharge volumes from 2016 through 2020. The average recharge rate from 2016 through 2020 was calculated to be approximately 1 ft/day, which closely corresponds with the recharge rates estimated in Table 1 above. The Project will not include direct recovery facilities. In all circumstances the Project will be operated in compliance with a Monitoring and Operational Constraint Plan (MOCP, see details further in this report) to ensure that the beneficial effects of the Project are maximized while preventing significant unacceptable impacts to the aquifer, groundwater levels, groundwater quality, the Friant Kern Canal (FKC), or adjacent landowners relative to conditions that would have occurred absent the Project.

Table 2. Historical Annual Recharge Volumes

Year	Recharge Volume (AF)
2016	246
2017	1101
2018	0
2019	452
2020	0

Project Facilities

The recharge facility consists of an 8.8-acre water bank, two piezometers, a flow meter with logger with cloud-based telemetry, and a water level monitoring transducer with cloud-based telemetry. The Project may also periodically use temporary pumps to lift water from the FKC into the Rhodes-Fine Ditch and from the LTRID Tule River Intertie Ditch into the water bank. These temporary pumps are placed on top of the ground, not causing any ground disturbance. No water would be put back into the FKC or Tule River Intertie Ditch. The facility will not include the installation of recovery wells.

Recharge Operations

It is anticipated that the Project will primarily bank Friant water that is periodically available above the then current demand. It is possible that the Project might bank water from other systems, but separate approvals will be secured if required. As required by the Banking Policy, 10% to 30% of the recharged water will be allocated to PID's storage account, depending on the source and destination.

As depicted on Figure 2, water is delivered to the water bank through two means:

Rhodes Fine Ditch Delivery: Water is conveyed through the Rhodes-Fine turnout and delivered west via gravity through the Rhodes-Fine Ditch. Once water reaches Ave 152, the ditch transitions into a PVC pipeline which delivers water to the basin. Water may also be pumped from the FKC into the Rhodes-Fine Ditch via temporary pumps. These temporary pumps will be placed on top of the ground, not causing any ground disturbance. Use of temporary pumps is subject to the United States Bureau of Reclamation (USBR) and Friant Water Authority (FWA) approval.

Wood Central Ditch Delivery: Water is diverted via gravity through either the Wood Central Ditch turnout from the FKC or the Tule River spillway from the FKC and then delivered west through the Wood Central Ditch to the LTRID Tule River Intertie Ditch. A temporary pump is then installed to lift water from the LTRID Tule River Intertie Ditch into the water bank. These temporary pumps are placed on top of the ground, not causing any ground disturbance. This mode of delivery requires authorization from LTRID.

In all cases Homer's ability to divert and convey water will be contingent on approval from PID, LTRID (in the case of Wood Central Ditch and Tule River Intertie Ditch operations), and USBR/FWA (in the case of the FKC temporary pumps) to ensure that Homer's operations do not impair District operations and comply with District policies, rules, and regulations.

Transfer-Recovery Operations

The Project will not include construction of recovery wells. All banked water recovery will take place through in-ground transfers (Transfer-Recover) with recovery from overlying wells within the region, as described below:

Transfer-Recovery within PID: Banked and recharged water may be transferred and subsequently recovered from wells in PID, for use in PID, in accordance with the District Recharge Policy and the Banking Policy. This mode of recovery will not be used for wells within 1 mile of the FKC until the management portion of the Subsidence Plan has been adopted. Thereafter, this potential operation will be performed in compliance with requirements of the Subsidence Plan.

Transfer-Recovery within the ETGSA*:* Banked and recharged water may be recovered from wells in the ETGSA that are outside of PID in accordance with ETGSA rules and regulations. This mode of recovery will not be used for wells within 1 mile of the FKC until the management portion of the Subsidence Plan has been adopted. Thereafter, this potential operation will be performed in compliance with requirements of the Subsidence Plan.

Recovery within Pixley ID: Banked water may be recovered from wells in Pixley ID in accordance with both ETGSA and Pixley ID GSA rules and regulations.

Recovery within LTRID: Banked water may be recovered from wells in LTRID in accordance with both ETGSA and LTRID GSA rules and regulations. This mode of recovery will not be used for wells within 1 mile of the FKC until the management portion of the Subsidence Plan has been adopted. Thereafter, this potential operation will be performed in compliance with requirements of the Subsidence Plan.

Operational Exchanges: As detailed above, ETGSA districts, Pixley ID, and LTRID may receive banked water through in-ground transfers. Contingent on receiving district approval, this banked water may be exchanged for water in Millerton Reservoir, the FKC, or in San Luis Reservoir. The exchanged water will then be delivered to the legal places of use contingent on receiving all required approvals.

Operation and Maintenance

The Project will be operated and maintained by Homer in coordination with PID. The Homer– PID Banking Agreement will detail the conditions under which PID facilities might be used and how the District will be reimbursed for the costs they incur in supporting the Project.

The Project water bank is maintained using normal farming and irrigation district practices. The Project's operational goals are 1) to maintain a safe, reliable, and productive facility, 2) to prevent the long-term establishment of undesirable invasive plants in the Project and/or their migration onto adjacent farms, and 3) to prevent berm erosion/destabilization and/or rodent infestation through standard farming and water industry practices. During operation: the basin water surface level is maintained at or below two (2) feet of freeboard; twice daily, in-person inspections are performed between the hours of 7:00 AM and 5:00 PM. A water operations manager or basin operator is on-call 24 hours a day, 7 days a week, to respond quickly if an inspection or any of the automatic monitors indicate a spill risk, pump issues, or imminent berm failures.

Monitoring and Operational Constraint Plan (MOCP)

The Project will be designed, operated, and monitored in a manner to ensure that the beneficial effects of the Project are maximized while preventing significant unacceptable impacts to the aquifer, groundwater levels, groundwater quality, the FKC, or adjacent landowners relative to conditions that would have occurred absent the Project. Homer shall form a Monitoring Committee to ensure that district interests, adjacent landowners, and FKC interests are represented. Homer shall identify and appoint the landowner representative(s). The 5-member Monitoring Committee will be composed as follows:

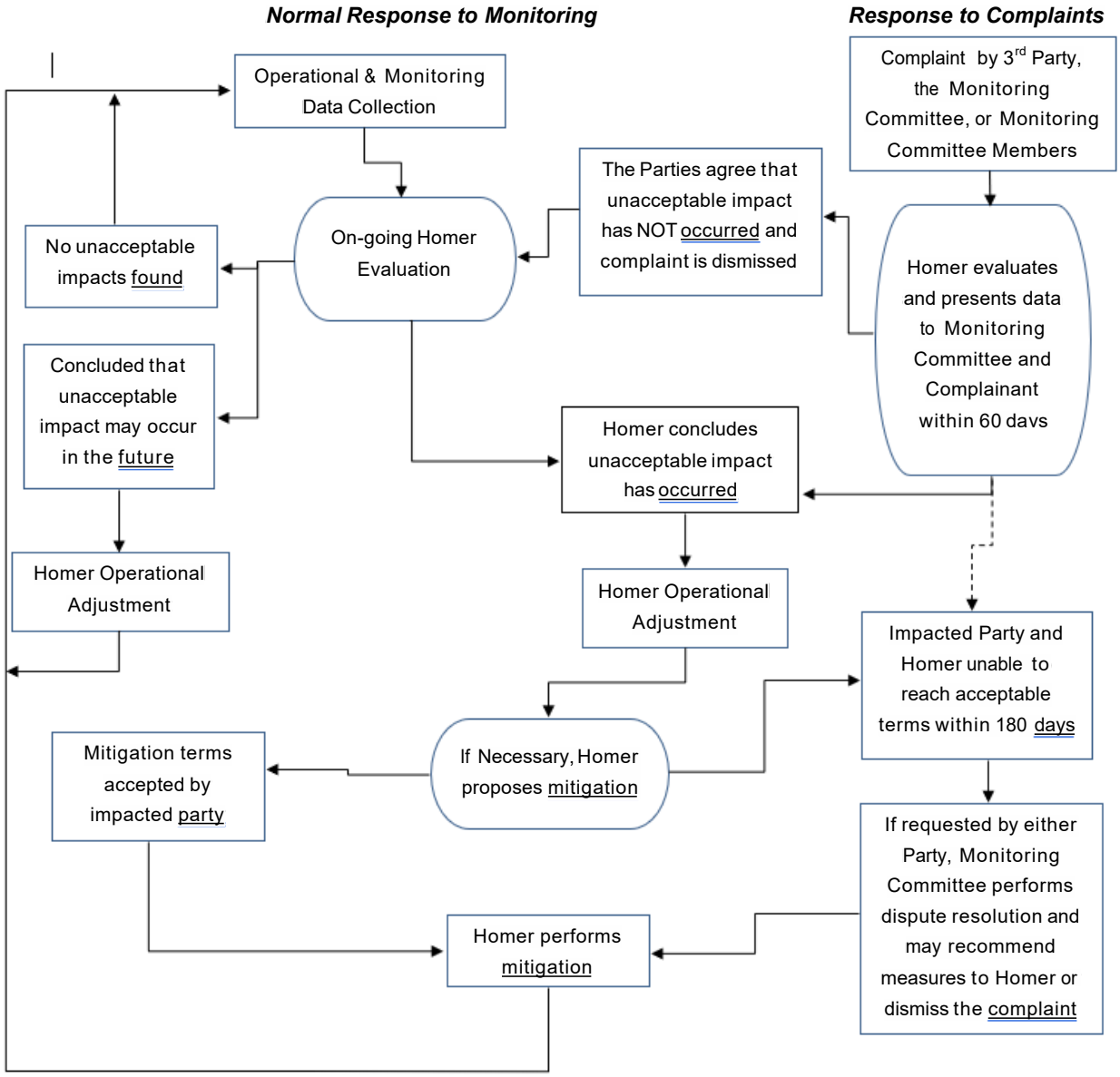
- 1 seat for Homer;
- 1 seat for PID directors (potentially including the General Manger if desired by the PID Board);

- 1 seat for an adjacent landowner; and
- 1 seat for a landowner from another location within PID; and
- 1 seat for a Friant Water Authority (FWA) representative.

Each member of the Monitoring Committee shall have one vote. The Monitoring Committee will oversee Homer's implementation of this MOCP. The following figure depicts the process by which Homer will evaluate data, respond to complaints, and perform operational adjustments or mitigation. The Monitoring Committee will be responsible for resolution of disputes in which Homer and a 3rd party are unable to reach agreement on appropriate responses to complaints.

Homer will be responsible for collecting and evaluating data to:

- Estimate if unacceptable impacts to 3rd parties have occurred or may occur in the future as a result of Project operations when compared to conditions that would have occurred absent the Project;
- Adjust Project operations to avoid or minimize unacceptable impacts to 3rd parties; and
- Respond to reasonable complaints of unacceptable impacts as a result of Project operations.



As outlined above, Homer may make operational adjustments in response to data evaluations, complaints by 3rd parties or recommendations from the Monitoring Committee. Examples of potential operational adjustments may include, but are not limited to:

- Shifting the schedules, and rates at which recharge is performed;
- Reimbursement for higher pumping costs;
- Well rehabilitation;
- Lowering a pump further down a well;
- Reimbursement for treatment costs;
- Installation of treatment systems;
- Providing an alternate water supply; and
- Installation of a new well.

All water level, water flow, and water quality reports will be reported to the Monitoring Committee. The Project will comply with requirements of the Subsidence Plan, once adopted.

Water Accounting and Monitoring

Data Collection

The Project will include the following data collection to ensure accurate measurement of recharged, evaporated, banked, and recovered water:

- Instantaneous and totalizing flow meters on each conveyance delivering water into water bank (make/type of each meter subject to approval from PID);
- Pressure transducer and/or microwave water level measurement; and
- Use of data from the nearest California Irrigation Management Information System (CIMIS) meteorological station to estimate evaporative loss of applied water before it percolates into the ground.

Each flow meter will be equipped with a data logger and cloud-based telemetry to ensure a continuous record of operations. Telemetry systems will have text and email alerts for the on-call operator and two alternate operators. In addition, instantaneous flow, AF totalizer, and water surface level readings are manually recorded on a daily (24-hour) basis any time the Project is operating. Each meter is calibrated annually or as requested by PID. To the degree there is a discrepancy between Homer data and District records that cannot be reconciled, the record is modified to reflect whichever records the parties deem most reliable.

Banked and Recharged Water Accounting

The amount of water applied to the Project is computed on daily, 24-hour increments. The volume of applied water lost to evaporation prior to recharge is estimated using data from the nearest CIMIS Station. The remaining volume after subtraction of evaporative losses is reported to PID as the recharged volume.

Water Level Monitoring

The lowest end of the Project basin is equipped with an automatic water level monitoring device (pressure transducer) that is set to contact the on-call operator (and 2 back-up operators) if the water level in the basin rises to within 1 foot of the basin berm crest. Homer has procedures to ensure that the alerted on-call operator adjusts or shuts off recharge operations to prevent basin spill.

Groundwater levels will be measured in the Project piezometers and nearest 3rd party wells (both irrigation and domestic, contingent on well owner approval) on a monthly basis during recharge periods and twice a year at other times. Recharge operations will be constrained or shut down in the event that monitored offsite well water levels, known to be influenced by the Project operations, rise to within 15 feet of the ground surface.

Water Quality Monitoring

Groundwater quality will be monitored to ensure that it remains appropriate for designated beneficial uses as follows:

- *Baseline sampling*: All operable wells (irrigation and domestic) within a 1/4-mile radius of Project recharge facilities will be initially sampled for Analytical Suite 1 (contingent on well owner approval); and
- *On-going sampling*: The nearest operable wells (irrigation and domestic) on properties immediately adjacent to Project recharge facilities will be sampled once a year for the full Analytical Suite (contingent on well owner approval).

Analytical Suite

Parameter	Analytical Method
Aluminum	EPA 200.7
Antimony	EPA 200.7
Arsenic	EPA 200.8
Asbestos	EPA Method 100 (TEM)
Barium	EPA 200.7
Beryllium	EPA 200.8
Boron	EPA 200.7
Cadmium	EPA 200.7
Calcium	EPA 200.7
Carbonates + bicarbonates	EPA 310.1
Chloride	SM 4500
Chromium	EPA 200.7
Color	EPA 110.2
Copper	EPA 200.7
Cyanide	EPA 335.2
1,2-Dibromo-3-Chloropropane (DBCP)	EPA 504.1
Ethylene Dibromide (Dibromoethane, EDB)	EPA 504.1
Fecal coliform	SM 9221E or 9223B
Fluoride	EPA 340.1
Foaming agents (MBAS)	EPA 425.1
Gross alpha	SM 7110C EPA 900.0
Iron	EPA 200.7
Magnesium	EPA 200.7
Manganese	EPA 200.7
Mercury	EPA 245.1
Methyl tert-butyl ether (MTBE)	EPA 8260B
Nickel	EPA 200.7
Nitrate as NO3	EPA 300
Nitrate + nitrite	EPA 335.3
Nitrite as N	SM 4500
Odor threshold	EPA 140.1
Perchlorate	EPA 314.0
Potassium	EPA 200.7
pH (Field)	EPA 150.1
Phosphorous	EPA 365.2
Selenium	EPA 200.8
Silver	EPA 200.7
Sodium	EPA 200.7
Sodium absorption ratio (SAR)	Calculated
Specific conductance (Field)	EPA 120.1
Sulfate	EPA 375.4
Temperature (Field)	EPA 170.1
Thallium	EPA 200.8

Thiobencarb	EPA 525/507 Full list
Total dissolved solids (TDS)	EPA 160.3
Turbidity (Field)	EPA 180.1
Uranium	EPA 908.0
Zinc	EPA 200.7

Subsidence Monitoring

Significant subsidence (sinking of the ground surface) has occurred along the FKC to the south due to dewatering of silty and clayey formations by groundwater recovery from wells within the region. While the Project will leave behind 10% to 30% of all banked water as a net gain to the aquifer and will not include installation or operation of Project recovery wells, the potential impact of banked water recovery from other wells needs to be monitored. The Project will comply with requirements of the ETGSA rules and regulations, including the ETGSA Subsidence Plan, when adopted. In the interim, the Project will not allow recovery of banked water from wells that are within 1 mile of the FKC until the ETGSA Subsidence Plan has been adopted.

Reporting

During operating periods Homer will submit monthly reports to PID which include the following information:

- The beginning volumes of water in the Homer and PID banked water accounts;
- The sources of water sent to the Project turnout;
- Volumes of water discharged to the Project basin (daily basis);
- Percolation rates (daily basis);
- Losses to evaporation (daily basis);
- Net volumes of recharged water and/or banked water (daily basis);
- The volumes of recharged or banked water allocated into the Homer and PID accounts in accordance with the Banking Policy leave behind requirements;
- Volumes of Homer's banked water transferred to others, including the places of use;
- The ending volumes of water in the Homer and PID banked water accounts; and
- Depth to water graphs for key wells approved by the District.

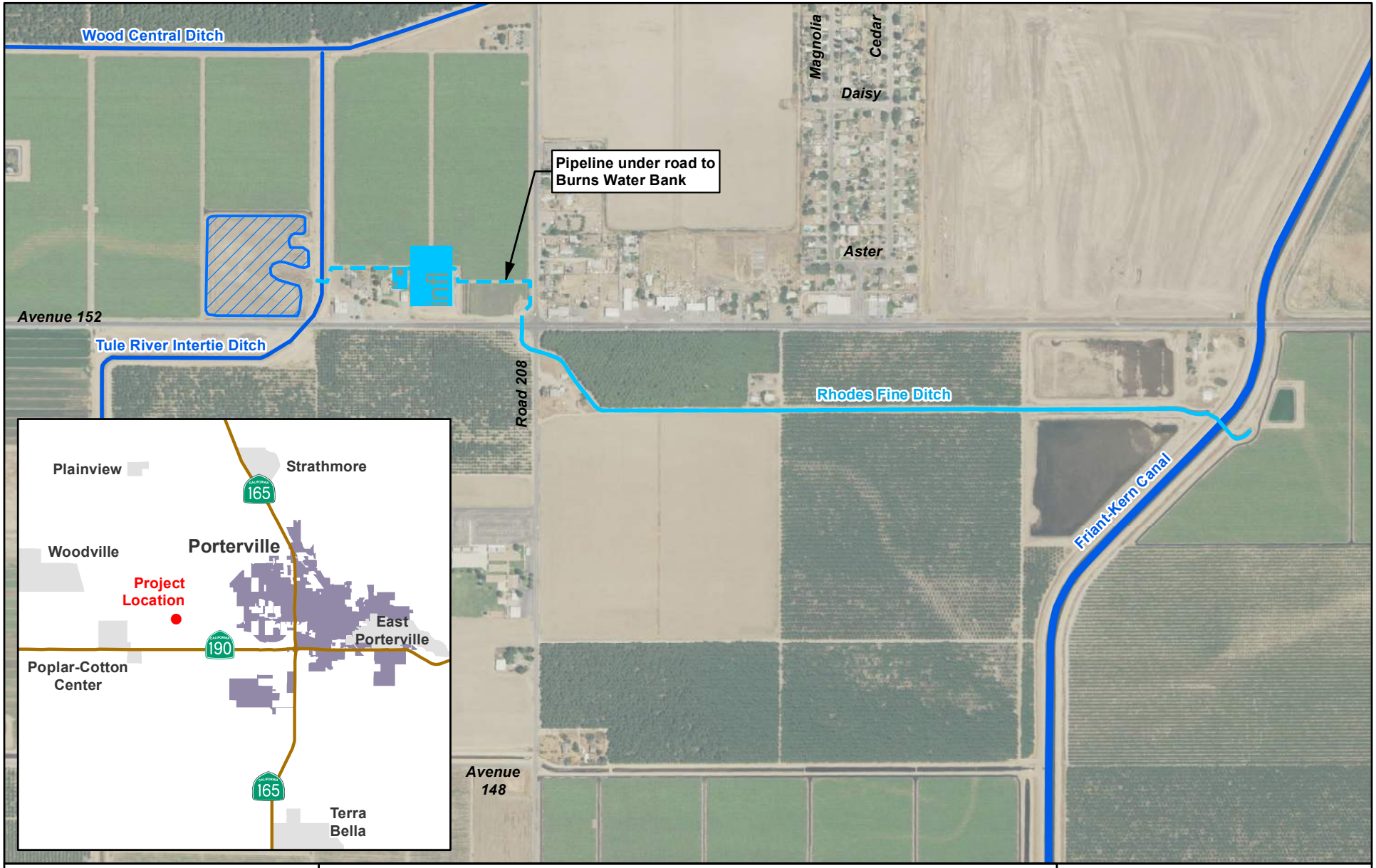
By January 15 of each year, regardless of whether there were any Project operations, Homer will submit an annual report for the prior year running from October 1 through September 30. This report, submitted to PID and the Monitoring Committee, will include the annual totals for the information listed above and additionally will include the following information:

- A chronological summary of operations and response to Monitoring Committee issues, if any;
- Tabulations of all water level, water quality, water volumes and subsidence monitoring data;
- A map presenting the distributions of total dissolved solids in monitored wells;
- Activities performed to comply with the ETGSA Subsidence Plan;
- Maps presenting the spring and fall elevations of water levels in wells, including interpreted directions of groundwater flow; and
- Maps presenting the spring and fall depths to water in wells.

Limitations and Commitments

- Water will be banked, returned, exchanged, or transferred in compliance with all federal, state, local, and tribal laws, and requirements imposed for protection of the environment and Indian Trust Assets, including the Central Valley Project Improvement Act;
- The Project will not be used to place untilled or new lands into agricultural production, or to convert undeveloped land to other uses. Specifically, no native or untilled land (fallow for three consecutive years or more) will be cultivated with the water managed through this Project;
- Transfers and/or exchanges will be limited to existing supply and will not increase overall consumptive use;
- Operations to bank, return, transfer and/or exchange the water will not result in new Delta exports above those already scheduled for normal CVP or State Water Project (SWP) operations;
- The Project will not interfere with the normal CVP or SWP operations;
- Transfers and/or exchanges cannot alter the flow regime of natural water bodies such as rivers, streams, creeks, ponds, pools, wetlands, etc., so as to not have a detrimental effect on fish or wildlife, or their habitats; and
- The Project will be operated in compliance with the PID Banking Policy; the pending ETGSA GSP; and all applicable district policies, rules, and regulations.

FIGURES



EST 196B
PROVOST& PRITCHARD
CONSULTING GROUP
A- Employee Owned Company

N

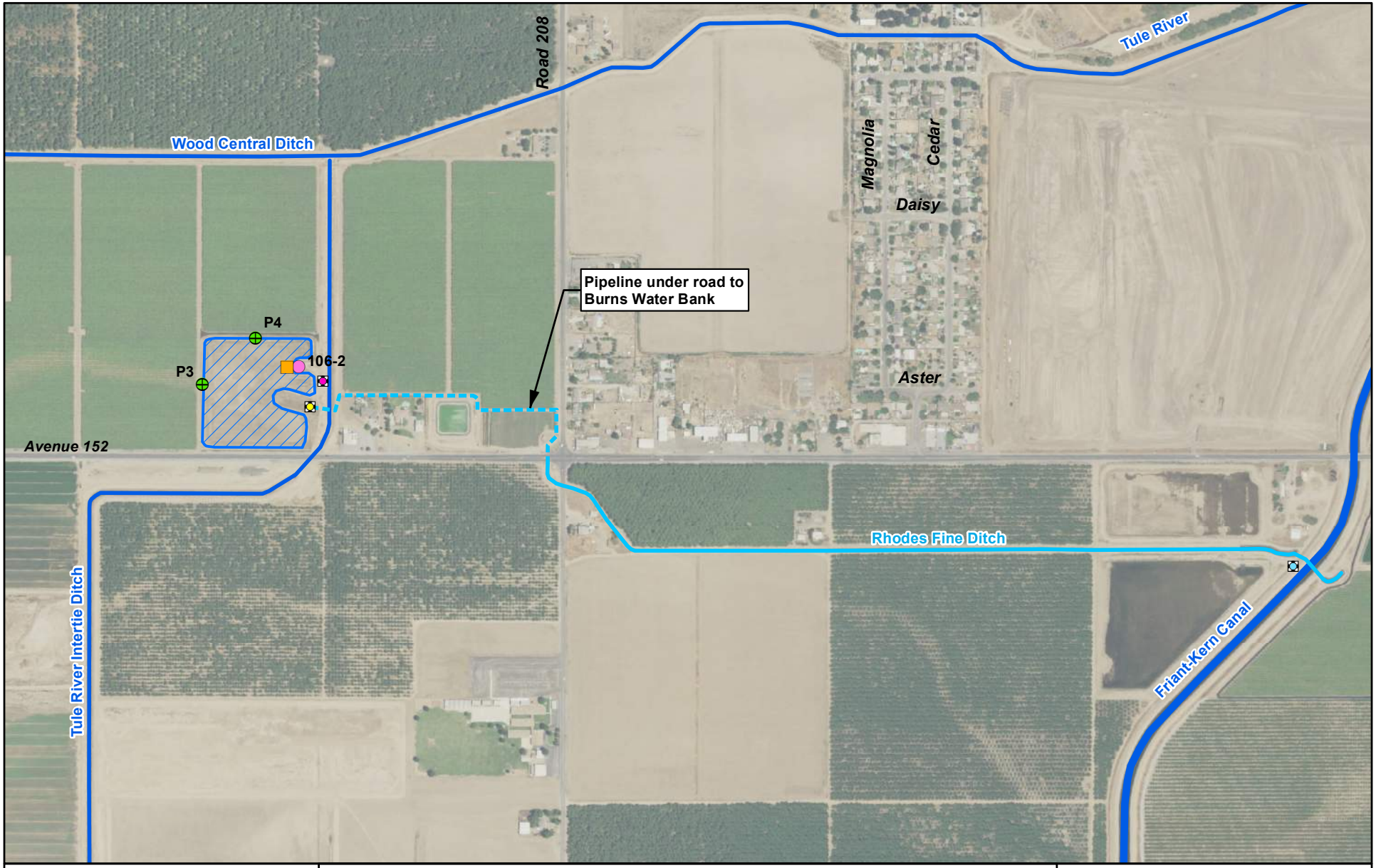
0 250 500
Feet

- Rhodes Fine Ditch
- Pipeline to Burns Water Bank
- Ditch/Canal
- Friant-Kern Canal
- Existing Burns Water Bank

Figure 1

Existing Burns Water Bank
Water Bank Location

10/6/2021 : G:\Homer LLC-2811\281121002-Banking Project Facility Report\400 GIS\Map\Report_Maps\Burns_Location_map.mxd



EST. 1968
PROVOST& PRITCHARD
CONSULTING GROUP
An Employee Owned Company

N

0 250 500
Feet

- Irrigation Well
- Piezometer
- Flow Meter and Pressure Data Logger
- Proposed Temporary FKC Pumps
- Proposed Temporary Intertie Ditch Pumps
- Turnout
- Pipeline to Burns Water Bank
- Rhodes Fine Ditch
- Ditch/Canal
- Friant-Kern Canal
- Existing Burns Water Bank

Figure 2

Burns Water Bank
Water Bank Facilities

10/6/2021 : G:\Homer LLC-2811\281121002-Banking Project Facility Report\400 GIS\Map\Report_Maps\Burns_facilities_map.mxd

APPENDIX

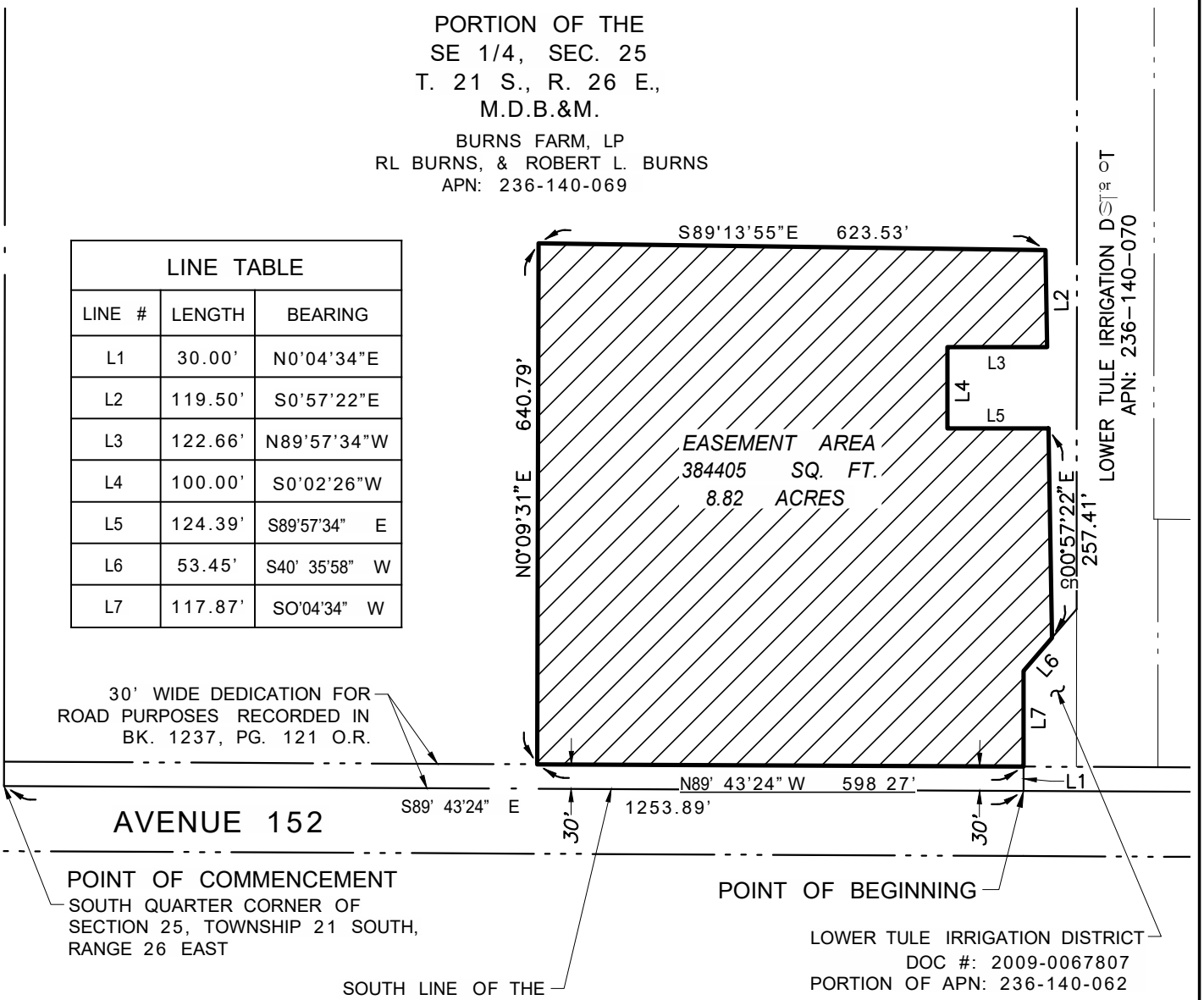
APPENDIX A

WATER BANK EASEMENT AREA

PORTION OF THE
SE 1/4, SEC. 25
T. 21 S., R. 26 E.,
M.D.B.&M.

BURNS FARM, LP
RL BURNS, & ROBERT L. BURNS
APN: 236-140-069

LINE TABLE		
LINE #	LENGTH	BEARING
L1	30.00'	N0°04'34"E
L2	119.50'	S0°57'22"E
L3	122.66'	N89°57'34"W
L4	100.00'	S0°02'26"W
L5	124.39'	S89°57'34" E
L6	53.45'	S40° 35'58" W
L7	117.87'	SO°04'34" W



0 50 100 200 300 400
SCALE IN FEET

LAND
LICENSED RANDELL SCOTT WEST SURVEYOR
LS. 8663
STATE OF CALIFORNIA

Blair, Church Flynn
CONSULTING ENGINEERS

CONSULTANT
Blair, Church & Flynn ConsultingEngineers
451 Clovis Avenue, Suite 200
Clovis, California 93612
Tel (559) 326-1400
Fax (559) 3261500

EXHIBIT "B" – RECHARGE BASIN EASEMENT

APN: 236-140-069

TULARE COUNTY

DR. BY ARG
CH. BY RSW
DATE 4/11/16
SCALE: AS NOTED

SHEET NO. 1
OF 1 SHEETS

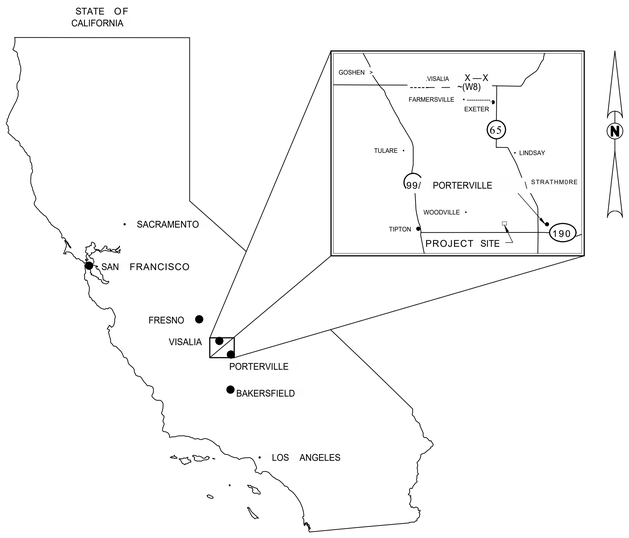
Drawing: P:\216-0199\Site\Exhibits\216199_002_Exhibit-Burns.dwg; LayoutI — BCE.ctb Plot by: agonza/es Apr 11, 2016 — 9:52am

APPENDIX B

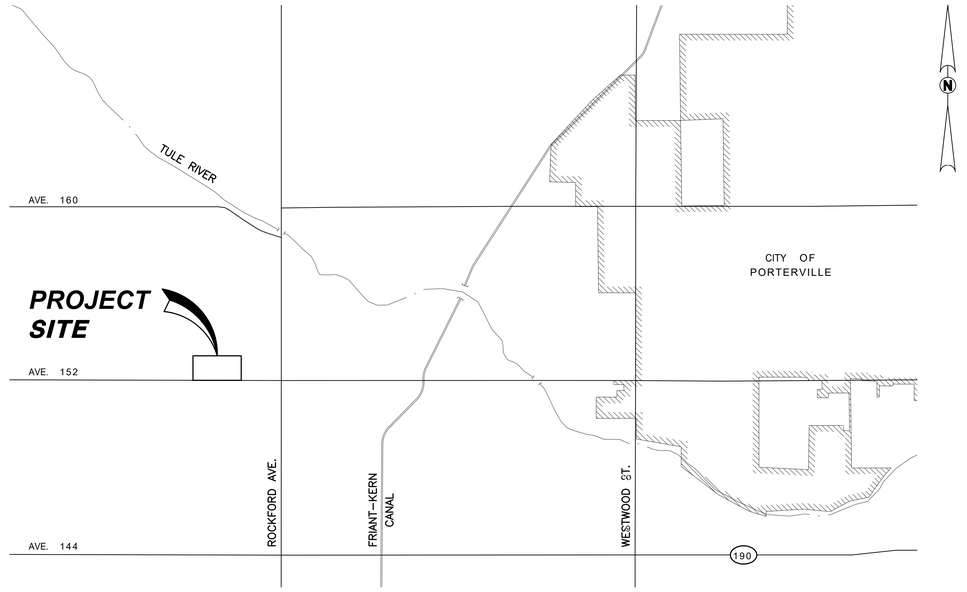
PRELIMINARY DESIGN PLANS

EXHIBIT A

RENEWABLE RESOURCES AND STORAGE GROUP
BURNS LEASE PARCEL – RECHARGE BASIN



LOCATION MAP
NOT TO SCALE



VICINITY MAP
NOT TO SCALE

GENERAL CONTRACT NOTES

1. *ALL WORK SHALL BE DONE IN ACCORDANCE WITH CALTRANS STANDARD PLANS, MAY 2006, AND STANDARD SPECIFICATIONS, MAY 2006.*
2. *BEFORE COMMENCING EXCAVATION, THE CONTRACTOR SHALL NOTIFY ALL UTILITY AUTHORITIES OR UTILITY COMPANIES HAVING POSSIBLE INTEREST IN THE WORK OF THE CONTRACTOR'S INTENTION TO EXCAVATE PROXIMATE TO EXISTING FACILITIES AND THE CONTRACTOR SHALL VERIFY THE LOCATION, DEPTH AND SIZE OF ALL UTILITIES IN THE WORK AREA.*
3. *TWO WORKING DAYS BEFORE PERFORMING ANY EXCAVATION, THE CONTRACTOR SHALL CALL "USA" (UNDERGROUND SERVICE ALERT) TOLL FREE AT 1-800-227-2600.*
4. *WHERE UNDERGROUND AND SURFACE STRUCTURES ARE SHOWN ON THE PLANS, THE LOCATIONS, DEPTH, AND DIMENSIONS OF STRUCTURES ARE BELIEVED TO BE REASONABLY CORRECT, BUT ARE NOT GUARANTEED. SUCH STRUCTURES ARE SHOWN FOR THE INFORMATION OF THE CONTRACTOR, BUT INFORMATION SO GIVEN IS NOT TO BE CONSTRUED AS A REPRESENTATION THAT SUCH STRUCTURES WILL, IN ALL CASES, BE FOUND WHERE SHOWN, OR THAT THEY REPRESENT ALL THE STRUCTURES WHICH MAY BE ENCOUNTERED.*

BENCHMARK

GPS OBSERVATION MADE AT POINT NO. 10.
ELEVATION: 399.14 NAVD 88 DATUM

TABLE OF CONTENTS

WATCH FOR OVERHEAD POWER LINES

811
Know what's bdOW.
Call before you dig.

Blair, Church & Flynn
CONSULTING ENGINEERS

CONSULTANT
Blair, Church & Flynn Consulting Engineers
451 Clovis Avenue, Suite 200
Clovis,California 93612
Tel (559) 326-1400
Fax (559) 326-1500

REF. & REV.

RENEWABLE RESOURCES AND STORAGE GROUP

BURNS LEASE PARCEL
RECHARGE BASIN
COVER SHLLI'

DR. BY: JMS/RF
CH. BY: RC
DATE: 09-18-2015
SCALE AS NOTED

SHEET NO. 1
OF 3 SHEETS

BURNS FARM, LP
RL BURNS, & ROBERT L. BURNS
APN: 236-140-069

FOUND BRASS CAP, FLUSH, PER R1, ACCEPTED AS SOUTH QUARTER CORNER OF SECTION 25

2' WIDE POLE LINE EASEMENT RECORDED IN BK. 1556, PG. 36 O.R.

30' WIDE DEDICATION FOR ROAD PURPOSES RECORDED IN BK. 1237, PG. 121 O.R.

AVENUE 152

RIVER

TULE

INTERTIE

LOWER TULE IRRIGATION DISTRICT DOC. # 2003-0067807 PORTION OF AP # 236-140-062

TOPOGRAPHIC LEGEND

AC	ASPHALTIC CONCRETE
CR	CROWN GRADE
EP	EDGE OF PAVEMENT
FL	FLOWLINE
GB	GRADE BREAK
HDW	HEADWALL
STP	STANDPIPE
(535.21)	EXISTING SPOT ELEVATION
AV	ALFALFA VALVE
312.55	CONTROL POINT
ELC	ELECTRICAL CONDUIT
	ELECTRICAL METER
	JOINT POLE
	POWER POLE
	ROLL GATE
	SERVICE POLE
	SIGN
	SLOPE
024" STP	STANDPIPE
UP	UTILITY POLE
ø2" VP	VENT PIPE; DIAMETER AS SHOWN
	WATER VALVE
WP	WELL PUMP
	EXISTING AC PAVING IMPROVEMENTS
	EXISTING CHAIN LINK FENCE
	EDGE OF ASPHALT CONCRETE PAVEMENT
GX	EXISTING GAS LINE; SIZE AS NOTED
OE	OVERHEAD ELECTRIC
SD	EXISTING STORM DRAIN LINE; SIZE AS NOTED
T	UNDERGROUND TELEPHONE
	EXISTING PROPERTY LINE
	EXISTING RIGHT-OF-WAY
	EXISTING SECTION LINE

DEMOLITION LEGEND

PG	PROTECT EXISTING UTILITY POLE IN PLACE
PU	PROTECT EXISTING PUMP IN PLACE
RG	REMOVE TOP 2'± OF NATIVE SOIL TO EXPOSE SANDY STRATA, USE FOR BERM CONSTRUCTION
RF	REMOVE EXISTING CHAIN LINK FENCE
RP	REMOVE AND SALVAGE EXISTING PIPE CULVERT
	EXTENTS OF NATIVE SOIL REMOVAL

N

0 10 20 40 60 100
SCALE IN FEET

Blair, Church & Flynn
CONSULTING ENGINEERS

CONSULTANT
Blair, Church & Flynn Consulting Engineers
451 Clovis Avenue, Suite 200
Clovis, California 93612
Tel (559) 326-1400
Fax (559) 326-1500

REF. & REV.

RENEWABLE RESOURCES AND STORAGE GROUP

BURNS LEASE PARCEL
RECHARGE BASIN
TOPOGRAPHIC SURVEY AND DEMOLITION PLAN

DR. RY: JMS/RF
CH. BY: RE
DATE: 09-18-2015
SCALE AS NOTED

SHEET NO. 2
OF 3 SHEETS

BURNS FARM, LP
RL BURNS, & ROBERT L BURNS
APN: 236—140—069

RECHARGE BASIN

BASIN HIGH WATER ELEVATION = XXX. XX
BASIN BOTTOM ELEVATION = 293.00

SUMMARY OF ESTIMATED EARTHWORK VOLUMES

CUT	21,850 CU. YD.
FILL	12,300 CU. YD.

654' (MIN)

1319.00'

FOUND BRASS CAP, FLUSH, PER R1, ACCEPTED AS SOUTH QUARTER CORNER OF SECTION 25

2' WIDE POLE LINE EASEMENT RECORDED IN BK. 1556, PG. 36 O.R.

30' WIDE DEDICATION FOR ROAD PURPOSES RECORDED IN BK. 1237, PG. 121 O.R.

AVENUE 152

INTERTIE

TULE RIVER

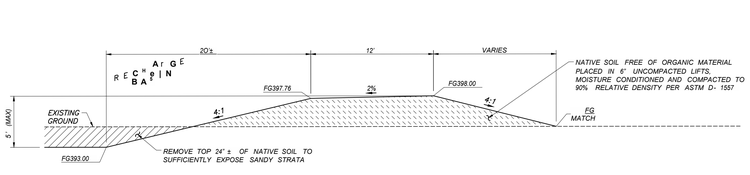
LOWER TULE IRRIGATION DISTRICT DOC #: 2009-0007807 PORTION OF APN: 236-140-06S

TOPOGRAPHIC LEGEND

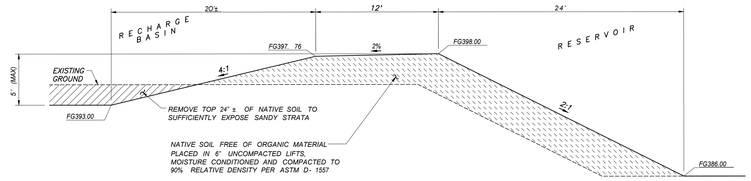
(SEE SHEET 2)

GRADING LEGEND

FG 393.00/	PROPOSED ELEVATION
FG	FINISHED GRADE
Fl	SLOPE AND DIRECTION OF DRAINAGE
>—	NEW SLOPE



A/3 SECTION
NOT TO SCALE



B/3 SECTION
NOT TO SCALE

N

0 10 20 40 60 100
SCALE IN FEET

Blair, Church (V Flynn
CONSULTING ENGINEERS

CONSULTANT
Blair, Church & Flynn Consulting Engineers
401 Clovis Avenue, Suite 200
Clovis,California 93612
Tel (559) 326-1400
Fax (559) 326-1500

REF. & REV.

RENEWABLE RESOURCES AND STORAGE GROUP

BURNS LEASE PARCEL
RECHARGE BASIN
SITE AND GRADING PLAN

DR. BY: JMS/RE
CH. BY: RE
DATE: 09-18-2015
SCALE AS NOTED

SHEET NO. 3
OF 3 SHEETS

LOS ROBLES WATER BANK

Banking Project Facility Report

December 2021

Homer LLC

Introduction

Homer LLC (Homer) operates an existing groundwater recharge facility in Porterville Irrigation District (PID or District) under a permanent easement on the property depicted on Figure 1 and in Appendix A. Homer desires to re-classify this existing recharge basin, which has been operating for five years, into a water bank. No new facilities will be constructed as part of the Project, and physical operations will not be different from current operations. The water bank is currently operated in accordance with the PID "*Policy Principles for Porterville Irrigation District Landowner Groundwater Recharge Program"* (adopted on March 8, 2016). After re-classification, the Project will be operated in accordance with the PID "*Policy Principles for Porterville Irrigation District Groundwater Banking Program*" (adopted on December 12, 2017, Banking Policy) and in accordance with a water banking agreement between Homer and PID (Homer – PID Banking Agreement) as required by the Banking Policy (Project). In addition, the Project will be operated in compliance with the Eastern Tule Groundwater Sustainability Agency (ETGSA) Groundwater Sustainability Plan (GSP) that was submitted to the Department of Water Resources (DWR) in January of 2020 and the ETGSA Land Subsidence and Management Plan ("Subsidence Plan"), currently in draft form, once adopted.

The facility recharges water delivered through the Friant-Kern Canal (FKC) via the Porter Slough Ditch. Figure 1 and Figure 2 depict the existing Project facilities. These facilities include an approximately 8.7-acre water bank, a gravity turnout from Porter Slough Ditch, a flow meter, and a basin water level datalogger. The facility does not include recovery wells. Under both current and future operations, recharged and banked water are/will be transferred in-ground in accordance with the cited policies, rules, and plans. The purpose of this report is to provide PID with information about the Project in accordance with requirements of the Banking Policy.

Project Purpose

The Project will primarily bank water that is periodically available above current needs from the Friant Division of the Central Valley Project (Friant). The Project might also bank water from other systems, but separate approvals will be secured, if required. As required by the Banking Policy, 10% to 30% of the recharged water will be allocated to PID's storage account depending on the source and destination. Banked water will be transferred in-ground to lawful recipients within the allowed Places of Use. Project objectives will be as follows:

- Increase water supply: The Project will increase supplies available to PID, Homer, and other participants.
- Improve groundwater conditions: The Project will reduce aquifer overdraft in the PID, the ETGSA, the Tule Sub Basin, and in other areas that receive recovered water.
- Reduce costs to produce groundwater: The Project will cause water levels to rise, thus reducing groundwater pumping costs.
- Increase diversification and availability of water supplies: The Project will increase the diversity of water supplies available to PID, its landowners, and other participants.
- Facilitate compliance with the Sustainable Groundwater Management Act (SGMA): The Project will significantly advance PID's efforts to comply with SGMA.
- Subsidence reduction: The Project will help to reduce ground subsidence by accruing more water to the local aquifer system and by reducing groundwater pumping in the places of use.

Project Location

Figure 1 presents an overview map and Figure 2 presents a Project facilities map of the location of existing facilities. Appendix B includes the design for the basin grading.

Table 1: Estimated Project Capacities

RECHARGE CAPACITIES								
Facility	**Gross Acres**	**Recharge Acres**	**Est. Peak Recharge Rate**	**Est. Long-Term Recharge Rate**	**Est. Long-Term Recharge**	**Anticipated Avg. Recharge Window**	**Anticipated Avg. Annual Recharge Capacity**	**Maximum Est. Annual Recharge Capacity**
	ac	***ac***	***ft/day***	***ft/day***	***AF/month***	***months***	***AF/year***	***AF/year***
Los Robles Water Bank	9.7	8.7	2.00	1.20	540	4	2,160	6,480

Note

All operations are to be monitored and if necessary constrained in accordance with an PID approved MOCP and the Homer-PID Banking Agreement

Project Capacities

Table 1 summarizes the estimated Project recharge capacities. The maximum estimated annual capacities were computed based on 12 months of operation. However, as indicated it is anticipated that recharge operations will average 4 months in wet years. The water bank has been operational since 2016, and Table 2 below displays the annual recharge volumes from 2016 through 2020. Recharge rates have ranged up to 2 ft/day and averaged 1.20 ft/day, which closely correspond with the recharge rates estimated in Table 1 above. The Project will not include direct recovery facilities. In all circumstances, the Project will be operated in compliance with a Monitoring and Operational Constraint Plan (MOCP, see details further in this report) to ensure that the beneficial effects of the Project are maximized while preventing significant unacceptable impacts to the aquifer, groundwater levels, groundwater quality, the FKC, or adjacent landowners, relative to conditions that would have occurred absent the Project.

Table 2. Historical Annual Recharge Volumes

Year	Recharge Volume (AF)
2016	956
2017	2589
2018	419
2019	1757
2020	370

Project Facilities

The recharge facility consists of a turnout from the Porter Slough Ditch, a 9.7-acre water bank, a flow meter with data logger with cloud-based telemetry, and a water level monitoring transducer with cloud-based telemetry. The facility will use existing facilities to gravity deliver water from the Porter Slough Ditch into the water bank. No water will be put back in the FKC or the Porter Slough Ditch. The Project will not include installation of recovery wells.

Recharge Operations

It is anticipated that the Project will primarily bank Friant water that is periodically available above the then current demand. It is possible that the Project might bank water from other systems, and separate approvals will be secured if required. As required by the Banking Policy, 10% to 30% of the recharged water will be allocated to PID's groundwater storage account, depending on the source and destination.

As depicted on Figure 2, water is gravity delivered to the water bank via the Porter Slough Ditch, which is supplied by the FKC. In all cases, Homer's ability to divert and convey water to the Project will be contingent on approval from PID to ensure that Homer's operations do not impair District operations and comply with District policies, rules, and regulations.

Regarding the ability of the facility accept water for recharge, hydrogeologic studies by Homer indicate that the upper 15 feet of the subsurface consists of clays, as wells as permeable sands and silty sands. During basin construction, the uppermost silts and clays were excavated to create a more permeable recharge surface.

Transfer-Recovery Operations

The Project will not include construction of recovery wells. All banked water recovery will take place through in-ground transfers (Transfer-Recover) with recovery from overlying wells within the region, as described below:

Transfer-Recovery within PID: Banked and recharged water may be transferred and subsequently recovered from wells in PID, for use in PID, in accordance with the District Recharge Policy and the Banking Policy. This mode of recovery will not be used for wells within 1 mile of the FKC until the management portion of the Subsidence Plan has been adopted. Thereafter, this potential operation will be performed in compliance with requirements of the Subsidence Plan.

Transfer-Recovery within the ETGSA*:* Banked and recharged water may be transferred and subsequently recovered from overlying wells in the ETGSA that are outside of PID in accordance with ETGSA rules and regulations. This mode of recovery will not be used for wells within 1 mile of the FKC until the management portion of the Subsidence Plan has been adopted. Thereafter, this potential operation will be performed in compliance with requirements of the Subsidence Plan.

Transfer-Recovery within Pixley ID: Banked water may be recovered from wells in Pixley ID in accordance with both ETGSA and Pixley ID GSA rules and regulations.

Transfer-Recovery within LTRID: Banked water may be recovered from wells in LTRID in accordance with both ETGSA and LTRID GSA rules and regulations. This mode of recovery will not be used for wells within 1 mile of the FKC until the management portion of the Subsidence Plan has been adopted. Thereafter, this potential operation will be performed in compliance with requirements of the Subsidence Plan.

Operational Exchanges: As detailed above, ETGSA districts, Pixley ID and LTRID may receive banked water through in-ground transfers. Contingent on receiving district approval, this banked water may be exchanged for water in Millerton Reservoir, the FKC, or in San Luis Reservoir. The exchanged water will then be delivered to the legal places of use contingent on receiving all required approvals.

Operation and Maintenance

The Project will be operated and maintained by Homer in coordination with PID. The Homer– PID Banking Agreement will detail the conditions under which PID facilities might be used and how the District will be reimbursed for the costs they incur in supporting the Project.

The Project water bank is maintained using normal farming and irrigation district practices. The Project's operational goals are 1) to maintain a safe, reliable, and productive facility, 2) to prevent the long-term establishment of undesirable invasive plants in the Project and/or their migration onto adjacent farms, and 3) to prevent berm erosion/destabilization and/or rodent infestation through standard farming and water industry practices. During operation: the basin water surface level is maintained at or below two (2) feet of freeboard; twice daily, in-person inspections are performed between the hours of 7:00 AM and 5:00 PM. A water operations manager or basin operator is on-call 24 hours a day, 7 days a week, to respond quickly if an inspection or any of the automatic monitors indicate a spill risk or imminent berm failures.

Monitoring and Operational Constraint Plan (MOCP)

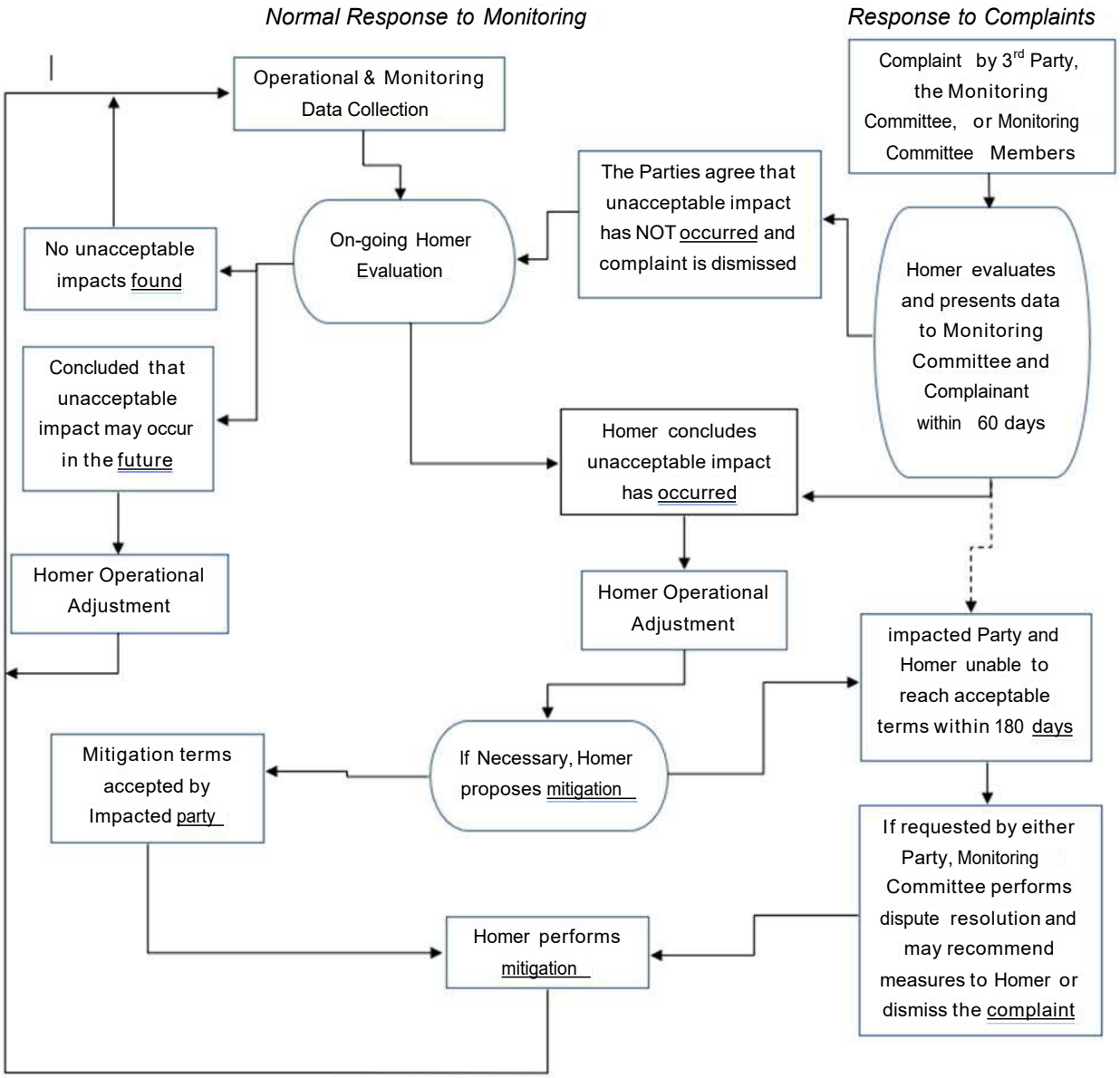
The Project will be designed, operated, and monitored in a manner to ensure that the beneficial effects of the Project are maximized while preventing significant unacceptable impacts to the aquifer, groundwater levels, groundwater quality, the FKC, or adjacent landowners relative to conditions that would have occurred absent the Project. Homer shall form a Monitoring Committee to ensure that district interests, adjacent landowners, and FKC interests are represented. Homer shall identify and appoint the landowner representative(s). The 5-member Monitoring Committee will be composed as follows:

- 1 seat for Homer;
- 1 seat for PID directors (potentially including the General Manger if desired by the PID Board);
- 1 seat for an adjacent landowner; and
- 1 seat for a landowner from another location within PID; and
- 1 seat for a Friant Water Authority (FWA) representative.

Each member of the Monitoring Committee shall have one vote. The Monitoring Committee will oversee Homer's implementation of this MOCP. The following figure depicts the process by which Homer will evaluate data, respond to complaints, and perform operational adjustments or mitigation. The Monitoring Committee will be responsible for resolution of disputes in which Homer and a 3rd party are unable to reach agreement on appropriate responses to complaints.

Homer will be responsible for collecting and evaluating data to:

- Estimate if unacceptable impacts to 3rd parties have occurred or may occur in the future as a result of Project operations when compared to conditions that would have occurred absent the Project;
- Adjust Project operations to avoid or minimize unacceptable impacts to 3rd parties; and
- Respond to reasonable complaints of unacceptable impacts as a result of Project operations.



As outlined above, Homer LLC may make operational adjustments in response to data evaluations, complaints by 3rd parties, or recommendations from the Monitoring Committee. Examples of potential operational adjustments may include, but are not limited to:

- Shifting the schedules, and rates at which recharge is performed;
- Reimbursement for higher pumping costs;
- Well rehabilitation;
- Lowering a pump further down a well;
- Reimbursement for treatment costs;
- Installation of treatment systems;

- Providing an alternate water supply; and
- Installation of a new well.

All water level, water flow, and water quality reports will be reported to the Monitoring Committee. The Project will comply with requirements of the ETGSA Subsidence Plan once adopted.

Water Accounting and Monitoring

Data Collection: The Project will include the following data collection to ensure accurate measurement of recharged, evaporated, banked, and recovered water:

- Instantaneous and totalizing flow meters on each conveyance delivering water into water bank (make/type of each meter subject to approval from PID);
- Pressure transducer and/or microwave water level measurement; and
- Use of data from the nearest California Irrigation Management Information System (CIMIS) meteorological station to estimate evaporative loss of applied water before it percolates into the ground.

Each flow meter is equipped with a data logger and cloud-based telemetry to ensure a continuous record of operations. Telemetry systems will have text and email alerts for the on-call operator and two alternate operators. In addition, instantaneous flow, AF totalizer, and basin water level (staff gauge) readings are manually recorded on a daily (24-hour) basis at any time the Project is operating. Each meter is calibrated annually or as requested by PID. To the degree there is a discrepancy between Homer data and District records that cannot be reconciled, the record is modified to reflect whichever records the parties deem most reliable.

Banked and Recharged Water Accounting: The amount of water applied to the Project is computed on daily, 24-hour increments. The volume of applied water lost to evaporation prior to recharge is estimated using data from the nearest CIMIS Station. The remaining volume after subtraction of evaporative losses is reported to PID as the recharged volume.

Water Level Monitoring

The lowest end of the Project basin is equipped with an automatic water level monitoring device (pressure transducer) that is set to contact the on-call operator (and 2 back-up operators) if the water level in the basin rises to within 1 foot of the basin berm crest. Homer has procedures to ensure that the alerted on-call operator adjusts or shuts off recharge operations to prevent basin spill.

Groundwater levels will be measured in the nearest 3rd party wells (both irrigation and domestic, contingent on well owner approval) on a monthly basis during operating periods, and twice a year at other times. Recharge, operations will be constrained or shut down in the event that monitored offsite well water levels, known to be influenced by the Project operations, rise to within 15 feet of the ground surface.

Water Quality Monitoring

Groundwater quality will be monitored to ensure that it remains appropriate for designated beneficial uses as follows:

- *Baseline sampling*: All operable wells (irrigation and domestic) within a 1/4-mile radius of Project recharge facilities will be initially sampled for Analytical Suite 1 (contingent on well owner approval); and

On-going sampling: The nearest operable wells (irrigation and domestic) on properties immediately adjacent to Project recharge facilities will be sampled once a year for the full Analytical Suite (contingent on well owner approval).

Analytical Suite

Parameter	Analytical Method
Aluminum	EPA 200.7
Antimony	EPA 200.7
Arsenic	EPA 200.8
Asbestos	EPA Method 100 (TEM)
Barium	EPA 200.7
Beryllium	EPA 200.8
Boron	EPA 200.7
Cadmium	EPA 200.7
Calcium	EPA 200.7
Carbonates + bicarbonates	EPA 310.1
Chloride	SM 4500
Chromium	EPA 200.7
Color	EPA 110.2
Copper	EPA 200.7
Cyanide	EPA 335.2
1,2-Dibromo-3-Chloropropane (DBCP)	EPA 504.1
Ethylene Dibromide (Dibromoethane, EDB)	EPA 504.1
Fecal coliform	SM 9221E or 9223B
Fluoride	EPA 340.1
Foaming agents (MBAS)	EPA 425.1
Gross alpha	SM 7110C EPA 900.0
Iron	EPA 200.7
Magnesium	EPA 200.7
Manganese	EPA 200.7
Mercury	EPA 245.1
Methyl tert-butyl ether (MTBE)	EPA 8260B
Nickel	EPA 200.7
Nitrate as NO3	EPA 300
Nitrate + nitrite	EPA 335.3
Nitrite as N	SM 4500
Odor threshold	EPA 140.1
Perchlorate	EPA 314.0
Potassium	EPA 200.7
pH (Field)	EPA 150.1
Phosphorous	EPA 365.2
Selenium	EPA 200.8
Silver	EPA 200.7
Sodium	EPA 200.7
Sodium absorption ratio (SAR)	Calculated
Specific conductance (Field)	EPA 120.1
Sulfate	EPA 375.4
Temperature (Field)	EPA 170.1
Thallium	EPA 200.8
Thiobencarb	EPA 525/507 Full list
Total dissolved solids (TDS)	EPA 160.3
Turbidity (Field)	EPA 180.1
Uranium	EPA 908.0
Zinc	EPA 200.7

Subsidence Monitoring

Significant subsidence (sinking of the ground surface) has occurred along the FKC to the south due to dewatering of silty and clayey formations by groundwater recovery from wells within the region. While the Project will leave behind 10% to 30% of all banked water as a net gain to the aquifer and will not include installation or operation of Project recovery wells, the potential impact of banked water recovery from other wells needs to be monitored. The Project will comply with requirements of the ETGSA rules and regulations, including the ETGSA Subsidence Plan, when adopted. In the interim, the Project will not allow recovery of banked water from wells that are within 1 mile of the FKC until the ETGSA Subsidence Plan has been adopted.

Reporting

During operating periods Homer will submit monthly reports to PID which include the following information:

- The beginning volumes of water in the Homer and PID banked water accounts;
- The sources of water sent to the Project turnout;
- Volumes of water discharged to the Project basin (daily basis);
- Percolation rates (daily basis);
- Losses to evaporation (daily basis);
- Net volumes of recharged and/or banked water (daily basis);
- The volumes of recharged or banked water allocated into the Homer and PID accounts in accordance with the Banking Policy leave behind requirements;
- Volumes of Homer's banked water transferred to others, including the places of use;
- The ending volumes of water in the Homer and PID banked water accounts; and
- Depth to water graphs for key wells approved by the District.

By January 15 of each year, regardless of whether there were any Project operations, Homer will submit an annual report for the prior year running from October 1 through September 30. This report, submitted to PID and the Monitoring Committee, will include the annual totals for the information listed above and additionally will include the following information:

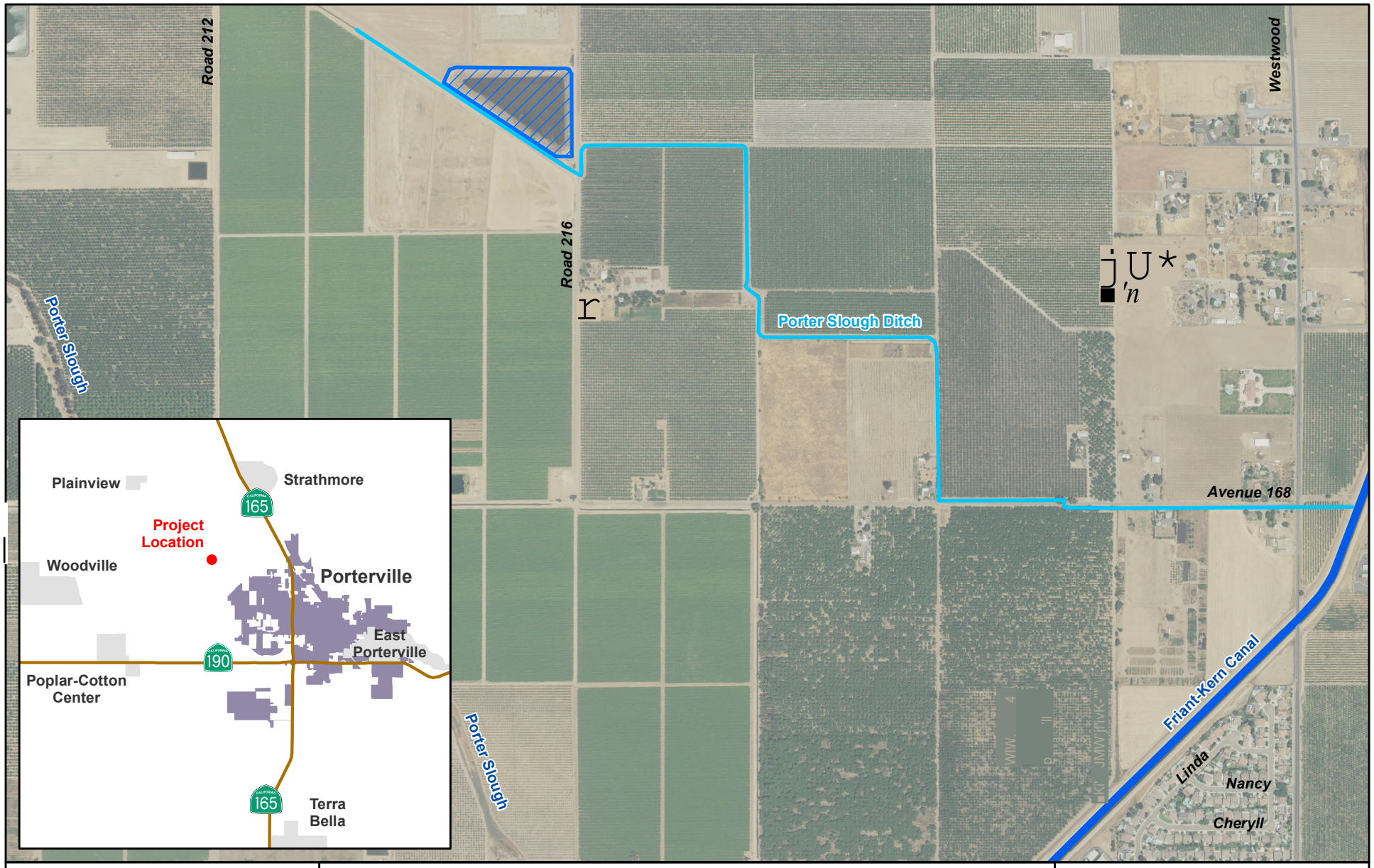
- A chronological summary of operations and response to Monitoring Committee issues, if any;
- Tabulations of all water level, water quality, water volumes and subsidence monitoring data;
- A map presenting the distributions of total dissolved solids in monitored wells;
- Activities performed to comply with the ETGSA Subsidence Plan;
- Maps presenting the spring and fall elevations of water levels in wells, including interpreted directions of groundwater flow; and
- Maps presenting the spring and fall depths to water in wells.

Limitations and Commitments

- Water will be banked, returned, exchanged, or transferred in compliance with all federal, state, local, and tribal laws, and requirements imposed for protection of the environment and Indian Trust Assets, including the Central Valley Project Improvement Act;
- The Project will not be used to place untilled or new lands into agricultural production, or to convert undeveloped land to other uses. Specifically, no native or untilled land (fallow for three consecutive years or more) will be cultivated with the water managed through this Project;
- Transfers and/or exchanges will be limited to existing supply and will not increase overall consumptive use;
- Operations to bank, return, transfer and/or exchange the water will not result in new Delta exports above those already scheduled for normal CVP or State Water Project (SWP) operations;

- The Project will not interfere with the normal CVP or SWP operations;
- Transfers and/or exchanges cannot alter the flow regime of natural water bodies such as rivers, streams, creeks, ponds, pools, wetlands, etc., so as to not have a detrimental effect on fish or wildlife, or their habitats; and
- The Project will be operated in compliance with the PID Banking Policy; the pending ETGSA GSP; and all applicable district policies, rules, and regulations.

FIGURES



EST. 1968
PROVOST& PRITCHARD
CONSULTING GROUP
An Employee Owned Company

N

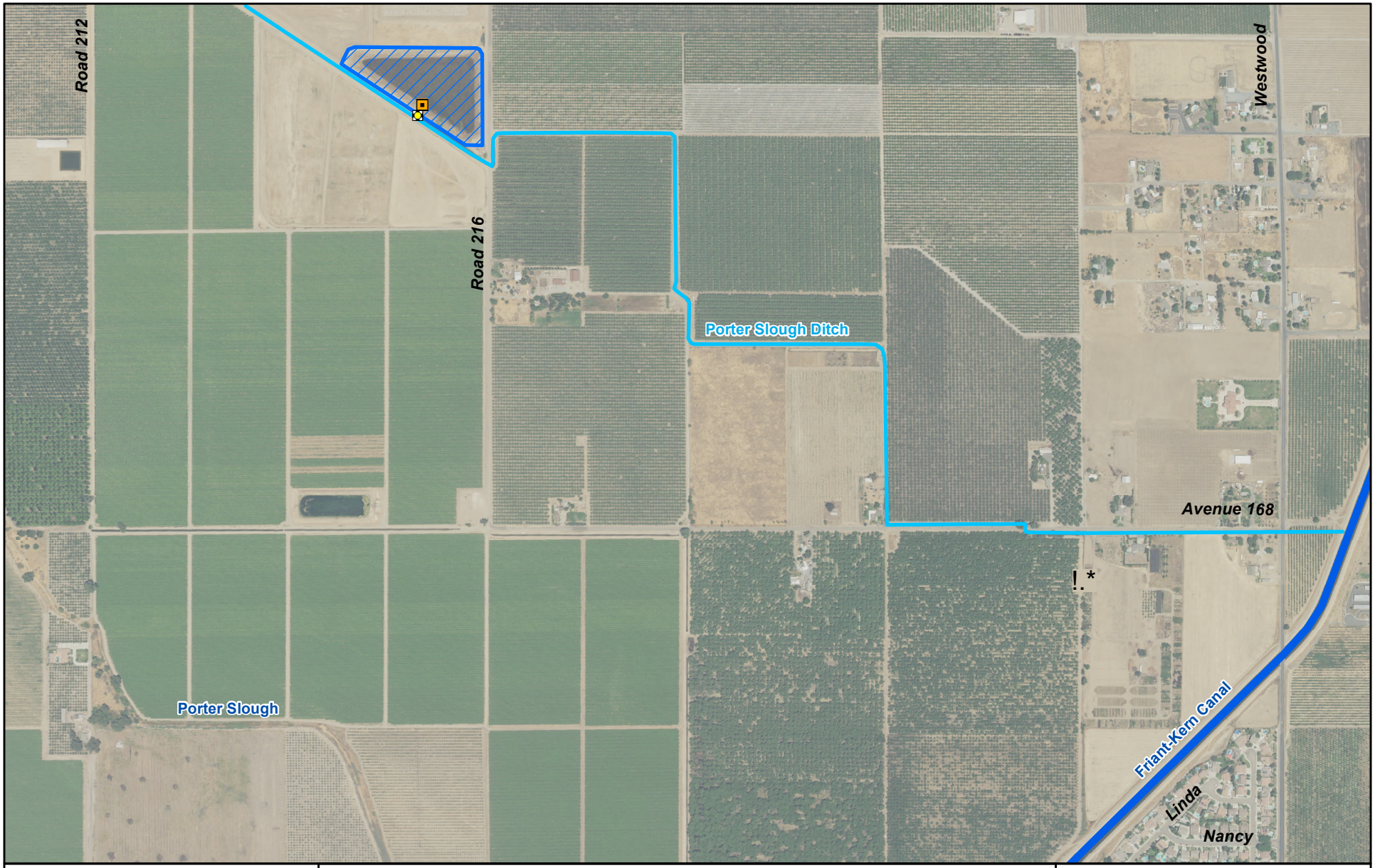
0 250 500
Feet

Porter Slough Ditch
Friant-Kern Canal
Existing Los Robles Water Bank

Figure 1

Existing Los Robles Water Bank
Water Bank Location

12/16/2021 : \\ppeng.com\pzdata\clients\Homer LLC-2811\281121002-Banking Project Facility Report\400 GIS\Map\Report_Maps\Los_Robles_Location_map.mxd



EST. 1968
PROVOST& PRITCHARD
CONSULTING GROUP
An Employee Owned Company

N

0 250 500
Feet

Turnout
Los Robles Meter and Pressure Transducer
Existing Los Robles Water Bank
Porter Slough Ditch
Friant-Kern Canal

Figure 2

Los Robles Water Bank
Water Bank Facilities

12/16/2021 : \\ppeng.com\pzdata\clients\Homer LLC-2811\281121002-Banking Project Facility Report\400 GIS\Map\Report_Maps\Los_Robles_Facilities_map.mxd

APPENDIX

APPENDIX A

WATER BANK EASEMENT AREA

EXHIBIT "A"

LEGAL DESCRIPTION

APN: 243-360-004 & 243-370-004
Recharge Basin Easement

That portion of the South Half of the Northeast quarter of Section 18 and the North 40 Acres of the South 120 acres of the Southeast quarter of Section 18, Township 21 South, Range 27 East, Mount Diablo Base and Meridian, according to the Official Plat thereof, more particularly described as follows:

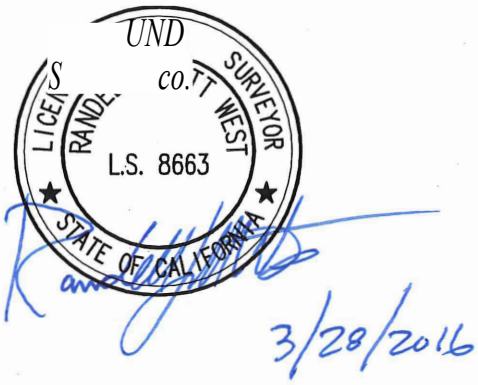
COMMENCING at the Northeast corner of said Section 18; thence South 0°10'49" West, along the east line of the Northeast quarter of said Section 18, a distance of 2062.01 feet; thence West, leaving the east line of the Northeast quarter of said Section 18, a distance of 20.00 feet to a point of intersection thereof with a line which is parallel with and 20 feet west of the east line of the Northeast quarter of said Section 18, said point also being on the west line of a 20.00 foot wide easement for Public Highway recorded on April 25, 1895 in Book 5, Page 440 of Deeds of Rights of Way, in the County of Tulare and said point being the **POINT OF BEGINNING;** thence continuing South 0°10'49" West, along said parallel line and the west line of said easement for Public Highway, a distance of 708.56 feet to the beginning of a curve, concave northwesterly; thence southwesterly, along the arc of said curve, with a radius of 30.00 feet, through a central angle of 89°49'11", an arc distance of 47.03 feet to the beginning of a tangent line; thence West, along said tangent line, a distance of 11.51 feet to the beginning of a curve, concave northeasterly; thence westerly and northwesterly, along the arc of last said curve, with a radius of 30.00 feet, through a central angle of 33°58'02", an arc distance of 17.79 feet the beginning of a tangent line; thence North 56°01'58" West, along last said tangent line, a distance of 1,004.10 feet to the beginning of a curve, concave northeasterly; thence northwesterly and northerly, along the arc of last said curve, with a radius of 30.00 feet, through a central angle of 56°0T58", an arc distance of 29.34 feet the beginning of a tangent line; thence North, along last said tangent line, a distance of 107.45 feet to the beginning of a curve, concave southeasterly; thence northerly and northeasterly, along the arc of last said curve, with a radius of 40.00 feet, through a central angle of 90°00'00", an arc distance of 62.83 feet the beginning of a tangent line; thence East, along last said tangent line, a distance of 866.49 feet to the **POINT OF BEGINNING.**

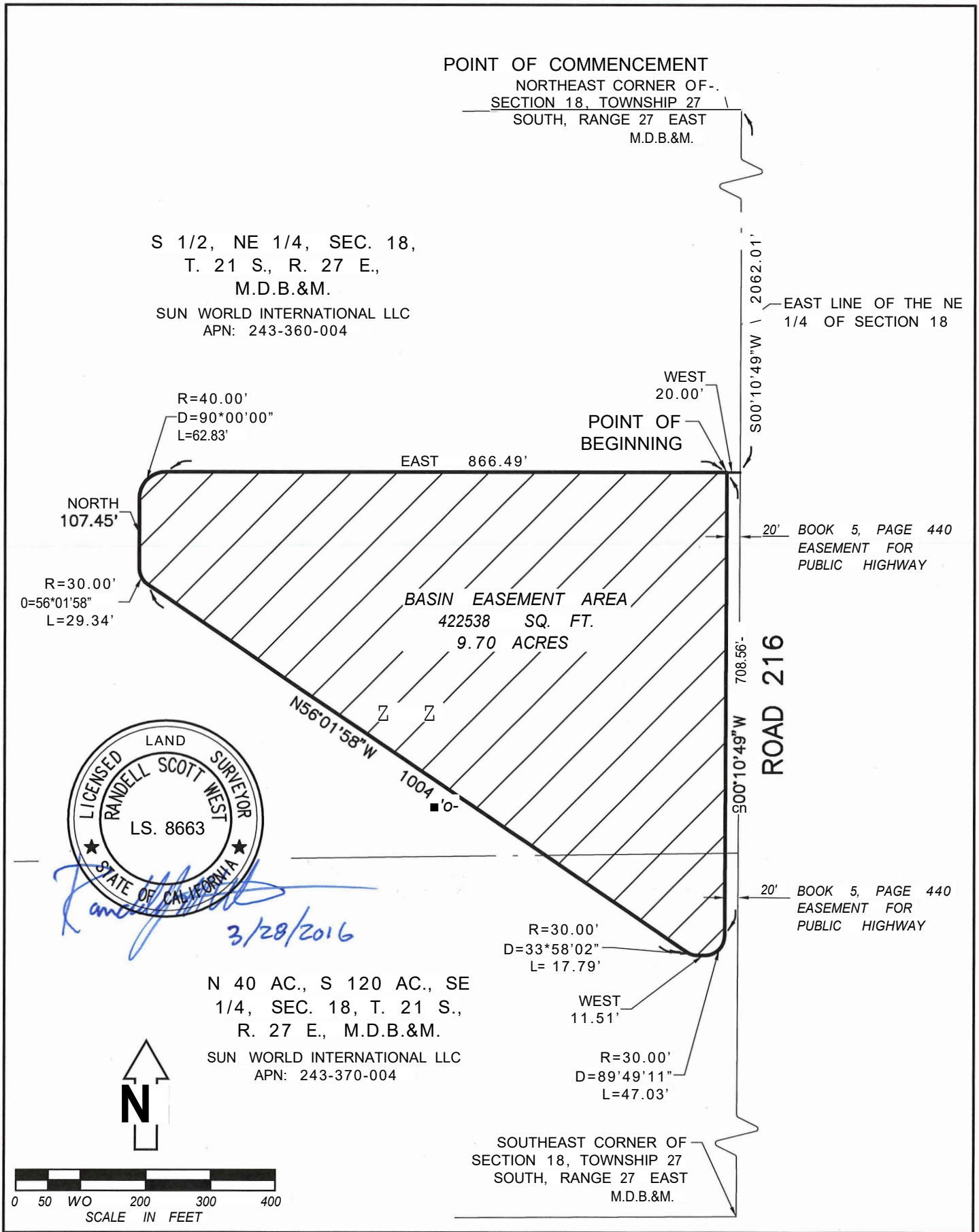
Containing 9.70 acres or 422538 square feet, more or less.

The above described Basin Easement is graphically depicted on Exhibit "B" attached hereto and made a part hereof by reference.

END OF DESCRIPTION

This legal description was prepared by me or under my direction in accordance with the Professional Land Surveyors Act.





Blair, Church Flynn
CONSULTING ENGINEERS

CONSULTANT
Blair, Church & Flynn ConsultingEngineers
451 Clovis Avenue, Suite 200
Clovis, California 93612
Tel (559) 326-1400
Fax (559) 326-1500

EXHIBIT "B"~ RECHARGE BASIN EASEMENT

APN: 243—360—004 & 243—370—004
TULARE COUNTY

DR. BY ARG
CH. BY RSW
DATE 3/28/1 6
SCALE: AS NOTED

SHEET NO. 1
OF 1 SHEETS

Drawing: P:\216-0199\Site\Exhibits\216199_001_Exhibit-Los Robles.dwg; Layoutl — BCF.ctb Plot by: randell Mar 28, 2016 — 11:11am

Recharge Basin Easement APN: 243-360-004 & 243-370-004

Prepared by:
ARG
Blair, Church & Flynn
451 Clovis Ave.
Date: 3/23/2016

Parcel Name: Site 1 - Recharge Basin Easement Area

North:1,920,883.7390' East:6,535,458.7056'

Segment# 1: Line
Course: S0°10'49"W Length: 708.56'
North: 1,920,175.1825' East: 6,535,456.4762'

Segment# 2: Curve
Length: 47.03' Radius: 30.00'
Delta: 89°49T1" Tangent: 29.91'
Chord: 42.36' Course: S45°05'25"W
Course In: N89°49'11"W Course Out: S0°00'00"E
RP North: 1,920,175.2769' East: 6,535,426.4763'
End North: 1,920,145.2769' East: 6,535,426.4763'

Segment# 3: Line
Course: N90°00'00"W Length: 11.51'
North: 1,920,145.2769' East: 6,535,414.9663'

Segment# 4: Curve
Length: 17.79' Radius: 30.00'
Delta: 33°58'02" Tangent: 9.16'
Chord: 17.53' Course: N73°00'59"W
Course In: N0°00'00"E Course Out: S33°58'02"W
RP North: 1,920,175.2769' East: 6,535,414.9663'
End North: 1,920,150.3962' East: 6,535,398.2047'

Segment# 5: Line
Course: N56°01'58"W Length: 1,004.10'

North: 1,920,711.4055’ East: 6,534,565.4470'

Segment# 6: Curve
Length: 29.34' Radius: 30.00'
Delta: 56°01'58" Tangent: 15.96'
Chord: 28.18’ Course: N28°00'59"W
Course In: N33°58'02"E Course Out: N90°00'00"W
RP North: 1,920,736.2862' East: 6,534,582.2086'
End North: 1,920,736.2862’ East: 6,534,552.2086'

Segment# 7: Line
Course: N0°00’00"E Length: 107.45'
North: 1,920,843.7362' East: 6,534,552.2086'

Segment# 8: Curve
Length: 62.83' Radius: 40.00'
Delta: 90°00'00" Tangent: 40.00'
Chord: 56.57' Course: N45°00'00"E
Course In: N90°00'00"E Course Out: N0°00'00"E
RP North: 1,920,843.7362' East: 6,534,592.2086'
End North: 1,920,883.7362' East: 6,534,592.2086'

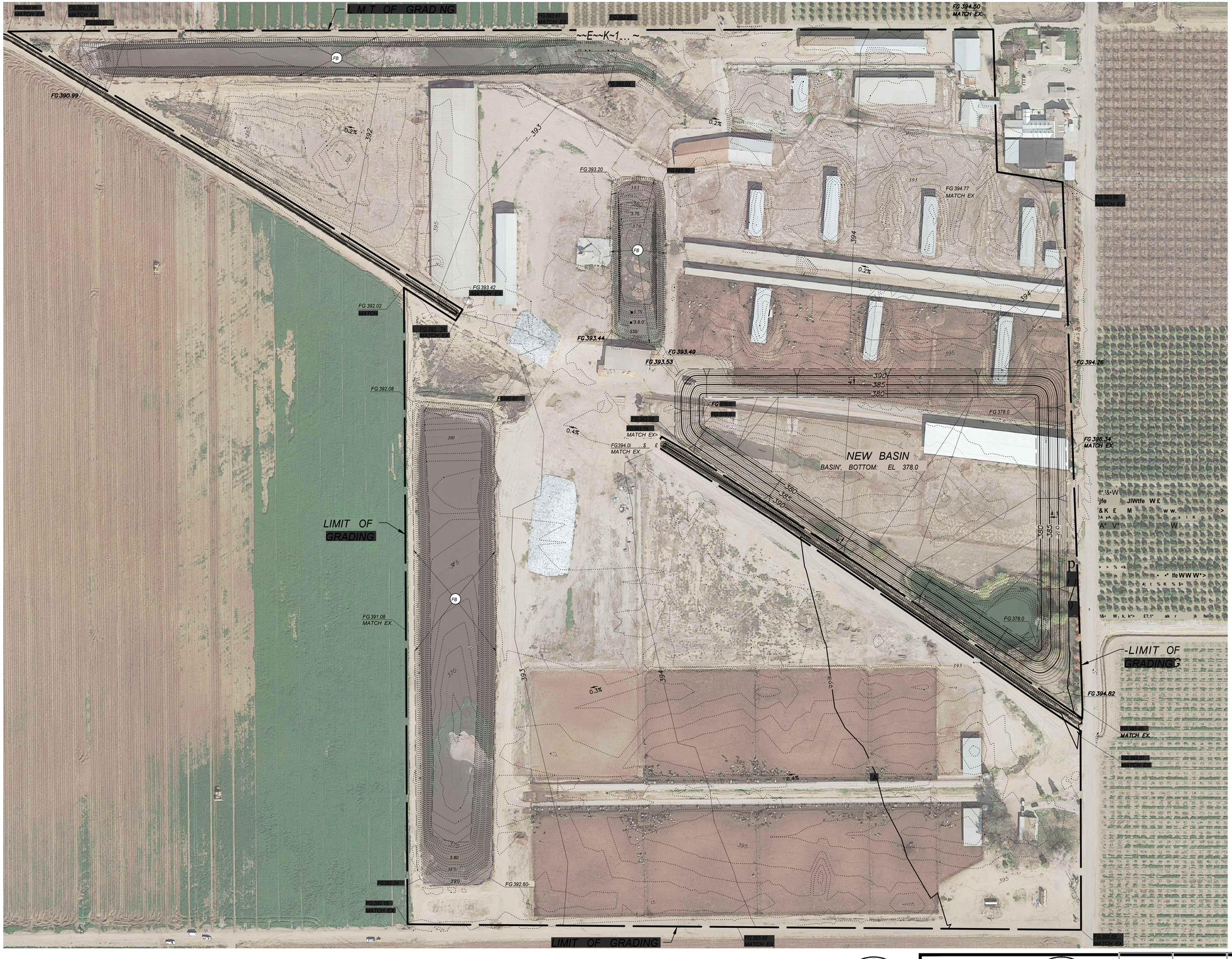
Segment# 9: Line
Course: N90°00'00"E Length: 866.49'
North: 1,920,883.7362' East: 6,535,458.6986'

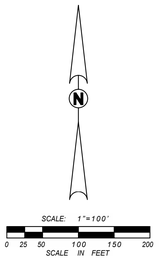
Perimeter: 2,855.09' Area: 422,537.70Sq.Ft.
Error Closure: 0.0075 Course: S68°03'41"W
Error North : -0.00282 East: -0.00700

Precision 1: 380,680.00

APPENDIX B

DESIGN PLANS





LEGEND

FG	FINISHED GRADE
FG 392.19	PROPOSED ELEVATION
2.9%	DIRECTION OF DRAINAGE
390	EXISTING MAJOR CONTOURS
390	EXISTING MINOR CONTOURS
395	PROPOSED MAJOR CONTOURS
394	PROPOSED MINOR CONTOURS
	DIRECTION OF SLOPE
FB	FILL EXISTING BASIN TO NEW FINISH GRADE ELEVATIONS

ESTIMATED GRADING QUANTITIES

EXCAVATION (CUT)	226,250	C.Y.
EMBANKMENT (FILL)	220,900	C.Y.

GRADING QUANTITIES ARE SHOWN FOR PERMIT PURPOSES ONLY. THE CONTRACTOR IS RESPONSIBLE FOR CALCULATING HIS OWN EARTHWORK QUANTITIES FOR BIDDING PURPOSES.

PRELIMINARY PLANS
NOT FOR CONSTRUCTION

REGISTERED PROFESSIONAL ENGINEER
THOMAS J. SNYDER
No. 76,907
CIVIL
STATE OF CALIFORNIA

Blair, Church & Flynn
CONSULTING ENGINEERS

REGISTERED PROFESSIONAL ENGINEER
DAVID A. MOWRY
No. 54,414
CIVIL
STATE OF CALIFORNIA

CONSULTANT
Blair, Church & Flynn Consulting Engineers
451 Clovis Avenue, Suite 200
Clovis, California 93612
Tel (559) 326-1400
Fax (559) 326-1500

REF. & REV.

SUN WORLD INTERNATIONAL

PORTER SLOUGH DITCH RELOCATION
AT LOS ROBLES RANCH
GRADING PLAN

DR. BY: _____
CH. BY: _____
DATE: 02-04-15
SCALE AS NOTED

SHEET NO. 1
OF 1 SHEETS

JONES CORNER WATER BANK

Banking Project Facility Report

December 2021

Homer LLC

Introduction

Homer LLC (Homer) is a landowner in Porterville Irrigation District (PID or District). Homer desires to develop a project in which it will build surface water delivery and recharge facilities that will be operated in compliance with the PID "*Policy Principles for Porterville Irrigation District Groundwater Banking Program*" (adopted on December 12, 2017, Banking Policy). The facilities will be designed, constructed, operated, and monitored in accordance with a water banking agreement between Homer and PID (Homer– PID Banking Agreement) as required by the Banking Policy (Project). In addition, the Project will be operated in compliance with the Eastern Tule Groundwater Sustainability Agency (ETGSA) Groundwater Sustainability Plan (GSP) that was submitted to the Department of Water Resources (DWR) in January of 2020 and the ETGSA Land Subsidence and Management Plan ("Subsidence Plan"), currently in draft form, once adopted.

The proposed facilities will recharge, and bank water delivered through the Friant-Kern Canal (FKC), the Rhodes Fine Ditch, the Wood Central Ditch and the Tule River Intertie Ditch. Figure 1 and Figure 2 depict the proposed Project facilities. The facilities will include approximately 58 acres of recharge basins, a reconstructed section of the Rhodes-Fine Ditch, a turnout from the Rhodes-Fine Ditch, a flow meter, a basin water level datalogger, and four piezometers. Temporary pumps may be periodically used to deliver water from the Lower Tule River Irrigation District (LTRID) Tule River Intertie Ditch into the basins. Temporary pumps may also be periodically used to delivery water from the FKC into the Rhodes-Fine Ditch. The Project does not include recovery wells. Recharged and banked water will be transferred in-ground to others in accordance with the cited policies, rules, and plans. The purpose of this report is to provide PID with information about the proposed Project in accordance with requirements of the Banking Policy.

Project Purpose

The Project will primarily bank water that is periodically available above the then current demand from the Friant Division of the Central Valley Project (Friant). The Project might also bank water from other systems, but separate approvals will be secured, if required. As required by the Banking Policy, 10% to 30% of the recharged water will be allocated to PID's storage account depending on the source and destination. Recovered water will be delivered to lawful recipients within the allowed Places of Use for banked water. Project objectives will be as follows:

- Increase water supply: The Project will increase supplies available to PID, Homer, and other participants.
- Improve groundwater conditions: The Project will reduce aquifer overdraft in the PID, the ETGSA, the Tule Sub Basin and in other areas that receive recovered water.
- Reduce costs to produce groundwater: The Project will cause water levels to rise, thus reducing groundwater pumping costs.
- Increase diversification and availability of water supplies: The Project will increase the diversity of water supplies available to PID, its landowners, and other participants.
- Facilitate compliance with the Sustainable Groundwater Management Act (SGMA): The Project will significantly advance PID's efforts to comply with SGMA.
- Subsidence reduction: The Project will help to reduce ground subsidence by accruing more water to the local aquifer system and by reducing groundwater pumping in the places of use.

Project Location

Figure 1 presents an overview map and Figure 2 presents a Project facilities map of the location of proposed facilities.

Table 1: Estimated Project Capacities

RECHARGE CAPACITIES								
Facility	**Gross Acres**	**Recharge Acres**	**Est. Peak Recharge Rate**	**Est. Long-Term Recharge Rate**	**Est. Long-Term Recharge**	**Anticipated Avg. Recharge Window**	**Anticipated Avg. Annual Recharge Capacity**	**Maximum Est. Annual Recharge Capacity**
	ac	***ac***	***ft/day***	***ft/day***	***AF/month***	***months***	***AF/year***	***AF/year***
Jones Corner Water Bank	58.0	49.3	1.0	1.0	1,479	4	5,916	17,748

Note

All operations are to be monitored and, if necessary, constrained in accordance with an PID approved MOCP and the Homer-PID Banking Agreement

Project Capacities

Table 1 summarizes the estimated Project recharge capacities. The maximum estimated annual capacities were computed based on 12 months of operation. However, as indicated it is anticipated that recharge operations will average 4 months in wet years. In all circumstances the Project will be operated in compliance with a Monitoring and Operational Constraint Plan (MOCP, see details further in this report) to ensure that the beneficial effects of the Project are maximized while preventing significant and unacceptable impacts to the aquifer, groundwater levels, groundwater quality, the FKC, or adjacent landowners relative to conditions that would have occurred absent the Project.

Project Facilities

The Project will entail re-constructing approximately three-quarters of a mile of the Rhodes Fine Ditch from an existing check structure immediately west of the FKC to Avenue 152 into an enlarged, lined canal, or a buried pipeline up to 48-inches in diameter, or potentially a combination of the two. The construction of an enlarged canal for approximately the first half mile of the new facility may shift the centerline of the Rhodes-Fine Ditch north by approximately 8-10 feet and will require the removal of one row of walnut trees on APN 240-150-010 and an easement with the landowner. Without such easement from the current landowner, the first half mile of the Rhodes-Fine Ditch would be replaced entirely with a pipeline. The remaining nearly third of a mile of the reconstructed facility will follow the existing Rhodes-Fine Ditch alignment and would be replaced entirely with a pipeline. The facility will cross Road 208 and supply water to the Jones Corner basin via a turnout. The Project will include construction of 58-acres of recharge basins located west of Rockford Road and south of Avenue 152, as well as turnout from the reconstructed Rhodes-Fine Ditch to the Project basins. Project facilities may also include the periodic use of temporary pumps to lift water from the FKC into the Rhodes-Fine Ditch and periodic use of temporary pumps to lift water from the LTRID Tule River Intertie Ditch into the recharge basins (contingent on approval from LTRID). These temporary pumps will be placed on top of the ground, not causing any ground disturbance. No water will be returned into the FKC or Tule River Intertie Ditch. Four piezometers will be installed along the Project perimeter, two on the western border, and two on the northwest border, to monitor shallow water levels adjacent to the LTRID facility (Figure 2). A flow meter and a water level monitoring transducer will be installed at the proposed recharge basin. Both the flowmeter and water level measurement will have data loggers and cloud-based telemetry for reporting and operations.

Recharge Operations

It is anticipated that the Project will primarily bank Friant water that is periodically available above the then current demand. It is possible that the Project might bank water from other systems, but separate approvals will be secured if required. As required by the Banking Policy, 10% to 30% of the recharged water will be allocated to PID's storage account, depending on the source and destination.

As depicted on Figure 2, water will be delivered to the proposed recharge basin through two means:

Rhodes Fine Ditch Delivery: Water will be pumped from the FKC through the Rhodes-Fine turnout and delivered west via gravity along the Rhodes-Fine Ditch alignment. As mentioned above, a combination of a pipeline and lined ditch will be constructed in the existing Rhodes Fine Ditch alignment to deliver water to the Project recharge basin. Water may also be pumped from the FKC into the Rhodes-Fine Ditch via temporary pumps. These temporary pumps will be placed on top of the ground, not causing any ground disturbance. Use of temporary pumps is subject to the United States Bureau of Reclamation (USBR) and Friant Water Authority (FWA) approval.

Wood Central Ditch Delivery: Water will be diverted via gravity through either the Wood Central turnout from the FKC or the Tule River spillway from the FKC and then delivered west through the Wood Central Ditch to the LTRID Tule River Intertie Ditch. A temporary pump, or manifold of pumps, will then installed to lift water from the LTRID Tule River Intertie Ditch into the recharge basin. These temporary pumps will be placed on top of the ground, not causing any ground disturbance. This mode of delivery requires authorization from LTRID.

In all cases Homer's ability to divert and convey water will be contingent on approval from PID (or LTRID in the case of Wood Central Ditch operations and USBR/FWA in the case of the FKC temporary pumps) to ensure that Homer's operations do not impair District operations and comply with District policies, rules, and regulations.

Hydrogeologic studies by Homer LLC indicate that the upper 10 to 12 feet of the subsurface consists primarily of medium to coarse grained sands and gravel with periodic, discontinuous lenses of clay. The permeable materials in the subsurface are similar to existing nearby Homer Projects (including the nearby Burns facility) which have provided excellent recharge performance.

Transfer-Recovery Operations

The Project will not include construction of recovery wells. All banked water recovery will take place through in-ground transfers (Transfer-Recovery) with recovery from overlying wells within the region, as described below:

Transfer-Recovery within PID: Banked and recharged water may be transferred and subsequently recovered from wells in PID, for use in PID, in accordance with the District Recharge Policy and the Banking Policy. This mode of recovery will not be used for wells within 1 mile of the FKC until the management portion of the Subsidence Plan has been adopted. Thereafter, this potential operation will be performed in compliance with requirements of the Subsidence Plan.

Transfer-Recovery within the ETGSA*:* Banked water may be recovered from wells in the ETGSA that are outside of PID in accordance with ETGSA rules and regulations. This mode of recovery will not be used for wells within 1 mile of the FKC until the management portion of the Subsidence Plan has been adopted. Thereafter, this potential operation will be performed in compliance with requirements of the Subsidence Plan.

Transfer-Recovery within Pixley ID: Banked water may be recovered from wells in Pixley ID in accordance with both ETGSA and Pixley ID GSA rules and regulations.

Transfer-Recovery within LTRID: Banked water may be recovered from wells in LTRID in accordance with both ETGSA and LTRID GSA rules and regulations. This mode of recovery will not be used for wells within 1 mile of the FKC until the management portion of the Subsidence Plan has been adopted. Thereafter, this potential operation will be performed in compliance with requirements of the Subsidence Plan.

Operational Exchanges: As detailed above, ETGSA districts, Pixley ID and LTRID may receive banked water through in-ground transfers. Contingent on receiving district approval, this banked water may be exchanged for water in Millerton Reservoir, the FKC or in San Luis Reservoir. The exchanged water will then be delivered to the legal places of use contingent on receiving all required approvals.

Operation and Maintenance

The Project will be operated and maintained by Homer in coordination with PID. The Homer– PID Banking Agreement will detail the conditions under which PID facilities might be used and how the District will be reimbursed for the costs they incur in supporting the Project.

The Project recharge basin will be maintained using normal farming and irrigation district practices. The Project's operational goals are 1) to maintain a safe, reliable, and productive facility, 2) to prevent the long-term establishment of undesirable invasive plants in the Project and/or their migration onto adjacent farms, and 3) to prevent berm erosion/destabilization and/or rodent infestation through standard farming and water industry practices. During operation: the basin water surface level will be maintained at or below two (2) feet of freeboard; twice daily, in-person inspections are performed between the hours of 7am and 5pm. A water operations manager or basin operator will be on-call 24 hours a day, 7 days a week, to respond quickly if an inspection or any of the automatic monitors indicate a spill risk, pump issues, or imminent berm failures.

Monitoring and Operational Constraint Plan (MOCP)

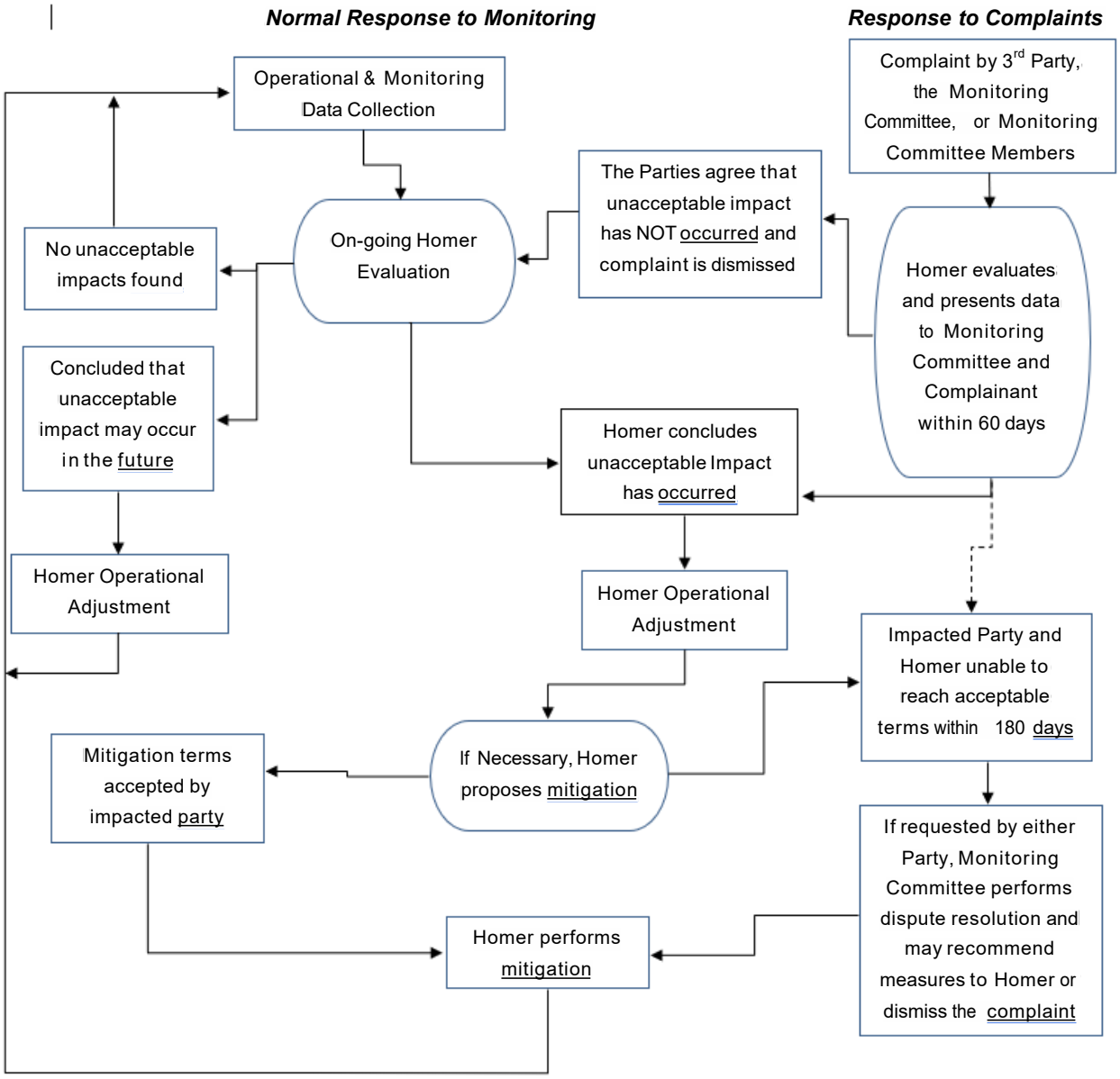
The Project will be designed, operated, and monitored in a manner to ensure that the beneficial effects of the Project are maximized while preventing significant unacceptable impacts to the aquifer, groundwater levels and quality, the FKC, or adjacent landowners relative to conditions that would have occurred absent the Project. Homer shall form a Monitoring Committee to ensure that district interests, adjacent landowners, and FKC interests are represented. Homer shall identify and appoint the landowner representative(s). The 5-member Monitoring Committee will be composed as follows:

- 1 seat for Homer;
- 1 seat for PID directors (potentially including the General Manger if desired by the PID Board);
- 1 seat for an adjacent landowner; and
- 1 seat for a landowner from another location within PID; and
- 1 seat for a Friant Water Authority (FWA) representative.

Each member of the Monitoring Committee shall have one vote. The Monitoring Committee will oversee Homer's implementation of this MOCP. The following figure depicts the process by which Homer will evaluate data, respond to complaints and perform operational adjustments or mitigation. The Monitoring Committee will be responsible for resolution of disputes in which Homer and a 3rd party are unable to reach agreement on appropriate responses to complaints.

Homer will be responsible for collecting and evaluating data to:

- Estimate if unacceptable impacts to 3rd parties have occurred or may occur in the future as a result of Project operations when compared to conditions that would have occurred absent the Project;
- Adjust Project operations to avoid or minimize unacceptable impacts to 3rd parties; and
- Respond to reasonable complaints of unacceptable impacts as a result of Project operations.



As outlined above, Homer may make operational adjustments in response to data evaluations, complaints by 3rd parties or recommendations from the Monitoring Committee. Examples of potential operational adjustments may include, but are not limited to:

- Shifting the schedules, and rates at which recharge is performed;
- Reimbursement for higher pumping costs;
- Well rehabilitation;
- Lowering a pump further down a well;
- Reimbursement for treatment costs;
- Installation of treatment systems;
- Providing an alternate water supply; and
- Installation of a new well.

All water level, water flow, and water quality reports will be reported to the Monitoring Committee. The Project will comply with requirements of the ETGSA Subsidence Plan once adopted.

Water Accounting and Monitoring

Data Collection: The Project will include the following data collection to ensure accurate measurement of recharged, evaporated, banked, and recovered water:

- Instantaneous and totalizing flow meters on each conveyance delivering water into recharge basins (make/type of each meter subject to approval from PID);
- Pressure transducer and/or microwave water level measurement; and
- Use of data from the nearest California Irrigation Management Information System (CIMIS) meteorological station to estimate evaporative loss of applied water before it percolates into the ground.

Each flow meter will be equipped with a data logger and cloud-based telemetry to ensure a continuous record of operations. Telemetry systems will have text and email alerts for the on-call operator and two alternate operators. In addition, instantaneous flow, AF totalizer, and basin water level (staff gauge) readings are manually recorded on a daily (24-hour) basis at any time the Project is operating. Each meter will be calibrated annually or as requested by PID. To the degree there is a discrepancy between Homer data and District records that cannot be reconciled, the record will be modified to reflect whichever records the parties deem most reliable.

Banked and Recharged Water Accounting: The amount of water recharged will be computed on daily 24-hour increments. The volume of applied water lost to evaporation prior to recharge will be estimated using data from the nearest CIMIS Station. The remaining volume after subtraction of evaporative losses will be reported to PID as the recharged volume.

Water Level Monitoring

The lowest end of the Project basin system will be equipped with an automatic water level monitoring device (pressure transducer) that will be set to contact the on-call operator (and 2 back-up operators) if the water level in the basin rises to within 1 foot of the basin berm crest. Homer has procedures to ensure that the alerted on-call operator adjusts or shuts off recharge operations to prevent basin spill.

Groundwater levels will be measured in the Project piezometers and nearest 3rd party wells (both irrigation and domestic, contingent on well owner approval) on a monthly basis during recharge periods and twice a year at other times. Recharge, operations will be constrained or shut down in the event that monitored offsite well water levels, known to be influenced by the Project operations, rise to within 15 feet of the ground surface.

Water Quality Monitoring

Groundwater quality will be monitored to ensure that it remains appropriate for designated beneficial uses as follows:

- *Baseline sampling*: All operable wells (irrigation and domestic) within a 1/4-mile radius of Project recharge facilities will be initially sampled for Analytical Suite 1 (contingent on well owner approval); and
- *On-going sampling*: the nearest operable wells (irrigation and domestic) on properties immediately adjacent to Project recharge facilities will be sampled once a year for the full Analytical Suite (contingent on owner approval).

Analytical Suite

Parameter	Analytical Method
Aluminum	EPA 200.7
Antimony	EPA 200.7
Arsenic	EPA 200.8
Asbestos	EPA Method 100 (TEM)
Barium	EPA 200.7
Beryllium	EPA 200.8
Boron	EPA 200.7
Cadmium	EPA 200.7

Calcium	EPA 200.7
Carbonates + bicarbonates	EPA 310.1
Chloride	SM 4500
Chromium	EPA 200.7
Color	EPA 110.2
Copper	EPA 200.7
Cyanide	EPA 335.2
1,2-Dibromo-3-Chloropropane (DBCP)	EPA 504.1
Ethylene Dibromide (Dibromoethane, EDB)	EPA 504.1
Fecal coliform	SM 9221E or 9223B
Fluoride	EPA 340.1
Foaming agents (MBAS)	EPA 425.1
Gross alpha	SM 7110C EPA 900.0
Iron	EPA 200.7
Magnesium	EPA 200.7
Manganese	EPA 200.7
Mercury	EPA 245.1
Methyl tert-butyl ether (MTBE)	EPA 8260B
Nickel	EPA 200.7
Nitrate as NO3	EPA 300
Nitrate + nitrite	EPA 335.3
Nitrite as N	SM 4500
Odor threshold	EPA 140.1
Perchlorate	EPA 314.0
Potassium	EPA 200.7
pH (Field)	EPA 150.1
Phosphorous	EPA 365.2
Selenium	EPA 200.8
Silver	EPA 200.7
Sodium	EPA 200.7
Sodium absorption ratio (SAR)	Calculated
Specific conductance (Field)	EPA 120.1
Sulfate	EPA 375.4
Temperature (Field)	EPA 170.1
Thallium	EPA 200.8
Thiobencarb	EPA 525/507 Full list
Total dissolved solids (TDS)	EPA 160.3
Turbidity (Field)	EPA 180.1
Uranium	EPA 908.0
Zinc	EPA 200.7

Subsidence Monitoring

Significant subsidence (sinking of the ground surface) has occurred along the FKC to the south due to dewatering of silty and clayey formations by groundwater recovery from wells within the region. While the Project will leave behind 10% to 30% of all banked water as a net gain to the aquifer and will not include installation or operation of Project recovery wells, the potential impact of banked water recovery from other wells needs to be monitored. The Project will comply with requirements of the ETGSA rules and regulations, including the ETGSA Subsidence Plan, when adopted. In the interim, the Project will not allow recovery of banked water from wells that are within 1 mile of the FKC until the ETGSA Subsidence Plan has been adopted.

Reporting

During operating periods Homer will submit monthly reports to PID which include the following information:

- The beginning volumes of water in the Homer and PID banked water accounts;

- The sources of water sent to the Project turnout;
- Volumes of water discharged to the Project basins (daily basis);
- Percolation rates (daily basis);
- Losses to evaporation (daily basis);
- Net volumes of recharged or banked water (daily basis);
- The volumes of recharged or banked water allocated into the Homer and PID accounts in accordance with the Banking Policy leave behind requirements;
- Volumes of Homer's banked water transferred to others, including the places of use;
- The ending volumes of water in the Homer and PID banked water accounts; and
- Depth to water graphs for key wells approved by the District.

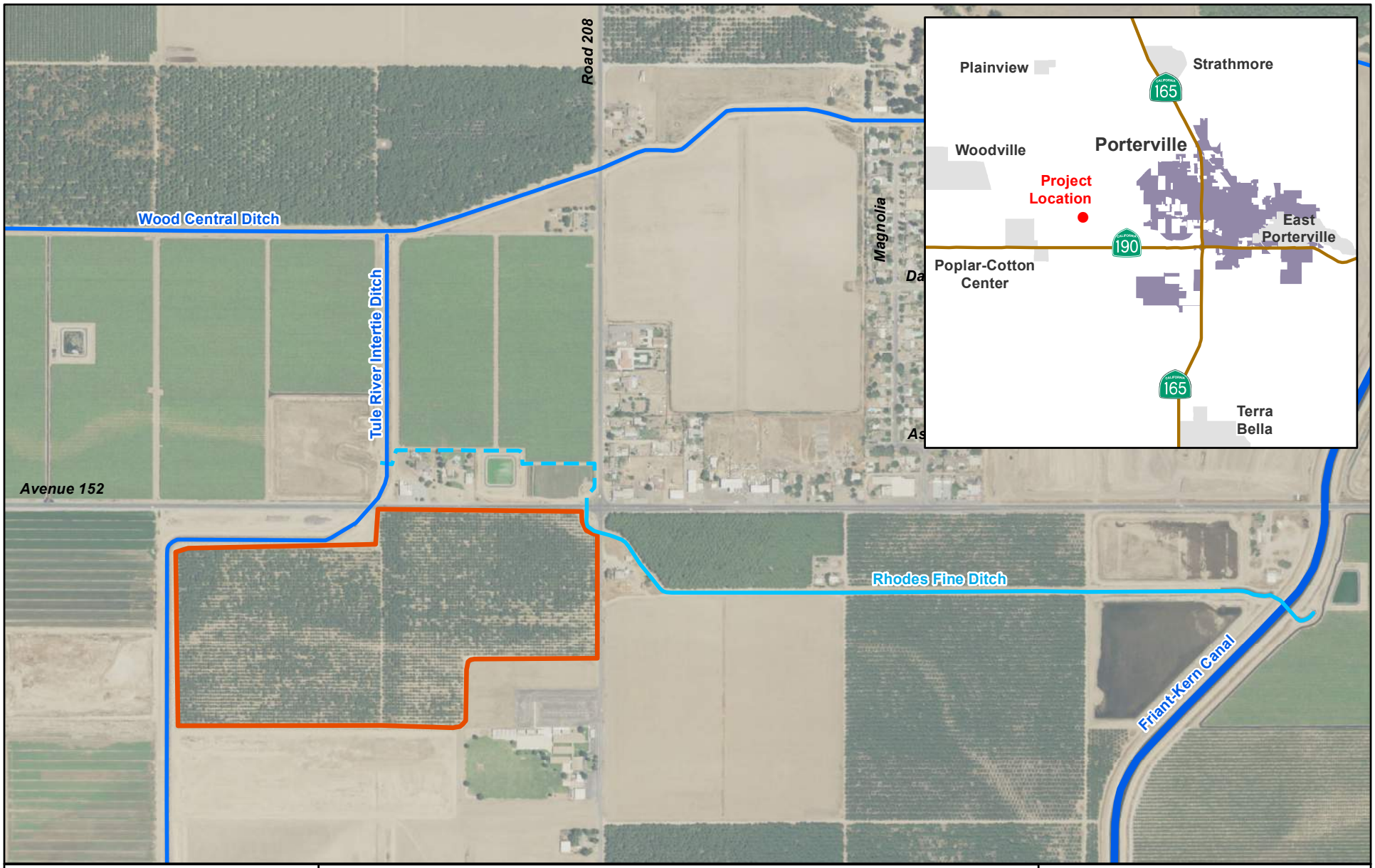
By January 15 of each year, regardless of whether there were any Project operations, Homer will submit an annual report for the prior year running from October 1 through September 30. This report, submitted to PID and the Monitoring Committee, will include the annual totals for the information listed above and additionally will include the following information:

- A chronological summary of operations and response to Monitoring Committee issues, if any;
- Tabulations of all water level, water quality, water volumes and subsidence monitoring data;
- A map presenting the distributions of total dissolved solids in monitored wells;
- Activities performed to comply with the ETGSA Subsidence Plan;
- Maps presenting the spring and fall elevations of water levels in wells, including interpreted directions of groundwater flow; and
- Maps presenting the spring and fall depths to water in wells.

Limitations and Commitments

- Water will be banked, returned, exchanged, or transferred in compliance with all federal, state, local, and tribal laws, and requirements imposed for protection of the environment and Indian Trust Assets, including the Central Valley Project Improvement Act;
- The Project will not be used to place untilled or new lands into agricultural production, or to convert undeveloped land to other uses. Specifically, no native or untilled land (fallow for three consecutive years or more) will be cultivated with the water managed through this Project;
- Transfers and/or exchanges will be limited to existing supply and will not increase overall consumptive use;
- Operations to bank, return, transfer and/or exchange the water will not result in new Delta exports above those already scheduled for normal CVP or State Water Project (SWP) operations;
- The Project will not interfere with the normal CVP or SWP operations;
- Transfers and/or exchanges cannot alter the flow regime of natural water bodies such as rivers, streams, creeks, ponds, pools, wetlands, etc., so as to not have a detrimental effect on fish or wildlife, or their habitats; and
- The Project will be operated in compliance with the PID Banking Policy; the pending ETGSA GSP; and all applicable district policies, rules and regulations.

FIGURES



EST. 1968
PROVOST& PRITCHARD
CONSULTING GROUP
An Employee Owned Company

N

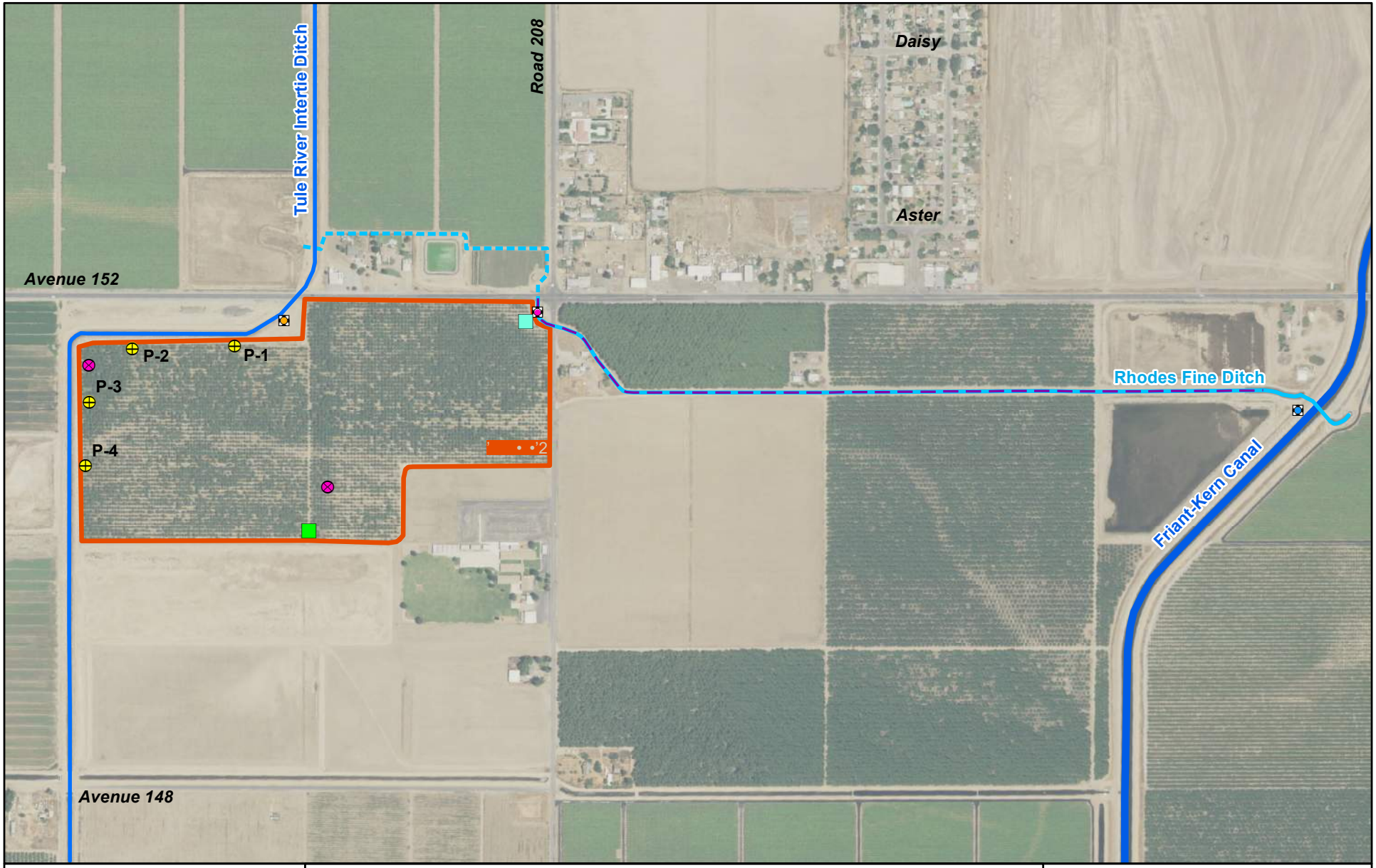
0 250 500
Feet

- Existing Rhodes Fine Ditch
- Existing Rhodes Pipeline
- Ditch/Canal
- Friant-Kern Canal
- Proposed Jones Corner Water Bank

Figure 1

Proposed Jones Corner Water Bank
Water Bank Location

10/6/2021 : G:\Homer LLC-2811\281121002-Banking Project Facility Report\400 GIS\Map\Report_Maps\Rockford_Location_map.mxd



EST. 1968
PROVOST& PRITCHARD
CONSULTING GROUP
An Employee Owned Company

N

0 250 500
Feet

- Proposed Water Level Telemetry Location
- Proposed Water Level Telemetry Location & Flow Meter
- Proposed Staff Gauge Location
- Proposed Temporary Intertie Ditch Pumps
- Proposed Temporary FKC Pumps
- Proposed Piezometers
- Proposed Turnout
- Rhodes Fine Ditch Reconstruction
- Existing Rhodes Pipeline
- Existing Rhodes Fine Ditch
- Tule River Intertie Ditch
- Friant-Kern Canal
- Proposed Jones Corner Water Bank

Figure 2

Proposed Jones Corner Water Bank
Proposed Water Bank Facilities

10/7/2021 : G:\Homer LLC-2811\281121002-Banking Project Facility Report\400 GIS\Map\Report_Maps\Rockford_facilities_map.mxd