Draft

Initial Study & Mitigated Negative Declaration CEQA Report

North Kern Water Storage District

Groundwater Banking Partnership Project

Prepared for:

North Kern Water Storage District
August 2023

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GEI Consultants

Consulting Engineers and Scientists

Draft

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Groundwater Banking Partnership Project

Prepared for:

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August 2023

Project No. 2200344 Task 1.4

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Abbreviations and Acronyms

AF	acre-feet
AFY	acre-feet per year
ALUCP	Airport Land Use Compatibility Plan
BMP	best management practices
Caltrans	California Department of Transportation
C.A.R.B.	California Air Resource Boards
C.A.A.Q.S.	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CESA	California Endangered Species Act
CEQA	California Environmental Quality Act
cfs	cubic feet per second
CGPS	Continual Global Positioning System
CGS	California Geologic Survey
CHP	California Highway Patrol
Conductivity	electrical conductivity
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CO	carbon monoxide
CO_2	carbon dioxide
County	Kern County
CWA	Clean Water Act
District	North Kern Water Storage District
DOC	Department of Conservation
DRP	Drought Resiliency Project
DTSC	Department of Toxic Substances Control
EIR	Environmental Impact Report
EOP	Emergency Operations Plan
EPA	Environmental Protection Agency
ESA	Endangered Species Act
FGC	California Fish and Game Code
FKC	Friant-Kern Canal
FMMP	Farmland Mapping and Monitoring Program
FSZ	Farmland Security Zone
FWA	Friant Water Authority
GAC	granular activated carbon

GEI	GEI Consultants, Inc.
GHG	greenhouse gas
GSA	Groundwater Sustainability Agencies
GSP	Groundwater Sustainability Plan
HCP	Habitat Conservation Plan
hp-hr	horsepower hours
IFI	Important Farmlands Inventory System
InSAR	Interferometric Synthetic Aperture Radar
IS/MND	Initial Study/Mitigated Negative Declaration
KCFD	Kern County Fire Department
KGA	Kern Groundwater Authority
KCSO	Kern County Sheriff Office
LRA	Local Responsible Area
MA	Masters of Art
MCL	Maximum Contaminant Level
MLD	Most Likely Descendant
MP	mile post
N.A.A.Q.S.	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NO_2	nitrogen dioxide
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
O3	ozone
PG&E	Pacific Gas and Electric
Plan	2004 Kern County General Plan
PM	particulate matter
PM10	particulate matter less than 10 microns in diameter
PM2.5	particulate matter less than 2.5 microns in diameter
Program	Water Quality Ledger Program
Porter-Cologne Act	Porter-Cologne Water Quality Control Act
ppb	parts per billion
ppm	parts per million
ppt	parts per trillion
PRC	Public Resources Code
proposed Project / Project	Return Capacity Improvements for Regional Drought Resiliency Project
Reclamation	U.S. Bureau of Reclamation
RPA	registered professional archaeologist

SGMA	Sustainable Groundwater Management Act
SJVAB	San Joaquin Valley Air Basin
S.J.V.A.P.C.D.	San Joaquin Valley Air Pollution Control District
SLF	Sacred Lands File
SPAL	Small Project Analysis Level
SR	State Route
S.S.J.V.I.C.	South San Joaquin Valley Information Center
State Water Board	State Water Resources Control Board
SWID	Shafter-Wasco Irrigation District
SWPPP	Stormwater Pollution Prevention Plan
TDS	total dissolved solids
UBC	California Uniform Building Code
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey

1.0 Introduction

The North Kern Water Storage District (District) has prepared this Initial Study/proposed Mitigated Negative Declaration (IS/MND) in compliance with the California Environmental Quality Act (CEQA) and Guidelines to address the potentially significant environmental impacts of the proposed Groundwater Banking Partnership Project (proposed Project or Project) in Kern County, California. The District is the lead agency under CEQA.

After the required public review of this document is complete, the District's Board of Directors will consider all IS/MND comments received, the entirety of the administrative record for the Project, whether to adopt the proposed IS/MND and a Mitigation Monitoring and Reporting Program and approve the proposed Project.

1.1 Summary of Findings

Chapter 3, "Environmental Checklist" of this document contains the analysis and discussion of potential environmental impacts of the proposed Project. Based on the issues evaluated in that chapter, it was determined that the proposed Project would result in no impacts on the following issue areas:

- Land Use and Planning
- Population and Housing
- Public Services
- Recreation
- Transportation
- Tribal Cultural Resources
- Wildfire

The proposed Project would result in less-than-significant impacts on the following issue areas:

- Aesthetics
- Agriculture and Forestry Resources
- Air Quality
- Energy
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Mineral Resources
- Noise
- Utilities and Service Systems

The proposed Project would result in less-than-significant impacts *after* mitigation implementation on the following issue areas:

- Biological Resources
- Cultural Resources

- Geology and Soils
- Hydrology and Water Quality

1.2 Other Key Public Agencies Relying on this IS/MND

CEQA requires that State and local governmental agencies consider the environmental effects of projects over which they have discretionary authority before taking action on those projects (Public Resources Code [PRC] Section 21000 et seq.). CEQA also requires that each lead agency avoid or mitigate to less-than-significant levels, wherever feasible, the significant environmental effects of projects it approves or implements. There are no other key public agencies relying on this IS/MND.

1.3 Document Organization

This document contains the information required under CEQA:

Chapter 1, Introduction. This chapter describes the purpose of the IS/MND, summarizes findings, and describes the organization of this IS/MND.

Chapter 2, Project Description. This chapter describes the Project location and background, Project need and objectives, Project characteristics, construction activities, Project operations, and discretionary actions and approvals that may be required.

Chapter 3, Environmental Checklist. This chapter presents an analysis of environmental issues identified in the CEQA environmental checklist and determines whether Project implementation would result in no impact, less-than-significant impact, less-than-significant impact with mitigation incorporated, potentially significant impact, or significant impact on the physical environment in each topic area. Should any impacts be determined to be potentially significant or significant, an Environmental Impact Report (EIR) would be required. For this proposed Project, however, mitigation measures have been incorporated as needed to reduce all potentially significant and significant impacts to a less-than-significant level.

Chapter 4, References. This chapter lists the references used to prepare this IS/MND.

Chapter 5, Report Preparers. This chapter identifies report preparers who contributed to the preparation of this document.

2.0 Project Description

2.1 Project Background and Need

The District is located in Kern County along the eastern side of California's southern San Joaquin Valley (**Figure 2-1**). The District's service area includes approximately 60,000 acres of predominately agricultural land north of the city of Bakersfield, west of State Route (SR) 99, and east of the cities of Shafter and Wasco.

The District administers conjunctive use projects that consists of groundwater banking[1], recovery, and exchange programs to optimize water supplies. Groundwater banking facilities consist of approximately 1,726 acres of spreading grounds/recharge basins with a capacity to recharge up to 330,000 acre-feet per year (AFY). Most of the District's groundwater banking is associated with "in-District" operations; however, the District has maintained active water exchange and banking programs with District landowners, other districts, and third parties since the mid-1990s. Lack of recovery and return capacity of banked water poses constraints that limit use of the District's spreading grounds/recharge basins. Therefore, the District has identified a need to improve recovery and conveyance capacity to return banked water to groundwater banking partners, including Kern Tulare Water District and Southern San Joaquin Municipal District.

The District proposes to construct and operate nine high-quality wells to increase return capacity. The proposed Project would also include the construction of new pipelines and two connections/tie-ins to the Friant-Kern Canal (FKC), which would be used to convey previously banked water (Figure 2-1).

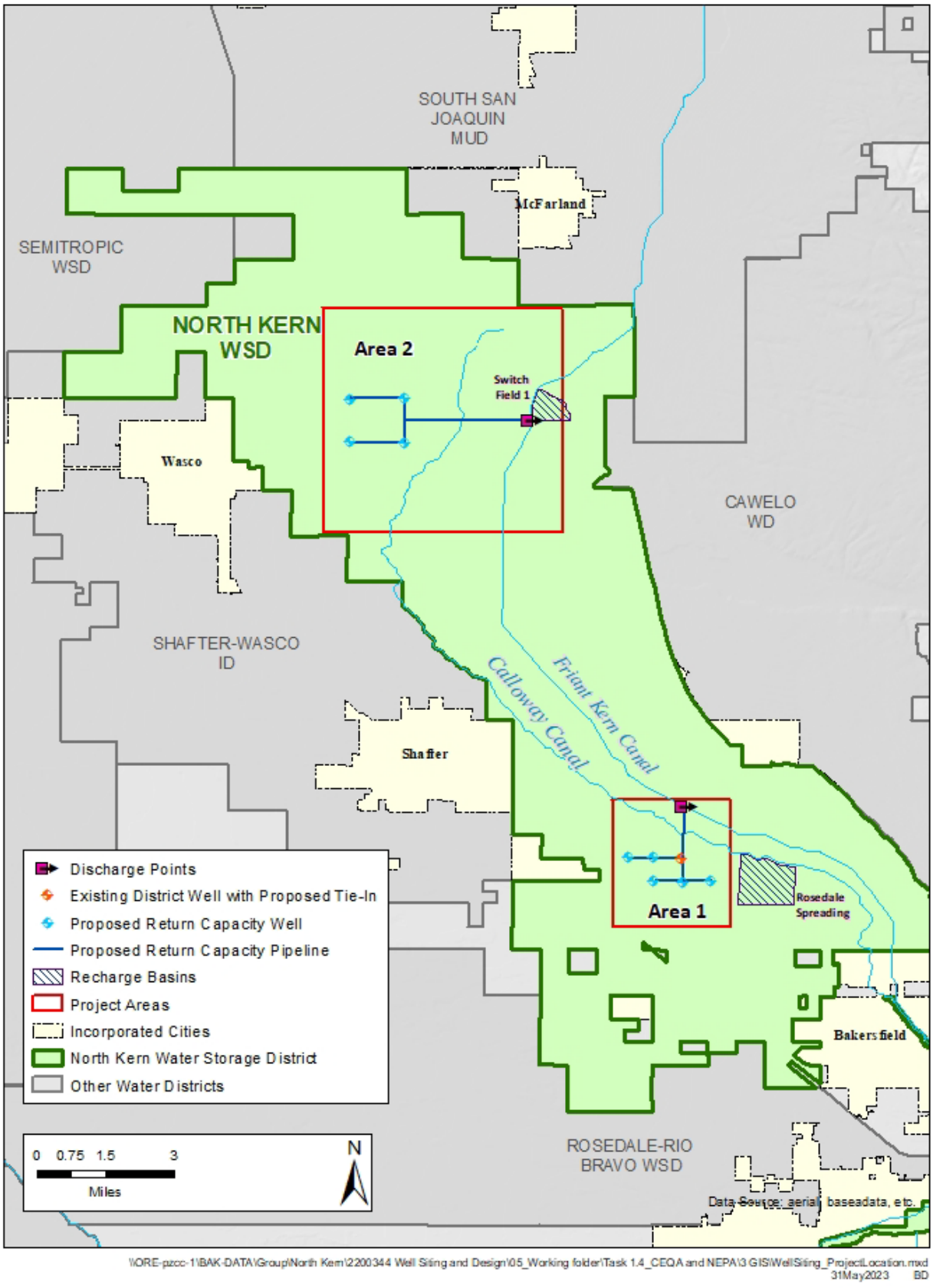
2.2 Project Objectives

The objective of the proposed Project is to improve return capacity to provide banking partners with additional water resources for agricultural uses or other purposes as determined by the District. The proposed wells and associated infrastructure would:

- Improve District infrastructure to allow for the return of previously banked water to District banking partners; and
- Increase the District's flexibility to recover previously banked groundwater to minimize potential water quality and subsidence impacts.

[1] Groundwater banking is the recharge of wet-period surface water supplies in available groundwater storage and subsequent recovery during time of need (typically within a dry period).

Figure 2-1. North Kern Water District and proposed Project Locations.



Source: GEI 2023

2.3 Proposed Project

Recharge

The proposed Project would include agreements made between the District and its groundwater banking partners to recharge the partners' water within the District's existing spreading grounds/recharge basins during wet- and moderately-wet years. These additional recharge volumes would increase the importation of water supplies for groundwater banking ("banked water"), which some portion would be returned to groundwater banking partners at a later time by proposed return wells and conveyance facilities discussed below. The remaining water would be available for District use and increase District's available groundwater supplies. Banked water would be returned to the groundwater banking partners or otherwise utilized by District in such a manner that no net increase in water recovery (pumping) would occur.

Recovery and Return

To recover banked water to banking partners, the proposed Project would construct and operate nine wells, with an average pumping capacity of 5.5 cubic feet per second (cfs) and 8.92 miles (47,100 linear feet) of pipeline, including one existing well tie-in and two discharge points to the FKC. The proposed wells and associated conveyance facilities would be implemented in two areas of the District's service area, referred to as Area 1 and Area 2 described in further detail below (**Figure 2-1** and **Table 2-1**). Table 2-1 summarizes proposed locations of wells, pipeline lengths and discharge mile post (MP) along the FKC.

Table 2-1. Discharge Outfalls, Wells, and Pipeline Length

Discharge into FKC (Mile Post No.)	Well No.	Pipeline Length (Miles)	Proposed Project Location
140.54	99-06-008 (existing well tie-in)	3.66	Proposed Project Area 1 [1]
140.54	99-06-009	3.66	Proposed Project Area 1 [1]
140.54	99-06-010	3.66	Proposed Project Area 1 [1]
140.54	99-06-012	3.66	Proposed Project Area 1 [1]
140.54	99-06-013	3.66	Proposed Project Area 1 [1]
140.54	99-06-014	3.66	Proposed Project Area 1 [1]
131.13	99-18-004	5.26	Proposed Project Area 2 [2]
131.13	99-18-006	5.26	Proposed Project Area 2 [2]
131.13	99-21-002	5.26	Proposed Project Area 2 [2]
131.13	99-21-004	5.26	Proposed Project Area 2 [2]

1. Rosedale U.S. Geological Survey (USGS) 7.5-minute quadrangle Township 28S Range 26E, Sections 20, 21, 28 and 29
2. Famoso and Wasco USGS 7.5-minute quadrangles Township 27S Range 25E, Sections 2, 3, and 4

Source: GEI 2023

Proposed Project Area 1

Proposed Project Area 1 is located in the Rosedale United States Geological Survey (USGS) 7.5-minute quadrangle Township 28S Range 26E, Sections 20, 21, 28 and 29. Proposed Project

Area 1 would contain a total of five new wells, 3.66 miles (19,350 linear feet) of pipeline with one proposed tie-in to an existing District well, and one discharge into the FKC (**Figure 2-2**).

New wells 99-06-009 and 99-06-010 would be located along Burbank Street; with well 99-06-010 at the intersection of Driver Road, and well 99-06-009 located approximately 0.5 mile to the east. New wells 99-06-012, 99-06-013 and 99-06-014 would be located to the south and east of the wells along Burbank Road; with well 9-06-014 located at the end of Resnick Way, and the remaining two located to the east approximately 0.5 mile apart. The proposed wells would convey return water through proposed pipelines ranging in diameters of 18 to 42 inches (Figure 2-2). One existing District well (99-06-008) located at the intersection of Burbank Street and Zachary Avenue would tie-in (be connected to) the proposed return capacity system, along with the other five proposed wells. The new pipeline would cross the Calloway Canal and connect to the FKC at MP 140.54 (*refer to* **Figure 2-2**).

Proposed Project Area 2

Proposed Project Area 2 is in the Famoso and Wasco USGS 7.5-minute quadrangles Township 27S Range 25E, Sections 2, 3 and 4. Proposed Project Area 1 would contain a total of four new wells, 5.26 miles (27,750 linear feet) of pipeline, and one discharge into the FKC (**Figure 2-3**).

New wells 99-21-002 and 99-21-004 would be located along McCombs Avenue; with well 99-21-002 at the intersection of Smith Avenue, and well 99-21-002 located approximately 1 mile to the west. New wells 99-18-04 and 99-18-06 would be located to the south of the wells along Paso Robles Highway (SR 46); with well 99-18-04 located at the intersection of Smith avenue and well 99-18-06 located approximately 1 mile to the west. The proposed wells would convey return water through proposed pipelines ranging in diameters of 18 to 42 inches (Figure 2-3). The new pipeline would cross the Calloway Canal and connect to the FKC at MP 131.13 (*refer to* Figure 2-3).

2.3.3 Proposed Project Implementation

The proposed wells would be drilled to a depth of approximately 1,200 feet and have an average flow of approximately 5.5 cfs. A concrete pad (approximately 100 square feet, each) would be installed around the well. The above-ground well heads would be approximately 9 feet tall and 10 feet in diameter. The temporary land disturbance for each well location would be 1,500 square feet. This would include tracking onsite, staging equipment, and potential clearing and grubbing around the well locations. A maximum of approximately 0.31 acres of land would be temporarily disturbed by proposed Project activities within well construction areas.

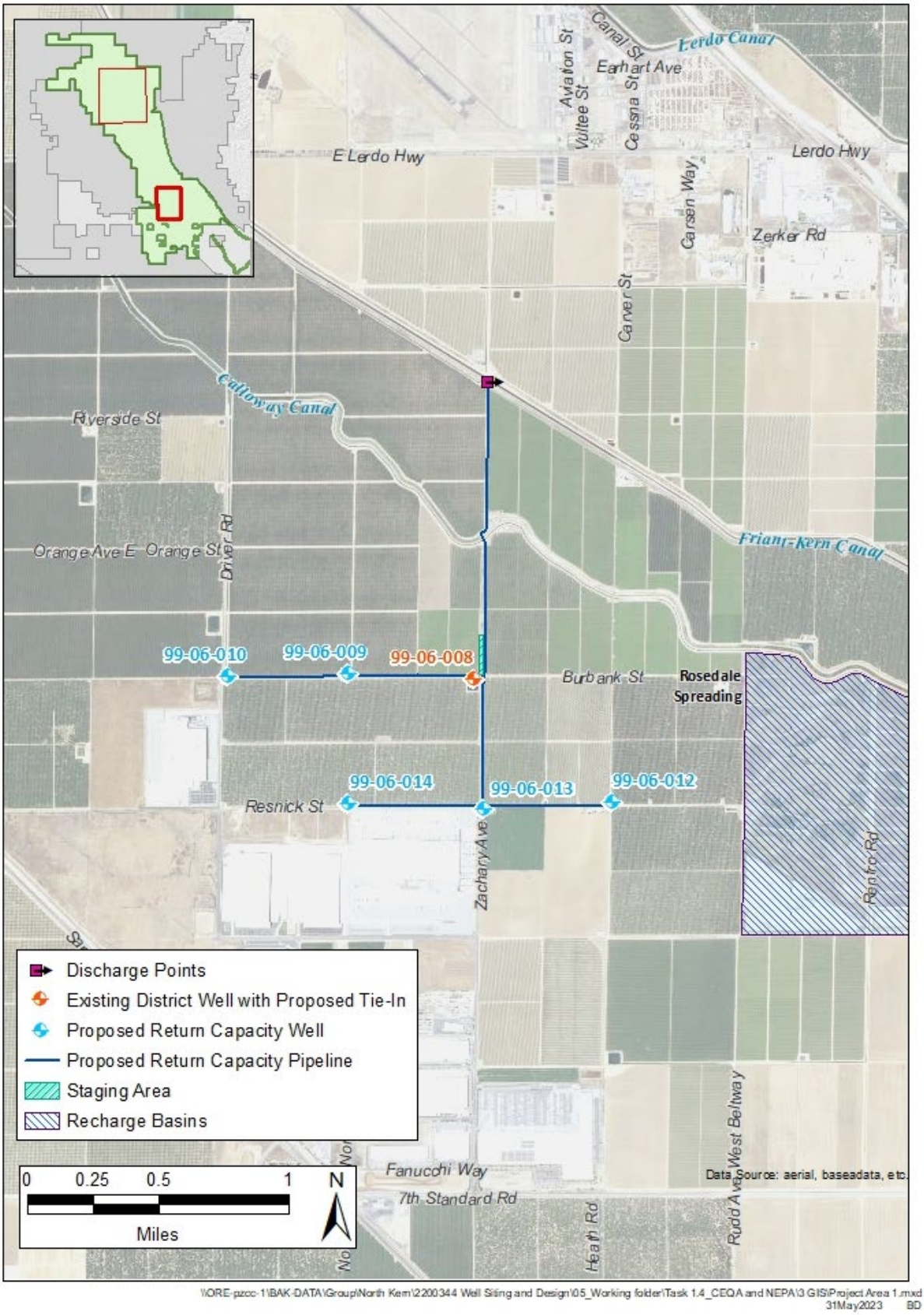
The proposed pipeline routes would consist of 18-, 24-, 30-, 36-, and 42-inch-diameter polyvinyl chloride (commonly known as PVC) pipe totaling approximately 8.92 miles. The District would excavate trenches (up to 7 feet wide and 7 feet deep) within or along the edge of existing dirt roads for most of the proposed pipelines. In both Areas 1 and 2, the main proposed pipeline that would convey returned water to the FKC would cross the Calloway Canal, and trenches in these locations would be up to 10 feet wide and 7 feet in depth. The depth of the excavation would increase in the cross section of the canal levees, due to the higher top levee elevation. Generally, the depth of the

excavation would maintain a minimum cover of 4 to 5 feet through the canal bedding. To eliminate the need for dewatering or damming within and around the Calloway Canal, construction of the canal crossings within proposed Project Areas 1 and 2 would be scheduled during a dry period.

Therefore, all trenches would result in the excavation of approximately 7.57 acres and 72,700 cubic yards of soil, all of which would be in or along the edge of existing roadways. The trenches would be backfilled with the excavated material after the pipeline is installed. Additional material would be spread around the final grade over the pipeline to match surrounding existing grades. The pipeline construction corridor would be up to 50 feet wide to account for the trenches, access routes, materials staging, and overburden stockpiling. A maximum of approximately 54.06 acres of land would be temporarily disturbed by proposed Project activities in the pipeline construction corridor.

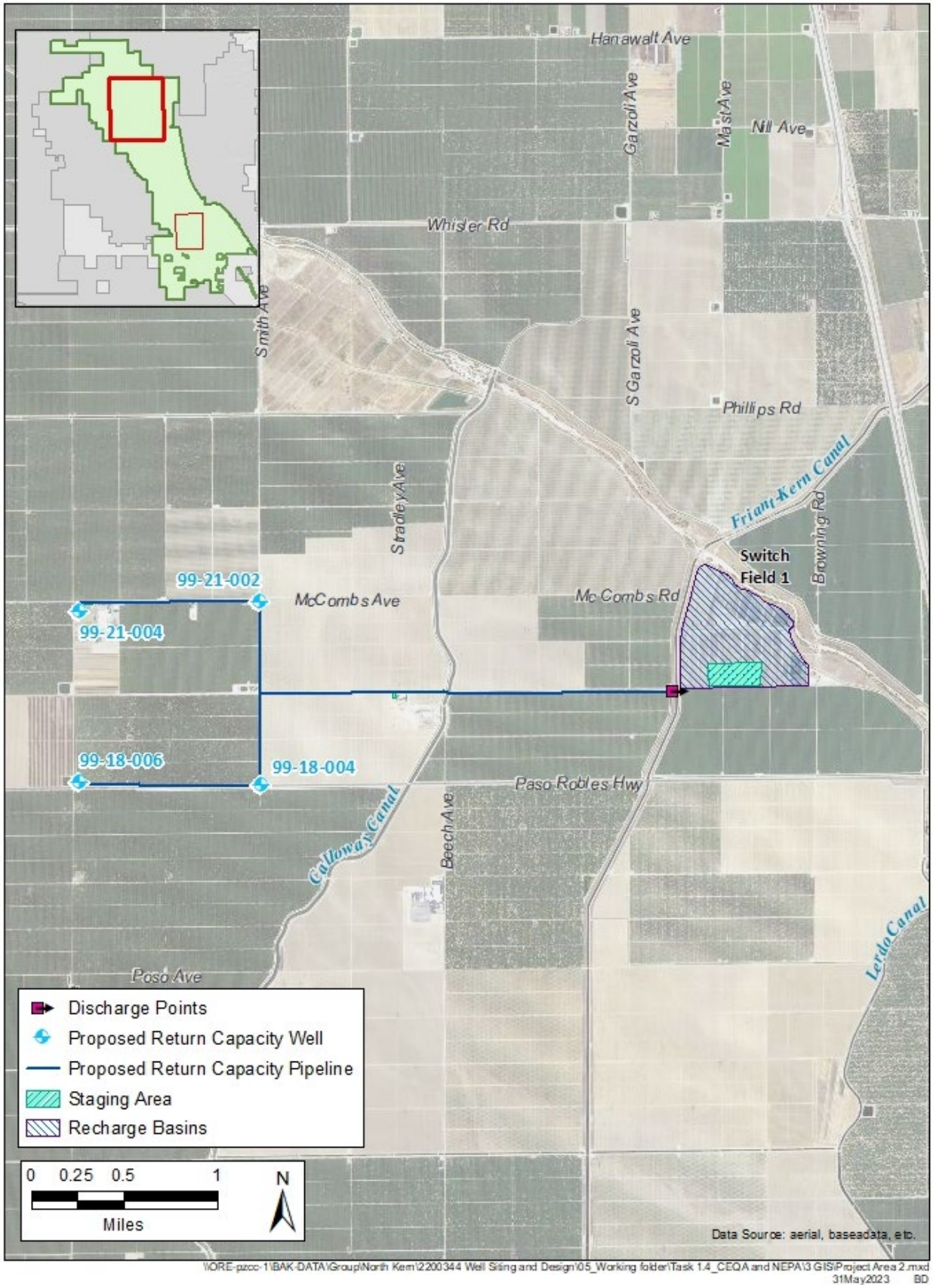
The two new discharge outfalls at MPs 140.54 and 131.13 would be installed below the top-of-bank within the FKC prism. The District is required to obtain approval from the US Bureau of Reclamation (Reclamation) prior to construction on Reclamation lands. Each connection to the FKC would require a standard turn-in and small delivery gate for control (*see* **Figure 2-4** for an example).

Figure 2-2. Proposed Project Facilities in Project Area 1.



Source: GEI 2023

Figure 2-3. Proposed Project Facilities in Project Area 2.



Source: GEI 2023

Figure 2-4. Example Discharge Outfall.

2.4 Construction Schedule and Staging Areas

The District would drill the nine wells and install the proposed tie-in, and pipelines in the late winter/spring 2023 or as soon as environmental approvals are obtained, regardless of month or season. The two proposed FKC discharge outfalls would likely be constructed during the typical maintenance period, which is November through January. Proposed Project construction activities would only occur during the day (from 30 minutes prior to sunrise and 30 minutes following sunset).

Staging and laydown would temporarily house construction material and excavated soil in both proposed Project Areas 1 and 2. Area 1 staging and laydown would be in the northwest quadrant of the intersection of Burbank Street and Zachary Avenue, and Area 2 staging and laydown would be located just north of Cromer Avenue, to the east of the FKC within the Switch Field 1 (*see* Figure 2-2 and 2-3). Proposed staging areas would be situated within the 50-foot-wide pipeline construction corridor. No additional acreage would be needed for staging and laydown. Existing roads would be used to access the wells and pipeline construction corridor.

2.5 Construction Equipment and Workers

Equipment that would be used during proposed Project implementation includes an excavator, trencher, backhoe, dozer, drill rig, hoist crane, water truck, loader, steel drum compactor, and pick-up trucks. Up to 10 construction workers would be onsite at one time.

2.6 Operation and Maintenance Activities

Similar to existing conditions, the proposed wells would be operated and maintained by the District under their Well Inspection and Maintenance Program. This program includes daily well site inspections (in pumping years) and minor maintenance work. Electrical panel inspections and motor/line-shaft inspections are also performed periodically. The District maintains extensive records for all District's wells to detect any deterioration of well performance. Periodic overhauls of wells help ensure the wells are operating efficiently and prolongs their useful life. The District's maintenance and overhaul procedures help identify well problems sooner so the issue can be addressed in a timely manner.

2.7 Regulatory Requirements, Permits, and Approval

As the lead agency under CEQA, the District has the principal responsibility for approving and carrying out the proposed Project and for ensuring that CEQA requirements and all other applicable regulations are met. Other agencies that may have permitting approval or review authority over portions of the proposed Project are listed below:

- **Central Valley Regional Water Quality Control Board, Construction Activities General Permit.** Required for any project that disturbs more than 1 acre of soil. The proposed Project would temporarily disturb a maximum of 54.06 acres of land in Kern County. Under this permit, the County would need to develop a Stormwater Pollution Prevention Plan (SWPPP).
- **Kern County Environmental Health Services Department, Water Well Permit.** Required for any project proposing to construct a well in Kern County.
- **San Joaquin Valley Air Pollution Control Board (S.J.V.A.P.C.D.), Dust Control Plan.** Required for any project that disturbs more than 1 acre of soil.
- **United States Bureau of Reclamation, Land Use Authorization.** Required for construction, operation, and maintenance of the pipelines across lands owned by the United States (U.S.) at 2 new discharge locations (MP 140.54, and 131.13) on the FKC.

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3.0 Environmental Checklist

Project Information

Item	Description
#1. Project title:	Groundwater Banking Partnership Project
#2. Lead agency name and address:	North Kern Water Storage District
#3. Contact person and phone number:	Mr. Ram Venkatesan (661) 393-2696
#4. Project location:	33380 Cawelo Avenue, Bakersfield, CA 93308
#5. Project sponsor's name and address:	Same as lead agency
#6. General plan designation:	Exclusive Agriculture
#7. Zoning:	Exclusive Agriculture, Industrial
#8. Description of Project: (Describe the whole action involved, including but not limited to later phases of the Project, and any secondary, support, or off-site features necessary for its implementation. Attach additional sheets if necessary.)	To return banked water to banking partners, the proposed Project would construct and operate nine wells and 8.92 miles (47,100 linear feet) of pipeline, including one existing well tie-in and two discharge points to the FKC.
#9. Surrounding land uses and setting: Briefly describe the Project's surroundings:	The Project sites are located in the unincorporated area of Kern County, in an area dominated by agricultural production. Several small cities by the names of McFarland, Wasco, and Shafter are located within the vicinity of the Project sites. The city of Bakersfield is located approximately 3 miles south of the southernmost Project site.
#10. Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement.)	The Project is proposed to be partially funded by the U.S. Bureau of Reclamation.
#11. Have California Native American tribes traditionally and culturally affiliated with the Project area requested consultation pursuant to Public Resources Code (PRC) Section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?	No; this is described in more detail in Chapter 3.5, “Cultural Resources” and Chapter 3.17, “Tribal Cultural Resources.”
Note: Conducting consultation early in the CEQA process allows tribal governments, lead agencies, and Project proponents to discuss the level of environmental review, identify and address potential adverse impacts to tribal cultural resources, and reduce the potential for delay and conflict in the environmental review process. (*See* PRC Section 21080.3.2.) Information may also be available from the California Native American Heritage Commission’s Sacred Lands File per PRC Section 5097.96 and the California Historical Resources Information System administered by the California Office of Historic Preservation. Please also note that PRC Section 21082.3(c) contains provisions specific to confidentiality.	

Environmental Factors Potentially Affected

No environmental resources were found to have "potentially significant impacts." The environmental factors listed as "Yes" in **Table 3-1** would be potentially affected by this Project, involving at least one impact that has "Less-than-Significant Impacts with Mitigation Incorporated" as indicated by the checklist on the following pages.

Table 3-1. Environmental Resources with Potentially Significant Impacts Prior to Mitigation.[2]

Environmental Resources	Yes or No?
Aesthetics	No
Agriculture and Forestry Resources	No
Air Quality	No
Biological Resources	**Yes**
Cultural Resources	**Yes**
Energy	No
Geology/Soils	**Yes**
Greenhouse Gas Emissions	No
Hazards and Hazardous Materials	No
Hydrology/Water Quality	**Yes**
Land Use/Planning	No
Mineral Resources	No
Noise	No
Population/Housing	No
Public Services	No
Recreation	No
Transportation	No
Tribal Cultural Resources	No
Utilities/Service Systems	No
Wildfire	No
Mandatory Findings of Significance	No

[2] Impacts to all resources are reduced to less than significant with the incorporation of mitigation measures.

Determination (To be completed by the Lead Agency)

On the basis of this initial evaluation:	Yes or No?
I find that the proposed Project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.	No
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.	**Yes**
I find that the proposed Project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.	No
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.	No
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 Environmental Impact Report (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.	No

Signature	8/11/2023 Date
David Hampton Print Name	General Manager Title
North Kern Water Storage District Agency	

3.1 Aesthetics

I. #1. AESTHETICS. Except as provided in PRC Section 21099, would the Project:

Criteria	Have Potentially Significant Impact?	Have Less-than-Significant Impact with Mitigation Incorporated?	Have Less-than-Significant Impact?	Have No Impact?	Have Beneficial Impact?
#1 -a. Have a substantial adverse effect on a scenic vista?	No.	No.	No.	Yes.	No.
#1 -b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?	No.	No.	No.	Yes.	No.
#1 -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 a 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.	No.	Yes.	No.	No.
#1 -d. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	No.	No.	No.	Yes.	No.

Environmental Setting

Project Area Characteristics

Visual character of a project site and its immediate surroundings is defined by existing land uses and the associated natural or built environment, including vegetation, landforms, and structural features. The Project Areas are located west of SR 99 and the FKC, and east of SR 43 in Kern County. The landscapes of the Project Areas are relatively flat, with open agricultural fields and orchards characteristic of Central Valley farmlands dominating the landscape. Project Area 1 is surrounded mostly by agricultural fields as well as an industrial sector to the south and west, and groundwater recharge ponds approximately 0.5 mile to the east. Project Area 1 has background views to the west and south of large warehouses and traffic from SR 43. Project Area 2 runs alongside SR 46 to the south and is surrounded by agricultural fields in all other directions. Project Area 2 has background views consisting of traffic along SR 43 and SR 46 to the west and south, respectively.

In Project Area 1, the parcels encompassing the northern portion from the FKC to Burbank Street (APNs 0911719, 09117107, 09117205, 09117211, 09117207, 09117209) are zoned as exclusive

agriculture and the two southern parcels (APNs 09125111 and 09125117) are zoned as industrial. Project Area 2 is zoned entirely as exclusive agriculture (Kern County GIS 2023). Agricultural production can be seen in both Project Areas, as agriculture is the dominate land use in Kern County. Elements of the built environment (e.g., roads) and water management infrastructure (e.g., canals), which are characteristic of many areas of the Central Valley, are present within the boundaries of Project Areas 1 and 2.

Scenic Vistas

Scenic vistas are defined as expansive views of distant landforms and aesthetic features from public vantage points, including areas designated as official scenic vistas along roadway corridors or otherwise designated by local jurisdictions. There are no designated scenic vistas located in the vicinity of the proposed Project (Kern County 2009).

Scenic Highways

A scenic highway is officially designated as a State scenic highway when a local jurisdiction adopts a scenic corridor protection program, applies to the California Department of Transportation (Caltrans) for scenic highway approval, and receives notification from Caltrans that the highway has been designated as an official Scenic Highway. There are no State- or county-designated scenic highways in the Project vicinity (Caltrans 2018). The nearest designated scenic highways, located at least 50 miles from the nearest Project Area, are SR 166 (near Cuyama Valley) and SR 41 (near the community of Cholame).

Light and Glare

There are two primary sources of light: light emanating from building interiors that pass-through windows and light from exterior sources (e.g., street lighting, parking lot lighting, building illumination, security lighting, and landscape lighting). Depending upon the location of the light source and its proximity to adjacent light-sensitive uses, light introduction can be a nuisance, affecting adjacent areas and diminishing the view of the clear night sky. Light spillage is typically defined as unwanted illumination from light fixtures on adjacent properties. Existing light sources in the vicinity of the Project Areas include limited exterior lighting of agricultural uses in the area. The Project sites themselves contain few, if any, existing on-site uses that involve lighting.

Discussion

#1 -a. Have a substantial adverse effect on a scenic vista?

There are no significant viewsheds or scenic vistas located in the vicinity of the proposed Project (Kern County 2009), therefore, implementation of the proposed Project would not result in adverse effects to a scenic vista. There would be **no impact**.

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

There are no designated State scenic highways located in the vicinity of the proposed Project (Caltrans 2018), therefore, implementation of the proposed Project would not damage scenic resources within a State scenic highway. There would be **no impact**.

#1 -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?

During construction, several vehicles and equipment would be onsite, which is similar to normal agricultural operations and water infrastructure equipment common to the area. The proposed Project would not impact the adjacent agricultural land. Following the completion of construction activities, all construction-related equipment would be removed, and the Project sites would be restored to pre-construction conditions. All pipeline connections would either be buried underground or exposed for a few feet to allow for the tie-in to the existing water infrastructure. Therefore, implementation of the proposed Project would not substantially degrade the existing visual character or quality of public views of the Project sites and the surrounding vicinity. Impacts would be **less than significant**.

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

The proposed Project includes the implementation of new well facilities, pipelines, and discharge structures. The proposed facilities would not substantially change the existing character or views of the area, nor would they create new sources of light or glare. There would be **no impact**.

3.2 Agriculture and Forestry Resources

II. #2. AGRICULTURE AND FORESTRY RESOURCES. In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997, as updated) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the State's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the Project:

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

Environmental Setting

Important Farmland

The California Department of Conservation (DOC) Farmland Mapping and Monitoring Program (FMMP) identifies lands that have agricultural value and maintains a Statewide map of agricultural lands in its Important Farmland Inventory (IFI) System (DOC 2004). The IFI classifies land based upon its productive capabilities, which is based on many characteristics, including fertility, slope, texture, drainage, depth, salt content, and availability of water for irrigation. The DOC maintains the FMMP and monitors the conversion of farmland to and from agricultural use through its IFI. Farmlands are divided into the categories: Prime Farmland; Farmland of Statewide Importance; Unique Farmland; Farmland of Local Importance; Grazing Land; Urban and Built-up Land; and Other Land. Project Area 1 contains parcels zoned as agriculture and industrial and Project Area 2 is zoned entirely as agriculture. Project Areas 1 and 2 contain or are located adjacent to lands designated as Prime Farmland and/or Farmland of Statewide Importance (DOC 2022).

Williamson Act Contracts

The California Land Conservation Act of 1965, also known as the Williamson Act, is designed to preserve agricultural and open space lands by discouraging their premature and unnecessary conversion to urban uses. Williamson Act contracts, also known as agricultural preserves, create an arrangement whereby private landowners contract with counties and cities to voluntarily restrict their land to agricultural and compatible open-space uses (DOC 2023). Project Area 1 does not contain any designation by a Williamson Act Contract (Kern County GIS 2023). APNs 07201017, 07201011, 07201010, 07202005, 07202016 of Project Area 2 are designated as a Farmland Security Zone (FSZ) (Kern County GIS 2023).

Discussion

#2 -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?

Prime Farmland is land which has the best combination of physical and chemical features able to sustain long-term agricultural production. It has the soil quality, growing season, and moisture supply needed to produce sustained high yields. Prime Farmland must have been used for irrigated agricultural production at some time during the 4 years prior to the mapping date. For the portion of Project Area 2 that is designated as Prime Farmland, proposed facilities would be implemented on the outer edges of the agricultural parcels, along the established dirt roads which are barren. Further, proposed pipelines would primarily be located underground and would not impact agricultural production. Additionally, the purpose of the proposed Project is to improve flexibility to recover previously banked groundwater for agricultural water users, which is a benefit to agricultural production. Therefore, implementation of the proposed Project would not convert substantial amounts of farmland to non-farmland uses. During Project implementation, the parcels would continue to be mapped as Prime Farmland. This impact would be **less than significant**.

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

The southern portion of Project Area 2 includes land designated as FSZ. As described above, proposed facilities would be implemented on the outer edges of the agricultural parcels, along barren dirt roads and would not significantly impact agricultural production. Furthermore, constructing and operating water facilities is a compatible use as defined by the Williamson Act. As defined by the Kern County Agricultural Preserve Standard Uniform Rules (Form 505), compatible use includes, "The erection, construction, alteration, operation, and maintenance of gas, electric, water, and communication utility facilities and similar public service facilities by corporations and companies under the jurisdiction of the Public Utilities Commission of the State of California and by public agencies." Because the District is a public agency that would construct, operate, and maintain the water facilities, the proposed Project is a compatible use consistent with the Williamson Act; therefore, during Project implementation, the Williamson Act Contract would continue to be valid. Implementation of the proposed Project would not conflict within existing Williamson Act Contracts and this impact would be **less than significant**.

#2 -c and d. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in PRC Section 12220(g)), timberland (as defined by PRC Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))? Result in the loss of forest land or conversion of forest land to non-forest use?

The Project Areas are not zoned as forest land, timberland, or timberland zoned as timberland production, therefore, no loss or conversion of forest land to non-forest land would result from the proposed Project. There would be **no impact**.

#2 -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?

As discussed previously, the purpose of the proposed Project is to improve flexibility to recover banked groundwater for agricultural water users, which would benefit agricultural production. The proposed Project would not impact farmland to such a degree that the land would be converted to non-agricultural use. The proposed Project would be implemented on the outer edges of the parcels zoned as agriculture and would not interfere with crop production. The installation of wells and associated conveyance pipeline would be constructed in or along the edge of existing dirt roads, primarily underground. Disturbance from construction activities would include use of heavy equipment, ground-disturbance, and staging of equipment, and would not be substantially different that normal agricultural operations or water infrastructure maintenance equipment common to the area. Therefore, this impact would be considered **less than significant**.

3.3 Air Quality

III. #3. AIR QUALITY. Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied on to make the following determinations. Would the Project:

Criteria	Have Potentially Significant Impact?	Have Less-than-Significant Impact with Mitigation Incorporated?	Have Less-than-Significant Impact?	Have No Impact?	Have Beneficial Impact?
a) #3 -a. Conflict with or obstruct implementation of the applicable air quality plan?	No.	No.	Yes.	No.	No.
b) #3 -b. Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable State or State ambient air quality standard?	No.	No.	Yes.	No.	No.
c) #3 -c. Expose sensitive receptors to substantial pollutant concentrations?	No.	No.	Yes.	No.	No.
d) #3 -d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	No.	No.	Yes.	No.	No.

Environmental Setting

The Project Areas are located within Kern County in the San Joaquin Valley Air Basin (SJVAB). The SJVAB is under the jurisdiction of the S.J.V.A.P.C.D., who responsible for obtaining and maintaining air quality conditions in the county.

Implementation of the Federal Clean Air Act and California Clean Air Act required the U.S. Environmental Protection Agency (EPA) and California Air Resource Boards (C.A.R.B.) to establish health-based air quality standards at the Federal and State levels. National Ambient Air Quality Standards (N.A.A.Q.S.) and California Ambient Air Quality Standards (C.A.A.Q.S.) were established for the following criteria pollutants: carbon monoxide (CO), ozone (O_3), sulfur dioxide, nitrogen dioxide (NO_2), particulate matter (PM) less than 10 microns in diameter (PM_{10}), PM less than 2.5 microns in diameter ($PM_{2.5}$), and lead. Areas of the State are designated as attainment, nonattainment, maintenance, or unclassified for the various pollutant standards according to the Federal Clean Air Act and California Clean Air Act.

An "attainment" designation for an area signifies that pollutant concentrations did not violate the N.A.A.Q.S. or C.A.A.Q.S. for that pollutant in that area. A "nonattainment" designation indicates that a pollutant concentration violated the standard at least once, excluding those occasions when a violation was caused by an exceptional event, as identified in the criteria. A "maintenance" designation indicated that the area previously categorized as nonattainment is currently categorized

as attainment for the applicable pollutant; though the area must demonstrate continued attainment for a specific number of years before it can be re-designated as an attainment area. An "unclassified" designation signifies that data does not support either an attainment or a nonattainment status.

The EPA established N.A.A.Q.S. in 1971 for six air pollution constituents. States have the option to add other pollutants, to require more stringent compliance, or to include different exposure periods. C.A.A.Q.S. and N.A.A.Q.S. are listed in **Table 3-2**.

Table 3-2. Federal and California Ambient Air Quality Standards and Attainment Status.

Pollutant	Averaging Time	California Standards Concentration	Federal Primary Standards Concentration
Ozone (O_3)	8-hour	0.070 parts per million. (137 micrograms per cubic meter)	0.070 parts per million (137 micrograms per cubic meter) (*see* Note #1)
Ozone (O_3)	1-hour	0.09 parts per million. (180 micrograms per cubic meter)	(None; *see* Note #2)
Respirable Particulate Matter (PM_{10})	24-hour	50 micrograms per cubic meter	150 micrograms per cubic meter
Respirable Particulate Matter (PM_{10})	Annual Arithmetic Mean	20 micrograms per cubic meter	(None)
Fine Particulate Matter ($PM_{2.5}$)	24-hour	(None)	35 micrograms per cubic meter
Fine Particulate Matter ($PM_{2.5}$)	Annual Average	12 micrograms per cubic meters	12 micrograms per cubic meter
Carbon Monoxide	8-hour	9 parts per million (10 milligrams per cubic meter)	9 parts per million (10 milligrams per cubic meter)
Carbon Monoxide	1-hour	20 parts per million (23 milligrams per cubic meter)	35 parts per million (40 micrograms per cubic meter)
Nitrogen Dioxide	Annual Average	0.03 parts per million (57 micrograms per cubic meters)	0.053 parts per million (100 micrograms per cubic meters)
Nitrogen Dioxide	1-hour	0.18 parts per million (339 micrograms per cubic meters)	0.100 parts per million (188 micrograms per cubic meters)
Lead	30-day Average	1.5 micrograms per cubic meters	(None)
Lead	Rolling 3-month Average	(None)	0.15 micrograms per cubic meter
Lead	Quarterly Average	(None)	1.5 micrograms per cubic meter
Sulfur Dioxide	24-hour	0.04 parts per million (105 micrograms per cubic meter)	0.14 parts per million (for certain areas)

Pollutant	Averaging Time	California Standards Concentration	Federal Primary Standards Concentration
Sulfur Dioxide	3-hour	(None)	(None)
Sulfur Dioxide	1-hour	0.25 parts per million (655 micrograms per cubic meter)	0.075 parts per million (196 micrograms per cubic meter)
Sulfates	24-hour	25 micrograms per cubic meter	No Federal standard
Hydrogen Sulfide	1-hour	0.03 parts per million (42 micrograms per cubic meter)	No Federal standard
Vinyl Chloride	24-hour	0.01 parts per million (26 micrograms per cubic meter)	No Federal standard

Notes:

#1. On October 1, 2015, the national 8-hour ozone (O_3) primary and secondary standards were lowered from 0.075 to 0.070 parts per million.

#2. 1-hour ozone standard revoked effective June 15, 2005, although some areas have continuing obligations under that standard.

Source: C.A.R.B. 2016

Under the N.A.A.Q.S., the county is designated as nonattainment for 8-hour O_3, and $PM_{2.5}$, and attainment/unclassified for $PM_{10,}$ CO, NO_2, S.O.$_{2.}$, lead, and sulfates (EPA 2023) Under C.A.A.Q.S., the county is designated nonattainment for 1-hour and 8-hour O_3, PM_{10}, and $PM_{2.5}$ (C.A.R.B. 2022).

The Project Areas air quality monitoring network provides information on ambient concentrations of air pollutants in the SJVAB. S.J.V.A.P.C.D. operates several monitoring stations in Kern County and air quality data was obtained from the Bakersfield-California Avenue Station. **Table 3-3** compares a 5-year summary of the highest annual criteria air pollutant emissions collected at this station with applicable C.A.A.Q.S., which are more stringent than the corresponding N.A.A.Q.S. Due to the regional nature of these pollutants, O_3, $PM_{2.5}$, and PM_{10} are expected to be representative of Project Areas 1 and 2. As indicated in Table 3-3, O_3, $PM_{2.5}$, and PM_{10} standards have been exceeded over the past 5 years.

Table 3-3. Ambient Air Quality Monitoring Data Measured at the Bakersfield-California Avenue Monitoring Station.

Pollutant Standards, 1-Hour Ozone (O_3)	2017	2018	2019	2020	2021
Maximum 1-hour concentration (parts per million)	0.122*	0.107*	0.097*	0.110	0.090*
Days Exceeding[a] C.A.A.Q.S. 1-hour (>0.09 parts per million)	11	8	2	3	0
Pollutant Standards, 8-Hour Ozone (O_3)	**2017**	**2018**	**2019**	**2020**	**2021**
National maximum 8-hour concentration (parts per million).	0.104*	0.098*	0.088*	0.098*	0.080*
State max. 8-hour concentration (parts per million).	0.104*	0.098*	0.088*	0.098*	0.081*
Days Exceeding[a] N.A.A.Q.S. 8-hour. (>0.075 parts per million.) (*See note* #1.)	47	34	11	11	4
Days Exceeding[a] C.A.A.Q.S. 8-hour. (>0.070 parts per million.) (*See note* #1.)	87	64	28	25	11
Pollutant Standards, Particulate Matter (PM10)	**2017**	**2018**	**2019**	**2020**	**2021**
National max. 24-hour concentration (micrograms per cubic meter).	138.0	136.1	116.3	193.8*	437.5*
State max. 24-hour concentration (micrograms per cubic meter).	143.6*	142.0*	125.9*	196.8*	439.3*
State max 3-year average concentration (micrograms per cubic meter).	44	43	43	39	-
State annual average concentration (micrograms per cubic meter).	42.6	-	39.0	-	-
Days Exceeding[a] N.A.A.Q.S. 24-hour (>150 micrograms per cubic meter).	0	0	0	-	-
Days Exceeding[a] C.A.A.Q.S. 24-hour (>50 micrograms per cubic meter).	98.7	-	108.1	-	-
Pollutant Standards, Particulate Matter (PM2.5)	**2017**	**2018**	**2019**	**2020**	**2021**
National max. 24-hour concentration (micrograms per cubic meter).	101.8*	98.5*	59.1*	150.7*	72.3*
State max. 24-hour concentration (micrograms per cubic meter).	101.8	98.5	59.1	159.7	72.3
State annual average concentration (micrograms per cubic meter).	15.9*	15.6*	11.4	19.7	16.6
Days Exceeding[a] N.A.A.Q.S. 24-hour (>35micrograms per cubic meter).	30.2	40.3	12.3	46.4	43.2

Notes: * = Values in excess of applicable standard; - = insufficient (or no) data available to determine the value; 2018 is the latest year of data available as of preparation of this section

#1. An exceedance is not necessarily a violation.

Source: C.A.R.B. 2021

Discussion

#3 -a and b. Conflict with or obstruct implementation of the applicable air quality plan? Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable State or State ambient air quality standard?

The proposed Project would generate criteria pollutants from the use of diesel-powered vehicles and equipment, and earthmoving activities during construction. The S.J.V.A.P.C.D. has published guidance on assessing construction projects to determine if they fall below the Small Project Analysis Level (SPAL) threshold of 18,278 horsepower hours (hp-hr) per day (S.J.V.A.P.C.D. 2012). For the proposed Project, the horsepower of construction equipment was estimated based on California Emissions Estimator Model (CalEEMod) version 2022.1, which uses default average values from the C.A.R.B. OFFROAD2007 and OFFROAD2011 (California Air Pollution Control Officers Association 2022). The number of pieces of construction equipment was estimated based on District input (**Table 3-4**).

Table 3-4. Horsepower-Hours Per Day Per Phase of Project Construction and Operation.

Equipment Type	Units	Estimated Hours of Use per Day for Phase	HP	Working Days Per Activity	Total Equipment Hours	hp-hr	hp-hr/ construction day
Mobilization							
Semi-Truck (equipment delivery)	1	8	376	14	112	42,112	3,008
Sum – Mobilization							**3,008**
Phase 1 - Construction of Pipelines							
Excavator CAT 336 w/ 60" & 48" bucket compaction wheel	1	8	311	122	976	303,536	2,488
Excavator CAT 328 w/ 36" & 30" bucket, Compaction wheel	1	8	204	122	976	199,104	1,632
Trench Compactor - Wacker RTL82-SC3	1	8	20	122	976	19,520	160
Wacker RC70 - 66" steel drum compactor	1	8	73	122	976	71,248	584
Loader CAT 950	1	6	241	122	732	176,412	1,446
JD 210 Skip loader	1	4	69	122	488	33,672	276
10k Telehandler	1	4	130	122	488	63,440	520
Water Truck	1	8	376	122	976	366,976	3,008
Pickup Truck	4	4	350	122	1952	683,200	5,600
Pickup Truck (commute)	4	2	350	122	488	170,800	1,400
Sum – Phase 1							**17,114**

Equipment Type	Units	Estimated Hours of Use per Day for Phase	HP	Working Days Per Activity	Total Equipment Hours	hp-hr	hp-hr/ construction day
Phase 2 - Construction of Wells							
Drill Rig	1	8	83	90	720	59,760	664
Support Rig	2	8	83	90	1440	119,520	1,328
Hoist Rig	1	8	83	90	720	59,760	664
Diesel pump	1	8	11	33	264	2,904	88
Pickup Truck	1	6	350	120	720	252,000	2,100
Pickup Truck (commute)	10	1	350	120	2400	840,000	7,000
Sum – Phase 2							**8,344**
Phase 3 - Construction of FKC Discharge Outfalls							
Excavator	1	8	204	6	48	9,792	1,632
Trencher	1	8	116	6	48	5,568	928
Loader	1	6	241	2	12	2,892	1,446
Pickup Truck	1	6	350	6	36	12,600	2,100
Pickup Truck – (commute)	4	2	350	6	48	16,800	2,800
Sum – Phase 3							**8,906**
Maximum HP-HR per day[3]							**17,114**
S.J.V.A.P.C.D. HP-HR Threshold							18,278
Would the project exceed the S.J.V.A.P.C.D. Threshold?							*No*

Notes:
Horsepower was taken from CalEEMod
There would not be any overlapping of construction phases.
Source: Info provided by District and compiled by GEI in 2023, California Air Pollution Control Officers Association 2022

The proposed Project would result in a maximum of 17,114 hp-hr per day which is lower than the SPAL threshold of 18,278 hp-hr per day. The S.J.V.A.P.C.D. has determined that projects in which the total combined hp-hr for all equipment operated on-site, within a 24-hr period, is less than 18,278 hp-hr, are determined not to require an ambient air quality analysis (S.J.V.A.P.C.D. 2012).

However, since the proposed Project would disturb more than 1 acre, the District would obtain the following permits: State Water Resources Control Board (State Water Board) National Pollutant Discharge Elimination System (NPDES) for general construction activity (Order 2009-0009 DWQ as amended by Order 2012-0006-DWQ), and SWPPP. The District would also

need to submit a Dust Control Prevention Plan, which is required for non-residential developments that include 5 acres or more of disturbed surface area (S.J.V.A.P.C.D. 2007). The proposed Project would comply with all Best Management Practices (BMPs) outlined in the above-mentioned permits. Additionally, all projects located within the S.J.V.A.P.C.D. jurisdiction are subject to the rules and regulations in effect at the time of construction. Control of fugitive dust is required for all project by S.J.V.A.P.C.D. Regulation VIII. Therefore, the District shall implement or require its contractor to implement all the following measures as identified by S.J.V.A.P.C.D.:

- Apply water to unpaved surfaces and areas
- Use non-toxic chemical or organic dust suppressants on unpaved roads and traffic areas
- Limit or reduce vehicle speed on unpaved roads and traffic areas
- Maintain areas in a stabilized condition by restricting vehicle access
- Install wind barriers
- During high winds, cease outdoor activities that disturb the soil
- Keep bulk materials sufficiently wet when handling
- Store and hand material in a three-sided structure
- When storing bulk material, apply water to the surface or cover the stage pile with a tarp
- Do not overload haul trucks. Overlanded trucks are likely to spill bulk materials
- Cover haul trucks with a tarp or other suitable cover. Or, wet the top of the load enough to limit visible dust emissions
- Clean the interior of cargo compartments on emptied haul trucks prior to leaving the site
- Prevent track-out by installing a track-out control device
- Clean up track-out at least once a day. If along a busy road or highway, clean up track-out immediately
- Monitor dust-generating actives and implement appropriate measures for maximum dust control

The proposed Project would be in compliance with the applicable air quality plan and would not result in a cumulatively considerable increase in any criteria pollutant for which the Project region is non-attainment. Therefore, this impact would be **less than significant**.

#3 -c. Expose sensitive receptors to substantial pollutant concentrations?

Some members of the population are especially sensitive to emissions of air pollutants and should be given special consideration during the evaluation of the proposed Project's potential air quality impacts. These people include children, senior citizens, and persons with pre-existing respiratory or cardiovascular illnesses, and athletes and other who engage in frequent exercise, especially outdoors. Sensitive receptors include schools, residences, playgrounds, childcare centers, athletic

facilities, long-term health care facilities, rehabilitation centers, convalescent centers, and retirement homes. The Project Areas are located within predominately agricultural areas, away from populated city-centers. However, there are rural residential properties scattered throughout the Project Areas, specifically located adjacent to proposed pipeline alignments. The nearest sensitive receptor to Project Area 1 is a farmhouse residence approximately 1.4 miles south. The nearest sensitive receptor to Project Area 2 is farmhouse residence approximately 185 feet from the proposed pipeline along Smith Ave.

During construction, most PM emissions are released in the form of fugitive dust during ground disturbance activities, mostly during the drilling and grading phases. PM emissions are also generated in the form of equipment exhaust and re-entrained road dust from vehicle travel. Impacts from PM emissions would be temporary and would go back to normal after completing the construction phase of the proposed Project. Additionally, given the linear nature of the proposed Project, fugitive dust would not be generated in one area for a significant amount of time. However, measures identified in S.J.V.A.P.C.D. Regulation VIII would be implemented during construction activities and would reduce the generation of fugitive dust. Given the short-term emissions, linear nature of the proposed Project, and incorporation of measures identified in S.J.V.A.P.C.D. Regulation VIII, this impact would be considered **less than significant**.

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

Human response to odors is subjective, and sensitivity to odor varies from person to person. Typically, odors are considered an annoyance rather than a health hazard. However, a person's response to odor can range from psychological (e.g., irrigation, anger, anxiety) to physiological (e.g., circulatory and respiration reaction, nausea, headaches, etc.). During construction, the proposed Project would generate odor from the use of diesel fuels, though this would be short-term and non-significant. During operation, the proposed Project would consist of the operation of electrically powered pumps, which do not generate any odors. Potential odor effects would be **less than significant**.

3.4 Biological Resources

IV. #4. BIOLOGICAL RESOURCES. Would the Project:

	Criteria	Have Potentially Significant Impact?	Have Less-than-Significant Impact with Mitigation Incorporated?	Have Less-than-Significant Impact?	Have No Impact?	Have Beneficial Impact?
e)	#4 -a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife (CDFW) or U.S. Fish and Wildlife Service (USFWS)?	No.	Yes.	No.	No.	No.
f)	#4 -b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the CDFW or USFWS?	No.	No.	No.	Yes.	No.
g)	#4 -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?	No..	No.	Yes.	No.	No.
h)	#4 -d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	No.	No.	Yes.	No.	No.
i)	#4 -e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	No.	No.	No.	Yes.	No.
j)	#4 -f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan?	No.	No.	No.	Yes.	No.

Environmental Setting

Information presented in this environmental setting is based on review of biological resource databases and publications, observations made during biological field surveys conducted by GEI Consultants, Inc. (GEI) in January/February 2023, and information gathered for previous District projects in the vicinity of the proposed Project.

Habitat and Land Cover Types

The Project Areas and surrounding areas are almost entirely comprised of orchards, rural residences, roadways, canals, and groundwater recharge basins. All orchards, canals, and roadway margins are actively maintained and barren or sparsely vegetated. Residences in the vicinity are landscaped, some with tall ornamental trees. The only remnant natural habitat near the Project Area is Poso Creek, approximately 0.25 mile north of the Project Area 2 staging area (*refer to* **Figure 2-3**).

Barren portions of the Project Areas are associated with existing infrastructure, canal embankments, and paved and unpaved roads. Vegetation is generally absent from barren areas, but occasional scattered ruderal grasses and forbs can occur at low density. Ruderal vegetation occurs predominately in the Project Area 2 staging area, which is within an existing recharge basin. Portions of Project Area 1 and Project Area 2 along Calloway Canal and FKC also support ruderal vegetation. These ruderal areas are dominated by non-native forbs common to this habitat in the region, including bristly ox-tongue (*Helminthotheca echioides*), curly dock (*Rumex crispus*), sprangletop (*Leptochloa panicea*), and horse nettle (*Solanum eleagnifolium*). Open water was present in the Calloway Canal and FKC during the field survey and is typically present in these canals throughout the year.

Sensitive Biological Resources

Sensitive biological resources addressed in this section include those that are afforded consideration or protection under CEQA, California Fish and Game Code (FGC), California Endangered Species Act (CESA), Federal Endangered Species Act (ESA), the Clean Water Act (CWA), and Porter-Cologne Water Quality Control Act (Porter-Cologne Act).

Special-status Species

For purposes of this analysis, special-status species include plants and animals in one or more of the following categories:

- Taxa (i.e., taxonomic categories or groups) officially listed, candidates for listing, or proposed for listing under ESA or CESA as endangered, threatened, or rare
- Taxa that meet the criteria for listing, even if not currently included on any list, as described in CEQA Guidelines California Code of Regulations Section 15380
- Wildlife identified by CDFW as species of special concern
- Species listed as Fully Protected under the FGC

- Plant taxa considered by CDFW to be "rare, threatened, or endangered" in California (i.e., List 1B and 2B plants)

The California Natural Diversity Database (CNDDB) (CDFW 2023) and online Inventory of Rare and Endangered Vascular Plants of California (CNPS 2023) were reviewed for information on special-status plants and animals that have been documented in the Project vicinity. These reviews included the Delano West, Famoso, McFarland, Rosedale, North of Oildale, Oildale, Rio Bravo, Pond, Stevens, Wasco, Wasco NW, and Wasco SW USGS 7.5-minute quadrangles. A list of resources under USFWS jurisdiction that could occur in the Project vicinity was obtained from the Information for Planning and Conservation website (USFWS 2023). Database search results and the USFWS species list are provided in Appendix A – Biological Database Information.

Plants

Special-status plants included in the USFWS species list, CNDDB, and/or online Inventory of Rare and Endangered Vascular Plants of California search results were evaluated for their potential to occur within the Project Areas. All these species are restricted to scrub, natural grassland, or wetland habitat types. Based on observations made during the field surveys, no special-status plants have potential to occur on or adjacent to the Project Areas, because no suitable habitat for them is present.

Wildlife

Special-status wildlife taxa included in the CNDDB search results and/or on the USFWS species list were evaluated for potential to occur on or adjacent to the Project Areas. As with the plant species, most of these species were determined to have no potential to occur because of restricted distribution and/or lack of suitable habitat. For example, wetlands required by sensitive species such as vernal pool fairy shrimp (*Branchinecta* lynchi) and western spadefoot (*Spea hammondii*) do not occur on or adjacent to the Project site. In addition, the Project Areas are outside the current distribution of Delta smelt (*Hypomesus transpacificus*), California red-legged frog (*Rana draytonii*), giant garter snake (*Thamnophis gigas*), western yellow-billed cuckoo (*Coccyzus americanus*), southwestern willow flycatcher (*Empidonax traillii extimus*), least bell's vireo (*Vireo belli pusillus*), California condor (*Gymnogyps californianus*), Nelson's antelope squirrel (*Ammospermophilus nelson*), giant kangaroo rat (*Dipodomys ingens*), and Buena Vista Lake ornate shrew (*Sorex ornatus relictus*). The remaining special-status wildlife taxa were evaluated in further to determine their potential to occur on or adjacent to the Project Areas and are discussed below.

Invertebrates

Monarch butterfly (*Danaus plexxipus*) is a candidate for Federal listing as threatened or endangered, and crotch bumble bee (*Bombus crotchii*) is a candidate for State listing as endangered. These species require suitable food plants and larval host plants/nest sites. The Project Areas do not provide suitable nest sites for crotch bumble bee and is extremely unlikely to provide larval host plants (*Asclepias* spp.) for monarch butterfly; no monarchs or host plants are known from the region (Western Monarch and Milkweed Occurrence Database 2023). Habitat suitability for these species is also greatly diminished by pesticide use in adjacent agricultural lands and

regular vegetation maintenance in agricultural areas and along canals and roadways. Therefore, potential for either species to occur on or adjacent to the Project Areas is very low.

Reptiles

Poso Creek, adjacent to the recharge basin in which the Project Area 2 staging area is located, provides potentially suitable habitat for five special-status reptiles: Bakersfield legless lizard (*Anniella grinnelli*), California glossy snake (*Arizona elegans occidentalis*), blunt-nosed leopard lizard (*Gambelia silus*), San Joaquin coachwhip (*Masticophis flagellum ruddocki*), and coast horned lizard (*Phrynosoma blainvillii*). Blunt-nosed leopard lizard is a Federally and State-listed endangered species and the other species are California Species of special concern. These species occur in varying types of natural grassland and scrub habitats, and several require sandy soils. The CNDDB does not include any recent occurrences of these species in the Project vicinity. Nearby occurrences are from many decades ago, and more recent occurrences are primarily from remnant valley floor natural habitat and foothill grasslands. Project Area 2 provides poor quality ruderal habitat for special-status reptiles and is regularly maintained and periodically inundated, further reducing suitability for these species. Therefore, potential for special-status reptiles to occur in the Project Area 2 staging area is very low, because the area provides very poor habitat conditions for them and there is no evidence that any of the species occur along this portion of Poso Creek.

Birds

Five special-status bird species have relatively low potential to occur on or adjacent to the Project site: burrowing owl (*Athene cunicularia*), Swainson's hawk (*Buteo swainsonii*), northern harrier (*Circus cyaneus*), white-tailed kite (*Elanus leucurus*), and tricolored blackbird (*Agelaius tricolor*). Swainson's hawk and tricolored blackbird are State-listed as threatened, white-tailed kite is fully protected under the FGC, and burrowing owl and northern harrier are California species of special concern. No occurrences of these species are known from the Project vicinity, but potentially suitable habitat for them is present. Scattered ground squirrel burrows observed in barren and ruderal habitat at the Project Area 2 staging area and along roadway and canal margins on and adjacent to the Project Areas could be suitable for burrowing owl. No suitable nesting habitat for tricolored blackbird or northern harrier was present on or adjacent to the Project Areas during the field surveys. However, if grain crops or extensive areas of tall ruderal vegetation (e.g., in the spreading ground/recharge basin, or fallow fields) are present on or near the Project Areas during Project activities, there is some potential for these species to nest in such habitat. Large trees along Poso Creek, provide marginally suitable nest sites for Swainson's hawk and white-tailed kite (as well as common raptor species). Although neither species is known to nest along the creek, and Swainson's hawk occurs sparsely in the region, there is potential for these species to nest and forage in the Project vicinity.

Mammals

Five special-status mammals were evaluated further for potential to occur on or adjacent to the Project Areas: Tipton kangaroo rat (*Dipodomys nitratoides nitratoides*), Tulare grasshopper mouse (*Onychomys torridus tularensis*), San Joaquin kit fox (*Vulpes macrotis mutica*), American badger (*Taxidea taxus*), and western mastiff bat (*Eumops perotis californicus*). Tipton kangaroo rat is a Federally listed endangered species that occurs in saltbush and sink scrub vegetation with soft,

friable soils. Although the CNDDB includes occurrences along the FKC in and near Project Area 2, these occurrences are from 30 years ago and the most recent USFWS 5-year Review documents the apparent extirpation of the species from this region (USFWS 2023). San Joaquin kit fox is also Federally listed as endangered; this species occurs primarily in grasslands and sparsely vegetated shrublands with loose-textured soils but is also known from agricultural and urban areas. Most CNDDB occurrences from the region were documented in the 1970s, but there is a 2006 occurrence of a roadkill individual approximately 2.5 miles south of Project Area 1. The remaining special-status mammals are California species of special concern. Tulare grasshopper mouse occurs in arid grassland and alkali scrub; American badger occurs primarily in dry, open washes and streams with friable soils and uncultivated ground; and western mastiff bats roost in crevices in cliffs, tall buildings, tunnels, and trees (typically large cottonwoods, sycamores, walnuts, and willows). There are no CNDDB occurrences of these three species in the Project vicinity, and most occurrences in the larger region are restricted to remnant valley floor natural habitat and/or foothill grasslands. Tipton kangaroo rat and Tulare grasshopper mouse were determined to not have potential to occur on or adjacent to the Project Areas due to their apparent absence from the Project vicinity, lack of suitable on-site habitat, and limited dispersal distances. Because the nearest occurrence of badger within the past 35 years is from 1989 is from native scrub along Poso Creek, approximately 8 miles east of Project Area 2, this species is very unlikely to occur within the Project Areas. Finally, because occurrences of western mastiff bat are generally from the valley floor margins, adjacent to hills that likely provide suitable natural roost sites, and potentially no suitable roosting habitat is present on or adjacent to the Project Areas, these bats have very low potential to occur within the Project Areas. Therefore, San Joaquin kit fox is the only special-status mammal with reasonable potential to occur on or adjacent to Project Areas.

Sensitive Habitats

No critical habitat for Federally listed species or State-designated natural communities of special concern are present on or adjacent to the Project Areas. Because the Calloway Canal and FKC are used solely for irrigation delivery and do not have a significant nexus to traditionally navigable waters, they do not qualify as potentially jurisdictional waters of the U.S. and are not protected under the CWA. The canals also are not considered to be rivers or streams and therefore, are not protected under FGC Section 1600.

Discussion

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

Based on the review of existing documentation, current distributions and habitat requirements of each species, and habitat evaluations made during field survey, all the special-status plants and most of the special-status wildlife species considered in this evaluation were determined to have no potential or very low potential to occur on or adjacent to the Project Areas. Therefore, these species would not be adversely affected by proposed Project implementation and are not discussed

further. Wildlife species with at least low potential to occur on or near the Project Areas and be substantially adversely affected by Project implementation are discussed further below.

Special-status birds. Burrowing owl, Swainson's hawk, northern harrier, and tricolored blackbird have potential to occur in the Project vicinity. No suitable nesting habitat for tricolored blackbird or northern harrier was present on or adjacent to the Project Areas during the field surveys. However, if grain crops or extensive areas of tall ruderal vegetation (e.g., in recharge basin or fallow fields) are present near the individual Project sites during Project activities, there is some potential for these species to nest in such habitat. Large trees along Poso Creek and at rural residences, provide marginally suitable nest sites for Swainson's hawk and white-tailed kite (as well as common raptor species). Ruderal habitat in and/or near the Project Areas provide potentially suitable habitat for burrowing owl; no concentrations of ground squirrel burrows were observed during the field surveys, but scattered burrows are present and could be suitable for burrowing owl.

Because proposed Project activities would be limited to existing roadways and canal and orchard/field margins, potential for nests of special-status species to be directly destroyed is limited to the Project Area 2 staging area. In addition, most of the Project Areas are subject to regular disturbance from existing agricultural activities and/or road traffic, and Project disturbance would be similar in intensity to agricultural activities. Therefore, potential for Project-related disturbance to result in nest failure or burrow abandonment is low. However, if an active nest or occupied burrow is present on or very close to the Project Areas, Project activities could result in burrow or nest destruction or abandonment, reduced care of eggs or young, or premature fledging. Depending on the species and number of individuals that are affected, burrow abandonment or nest failure could be considered a substantial adverse effect. Mitigation Measures BIO-1, BIO-2a, BIO-2b, and BIO-2c presented below, have been identified to reduce this impact to a less-than-significant level and minimize potential for violation of State and Federal regulations protecting birds and their nests. This impact would be **less than significant with mitigation incorporated**.

San Joaquin kit fox. Despite the near lack of recent known occurrences in the Project vicinity, San Joaquin kit fox has low potential to occur within the Project Areas because an individual was documented several miles from the Project vicinity in 2006, the Bakersfield urban area is known to support a substantial population, and the species is known to travel relatively long distances for foraging and dispersal. Therefore, although potential for occupied dens to occur on or adjacent within the Project Areas is low due to the poor habitat quality, individuals could travel through the Project Areas. If a kit fox is present during proposed Project activities, it could be injured or killed if struck by Project-related vehicles or equipment or become trapped in pipes or trenches. In the very unlikely event that an occupied den is present adjacent to the Project Areas, Project-related disturbance could result in den abandonment. Very few individuals, if any, would be affected. However, because of the endangered status of San Joaquin kit fox, potential to injure or kill even one individual could be considered a substantial adverse effect. Mitigation Measures BIO-1 and BIO-3, presented below, have been identified to reduce this impact to a less-than-significant level. This impact would be **less than significant with mitigation incorporated**.

Mitigation Measure BIO-1: Conduct Worker Environmental Awareness Training.

To minimize potential effects of Project construction on special-status wildlife, the District will ensure that the following measure is implemented:

- An Environmental Awareness Program will be presented to all Project personnel working in the field before Project activities begin. The program will be presented by a qualified biologist with knowledge of special-status wildlife that could within the Project Areas. The program will address each species biology and habitat needs; status of each species and their regulatory protections; and measures required to reduce impacts to the species during Project construction.

  Timing: Before construction.

  Responsibility: District and its contractor(s).

Mitigation Measure BIO-2a: Conduct Focused Surveys for Burrowing Owls and Avoid Loss of Occupied Burrows.

To minimize potential effects of Project construction on burrowing owl, the District will ensure that the following measures are implemented, consistent with the *Staff Report on Burrowing Owl Mitigation* (CDFG 2012).

- A qualified biologist will assess burrowing owl habitat suitability in the area subject to direct impact and adjacent areas within 500 feet.
- If suitable habitat or sign of burrowing owl presence is observed, a take avoidance survey will be conducted within 10 days before construction activities begin near areas of suitable habitat.
- If any occupied burrows are observed, protective buffers will be established and implemented. A qualified biologist will monitor the occupied burrows during construction activities to confirm effectiveness of the buffers. The size of the buffer will depend on type and intensity of disturbance, presence of visual buffers, and other variables that could affect susceptibility of the owls to disturbance.
- If destruction of an occupied burrow cannot be avoided and it is determined, in consultation with CDFW, that passive exclusion of owls from the construction footprint is an appropriate means of minimizing direct impacts, an exclusion and relocation plan will be developed and implemented in coordination with CDFW. Passive exclusion will not be conducted during the breeding season (February 1 – August 31), unless a qualified biologist verifies through noninvasive means that either (1) the birds have not begun egg laying or (2) juveniles from the occupied burrows are foraging independently and are capable of independent survival.

- If passive exclusion is conducted, each occupied burrow that is destroyed will be replaced with at least one artificial burrow on a suitable portion of the recharge site that would not be subject to inundation or ground disturbance.

  Timing: Before and during construction.

  Responsibility: District and its contractor(s).

Mitigation Measure BIO-2b: Conduct Focused Surveys for Nesting Swainson's Hawks and White-tailed Kites and Implement Take Avoidance Plan for Active Nests.

To minimize potential effects of Project construction on active Swainson's hawk and white-tailed kite nests, the District will ensure that the following measures are implemented:

- If construction activities would occur during the Swainson's hawk nesting season (April-August), a qualified biologist will conduct surveys of potential Swainson's hawk nesting trees within 0.5 mile of the Project Areas. To the extent practicable, depending on timing of construction initiation, surveys will be conducted in accordance with the *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley* (Swainson's Hawk Technical Advisory Committee 2000). At a minimum, at least one survey will be conducted within 10 days before construction activities begin during the nesting season. If a lapse in construction activities of 10 days or longer occurs, another focused survey will be conducted before activities resume during the nesting season.
- If construction would begin during the white-tailed kite nesting season (March 1-August 31), a qualified biologist will conduct surveys of potential white-tailed kite nesting trees within 0.25 mile of the Project Areas. The survey will be conducted no more than 10 days before construction activities begin during the nesting season. If a lapse in construction activities of 10 days or longer occurs, another focused survey will be conducted before activities resume during the nesting season.
- If an active Swainson's hawk or white-tailed kite nest is found, a qualified biologist will prepare a site-specific take avoidance plan to comply with CESA and the FGC. Measures may include but are not limited to nest-specific no disturbance buffers, biological monitoring, rescheduling construction activities around sensitive periods for the species (e.g., nest establishment), and/or implementing construction best practices, such as staging equipment out of the species' line of sight from the nest tree. The avoidance/protection measures will be established before construction activities begin and continue until the adult and young birds are no longer reliant on the nest site.

  Timing: Before and during construction.

  Responsibility: District and its contractor(s).

Mitigation Measure BIO-2c: Conduct Focused Surveys for Other Nesting

Birds and Implement Buffers Around Active Nests.

To minimize potential effects of proposed Project construction on active nests of other special-status birds and common birds protected by State and Federal regulations, the District will ensure that the following measures are implemented:

- If construction would occur during the bird nesting season (February-August), a qualified biologist will conduct surveys of 1) suitable nesting habitat for common birds within 100 feet of construction activities, 2) suitable nesting habitat for non-raptor special-status birds within 300 feet of construction activities, and 3) suitable nesting habitat for raptors other than those addressed in BIO-2a and BIO-2b within 500 feet of construction activities. Surveys will be conducted within 10 days before construction activities begin during the nesting season. If a lapse in construction activities of 10 days or longer occurs, another focused survey will be conducted before activities resume during the nesting season.
- If any active bird nests are observed, a qualified biologist will prepare a site-specific take avoidance plan to comply with applicable State and Federal regulations. If an active tricolored blackbird nesting colony is found during preconstruction surveys, a minimum 300-foot no-disturbance buffer will be implemented in accordance with CDFW's *Staff Guidance Regarding Avoidance of Impacts to Tricolored Blackbird Breeding Colonies on Agricultural Fields in 2015* (CDFW 2015), or more recent guidance if issued, until the breeding season has ended or until a qualified biologist has determined that nesting has ceased and the young have fledged and are no longer reliant upon the colony or parental care for survival. Measures for other species may include but are not limited to nest-specific no disturbance buffers, biological monitoring, rescheduling construction activities around sensitive periods for the species (e.g., nest establishment), and/or implementing construction best practices, such as staging equipment out of the species' line of sight from the nest tree. The avoidance/protection measures will be established before construction activities begin and continue until the adult and young birds are no longer reliant on the nest site.

  Timing: Before and during construction.

  Responsibility: District and its contractor(s).

Mitigation Measure BIO-3: Conduct Focused Surveys and Implement Measures to Minimize Potential for Impacts on San Joaquin Kit Fox.

To minimize potential effects of proposed Project construction on San Joaquin kit fox, the District will ensure that the following measures are implemented:

- No more than 30 days before construction activities begin, a qualified biologist will conduct a pre-construction survey to determine the potential for a San Joaquin kit fox den to occur in the area. If potential or known den for San Joaquin kit fox is found, an exclusion zone will be established and maintained,

in accordance with the *Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox* (USFWS 2011).

- If construction activity would occur within 50 feet of a potential den (i.e., a den that is not known to be occupied), monitoring will be conducted at the potential den for 4 consecutive days. If no San Joaquin kit fox activity is documented, construction activities can proceed. If San Joaquin kit fox activity is documented, the appropriate exclusion zone will be established and maintained, in accordance with the *Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox* (USFWS 2011).
- To prevent kit fox entrapment during construction, all excavated, steep-walled holes or trenches more than 2 feet deep will be covered with plywood or similar material at the end of each workday. If the trenches cannot be closed, one or more escape ramps of no more than a 45-degree slope will be constructed of earthen fill or created with wooden planks. All covered or uncovered excavations will be inspected at the beginning, middle, and end of each day. Before trenches are filled, they will be inspected for trapped animals. If a trapped kit fox is discovered, construction activities in and near the excavation will stop, and escape ramps or structures will be installed immediately to allow the animal to leave voluntarily. Construction activities will not resume until the animal has left the area.
- All construction pipes or similar structures with a diameter of 4 inches or greater that are stored on the ground at a construction site for one or more overnight periods will be thoroughly inspected for wildlife before the pipe is buried, capped, or otherwise used or moved in any way. Pipes laid in trenches overnight will be capped. If a potential San Joaquin kit fox is discovered inside a pipe, all construction activities near the pipe will stop, and the animal will be allowed to leave the pipe voluntarily. Construction activities will not resume until the animal has left the area.
- All food-related trash items such as wrappers, cans, bottles, or food scraps generated during construction activities will be disposed of in closed containers and removed daily from the recharge site. No deliberate feeding of wildlife will be allowed, and no pets associated with construction personnel will be permitted on the recharge site.

  Timing: Before and during construction.

  Responsibility: District and its contractor(s).

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

The Project Areas do not support any riparian habitat, designated critical habitat, or other sensitive natural community identified in local or regional plans, policies, or regulations; therefore, there would be **no impact** on these resources.

#4 -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?

Aquatic habitat within the Project Areas is limited to irrigational canals that are heavily maintained, generally lack vegetation, and provide very poor aquatic habitat. The Calloway Canal pipeline crossings and FKC outfalls would be installed when the canals are dry. Therefore, impacts associated with disturbance of very small portions of the canals during proposed Project construction would be **less than significant**.

#4 -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?

The Project areas are part of a much larger extent of agricultural lands and do not serve as corridors or other primary routes for wildlife movement. Although terrestrial wildlife likely travels along the Calloway Canal and FKC, agricultural lands adjacent to the canals typically provide equally suitable movement opportunities. In addition, proposed Project activities would only occur during the day, while most wildlife movement would likely be at night, and disturbance of the canal corridor would be relatively minor. The Project Areas are also not known or anticipated to serve as nursery sites for any wildlife species. Therefore, implementing the proposed Project would not substantially interfere 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; this impact would be **less than significant**.

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

The 2004 Kern County General Plan (Plan), which is currently being updated, includes several policies and implementation measures designed to protect and conserve threatened and endangered species and oak trees (Kern County 2004). No oak trees are present within the Project Areas where proposed Project work would occur, and the proposed Project has no potential to conflict with the Plan's oak retention policy. The Plan requires discretionary projects to consider effects to biological resources and wildlife agency comments during the CEQA process; and this is consistent with the CEQA process being implemented by the District for the proposed Project. Therefore, implementing the proposed Project would not conflict with any local policies or ordinances protecting biological resources and **no impact** would occur.

#4 -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?

The Project Areas are north of the existing Metropolitan Bakersfield Habitat Conservation Plan (HCP) area and therefore, implementation of the proposed Project would not conflict with the HCP's provisions. The Project Areas are within the plan area for the potential Bakersfield HCP

and Kern Valley Floor HCP. However, a draft of the former has not been released, and the draft of the latter was issued many years ago (Kern County Planning Department 2006) and a final plan has not been released. There is no indication either of these HCPs will be finalized and adopted before the proposed Project is implemented. Therefore, implementing the proposed Project would not conflict with any provisions of an adopted HCP or other conservation plan and there would be **no impact**.

3.5 Cultural Resources

V. #5. CULTURAL RESOURCES. Would the Project:

Criteria	Have Potentially Significant Impact?	Have Less-than-Significant Impact with Mitigation Incorporated?	Have Less-than-Significant Impact?	Have No Impact?	Have Beneficial Impact?
k) #5 -a. Cause a substantial adverse change in the significance of a historical resource pursuant to California Code of Regulations (CCR) Section 15064.5?	No.	No.	Yes.	No.	No.
l) #5 -b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to CCR Section 15064.5?	No.	**Yes.**	No.	No.	No.
m) #5 -c. Disturb any human remains, including remains interred outside of dedicated cemeteries?	No.	**Yes.**	No.	No.	No.

Environmental Setting

Cultural resources are defined as buildings, sites, structures, or objects, each of which may have historic, architectural, archaeological, cultural, or scientific importance.

Methods

The cultural resources investigations carried out for the proposed Project included a records search at the South San Joaquin Valley Information Center (S.S.J.V.I.C.), archival research, Native American consultation conducted by Reclamation, archaeological and built environment field surveys of the Project Areas, and a desktop geoarchaeological study.

Record Search

On January 24, 2023, GEI archaeologist Amy Wolpert, MA, submitted a records search request of the Project Areas, including 0.25-mile buffers, at the S.S.J.V.I.C. The records search included a review of S.S.J.V.I.C.'s USGS 7.5-minute topographic base maps indicating previously conducted investigations and previously reported cultural resources, Department of Parks and Recreation 523 forms, and California Historic Landmarks documentation.

This search identified two historic era (more than 45 years old) built environment resources and one previous investigation within the project area. No previously recorded archaeological resources are in the 0.25-mile buffer of the project area limits. The two built environment resources are:

- Calloway Canal (P-15-007233)
- FKC (P-15-013728 / CA-KER-007704H)

Archival Research

GEI's architectural historians conducted archival research to identify historic trends and individuals pertaining to the project area. Primary and secondary research included examining relevant documents and reports, as well as historic aerials, maps, and the Office of Historic Preservation Built Environment Resource Directory.

Desktop Geoarchaeological Sensitivity Assessment

GEI archaeologists, in a previous investigation, conducted a geoarchaeological desktop study encompassing the entire District service area (GEI 2017). The geoarchaeological desktop study was conducted to determine the sensitivity for buried resources within the District.

GEI's geoarchaeological desktop study relied primarily on available geologic and soils mapping for the area. Online Natural Resources Conservation Service (NRCS) soils data for the Project Areas were gathered and include descriptions of soil morphology, as well as information about parent material origin, lithology, and landform associations (NRCS 2019). A previous study conducted for Caltrans was also heavily relied upon (Meyer et al. 2010).

Soils within the Project Areas are Latest Holocene in age and thus have high potentials to contain buried pre-contact archaeological resources and high potential to contain historical resources either within them or on the surface. Even though no surface artifacts of any age were discovered during the recent field survey, the buried archaeological potential of the soils remains high.

Field Surveys

GEI archaeologists Amy Wolpert, MA, and Miles Jenks, MA, conducted the surveys from January 30 through February 1, 2023. The survey was conducted to intensive standards utilizing transects spaced no more than 15 meters (49 feet) apart. No archeological resources were observed during the pedestrian survey. Two historic-era built environment resources were identified: the FKC and the Calloway Canal.

The Project Areas consist mainly of orchards, agricultural land, irrigation canals, and dirt and improved dirt roads. Ground surface visibility ranged from 100 percent visible in areas of dirt roads and cleared fields to zero percent visibility in areas where vegetation was overgrown, and trees were masticated. No surface archaeological resources were identified during the investigation.

Discussion

a, b) Cause a substantial adverse change in the significance of a historical resource pursuant to in CCR Section 15064.5? Cause a substantial adverse change in the significance of an archaeological resource pursuant to CCR Section 15064.5?

Under CEQA, public agencies must consider the effects of their actions on "historical resources." CEQA defines an "historical resource" as any resource listed in or determined to be eligible for listing in the California Register of Historical Resources (CRHR). The CRHR includes resources listed in or formally determined eligible for listing in the National Register of Historic Places

(NRHP), as well as some California Historical Landmarks and Points of Historical Interest. Properties of local significance that have been designated under a local preservation ordinance (local landmarks or landmark districts) or that have been identified in a local historical resources inventory may be eligible for listing in the CRHR and are presumed to be significant resources for purposes of CEQA unless a preponderance of evidence indicates otherwise (California PRC Section 5024.1, 14 CCR Section 4850). The eligibility criteria for listing in the CRHR are similar to those for NRHP listing but focus on importance of the resources to California history and heritage.

A cultural resource may be eligible for listing in the CRHR if it:

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

In addition to meeting one or more of the above criteria, resources eligible for listing in the CRHR must retain enough of their historic character or appearance to be recognizable as historical resources and to convey the reasons for their significance. Integrity is evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling, and association (California Office of Historic Preservation 1999).

Impacts would be deemed significant if there is substantial adverse change by means of physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of the resource would be materially impaired. Per Section 15064.5 (b)(2) of the CEQA Guidelines the significance of a historical resource is materially impaired when a project:

- Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register of Historical Resources; or
- Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to section 5020.1(k) of the PRC or its identification in an historical resources survey meeting the requirements of section 5024.1(g) of the PRC, unless the public agency reviewing the effects of the Project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or
- Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its eligibility for inclusion in the CRHR as determined by a lead agency for the purposes of CEQA.

No previously recorded archaeological resources are present within the Project Areas or within 0.25 mile of the Project Areas, and no archaeological resources were discovered during the pedestrian survey. Two historic-era built environment resources were identified (the Calloway Canal and the FKC). The Calloway Canal was previously evaluated for the NRHP and determined to be ineligible for listing in 1996 (California Office of Historic Preservation 2023). The resource also does not meet CRHR eligibility and is therefore not considered a historical resource for the purposes of CEQA. The FKC was previously determined as eligible for the NRHP and SHPO concurred with the finding (Polanco 2020). The FKC is considered a historical resource for the purposes of CEQA. Upon completion of this proposed Project, the FKC would retain its integrity and significance. The materials, workmanship, and the general physical characteristics that convey the historical significance of the canal would remain in place and the canal would continue to function as originally designed. Therefore, potential impacts to historical resources would be **less than significant**.

As described above, no archaeological resources were identified during the survey; however, sensitivity for buried resources is considered high and therefore, there is the possibility that a resource meeting CRHR significance criterion for a historical resource may be discovered during proposed Project-related ground-disturbing activities. If this were to occur, then a potentially significant impact would occur.

However, with implementation of Mitigation Measure CR-1, impacts would be reduced to less-than-significant levels. Implementing Mitigation Measure CR-1 would reduce the potential impact related to discovery of unknown historical resources to a less-than-significant level because the find would be assessed by an archaeologist and the treatment or investigation would be conducted in accordance with CEQA and its implementing guidelines. Therefore, potential impacts to archaeological resources would result in a **less-than-significant impact with mitigation.**

> **Mitigation Measure CR-1: Address Previously Undiscovered Historic Properties, Archaeological Resources, and Tribal Cultural Resources.**
>
> If cultural resources are identified during Project-related ground-disturbing activities, all potentially destructive work in the immediate vicinity of the find should cease immediately and the District should be notified. In the event of an inadvertent discovery, additional CEQA review might be necessary to make a determination on a properties' eligibility for listing in the CRHR and any actions that would be necessary to avoid adverse effects. A qualified archaeologist should assess the significance of the find, make a preliminary determination, and if appropriate, provide recommendations for treatment. Any treatment plan should be reviewed by the District prior to implementation. Ground-disturbing activities should not resume near the find until treatment, if any is recommended, the find is complete or if the qualified archaeologist determines the find is not significant.
>
> **Timing:** Before and during construction.
>
> **Responsibility:** District and its contractor(s).

c) Disturb any human remains, including remains interred outside of dedicated cemeteries?

No human remains have been discovered in the Project Areas and it is not anticipated that human remains, including those interred outside of dedicated cemeteries, would be discovered during ground-disturbance activities associated with the proposed Project. There is no indication from the records searches or pedestrian survey that human remains are present within the Project Areas. However, sensitivity for buried resources in the Project Areas is high. In the event that human remains, including those interred outside of formal cemeteries and including associated items and materials, are discovered during subsurface activities; the human remains, and associated items and materials could be inadvertently damaged. Therefore, a potentially significant impact would occur.

However, implementation of Mitigation Measure CR-2 would reduce this potential impact to a less-than-significant level. Implementing Mitigation Measure CR-2 would reduce the potentially significant impact related to discovery of human remains to a less-than-significant level because the find would be assessed by an archaeologist and treated or investigated in accordance with State and Federal laws. Therefore, the proposed Project would result in a **less-than-significant impact with mitigation**.

Mitigation Measure CR-2: Avoid Potential Effects on Undiscovered Burials.

If human remains are found, the District should be immediately notified. The California Health and Safety Code requires that excavation be halted in the immediate area and that the County coroner be notified to determine the nature of the remains. The coroner is required to examine all discoveries of human remains within 48 hours of receiving notice of a discovery on private or State lands (Health and Safety Code, Section 7050.5[b]). If the coroner determines that the remains are those of a Native American, the coroner must contact the Native American Heritage Commission (NAHC) by telephone within 24 hours of making that determination (Health and Safety Code, Section 7050.5[c]).

Once notified by the coroner, the NAHC shall identify the person determined to be the Most Likely Descendant (MLD) of the Native American remains. With permission of the legal landowner(s), the MLD may visit the site and make recommendations regarding the treatment and disposition of the human remains and any associated grave goods. This visit should be conducted within 24 hours of the MLD's notification by the NAHC (PRC Section 5097.98[a]). If a satisfactory agreement for treatment of the remains cannot be reached, any of the parties may request mediation by the NAHC (PRC, Section 5097.94[k]). Should mediation fail, the landowner or the landowner's representative must reinter the remains and associated items with appropriate dignity on the property in a location not subject to further subsurface disturbance (PRC, Section 5097.98[b]).

Timing: During construction.

Responsibility: District and its contractor(s).

3.6 Energy

VI. #6. ENERGY. Would the Project:

Criteria	Have Potentially Significant Impact?	Have Less-than-Significant Impact with Mitigation Incorporated?	Have Less-than-Significant Impact?	Have No Impact?	Have Beneficial Impact?
n) #6 -a. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	No.	No.	Yes.	No.	No.
o) #6 -b. Conflict with or obstruct a State or local plan for renewable energy or energy efficiency?	No.	No.	No.	Yes.	No.

Environmental Setting

Electricity and natural gas in Kern County are supplied by Pacific Gas and Electric (PG&E), Southern California Edison, and Southern California Gas (Kern County 2004). In 2019, the total electricity consumption for Kern County was approximately 15,009 million kilowatts per hour (California Energy Commission 2021).

Discussion

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

The proposed Project would not result in significant environmental impacts due to wasteful, inefficient, or unnecessary consumption of energy resources because the proposed Project would only consume enough energy required to construct and operate the Project. The proposed Project would involve the use of diesel-fueled vehicles during constructions; however, use of these vehicles would be short-term and temporary. The proposed Project would involve the construction of nine wells which would be equipped with new, energy-efficient electrical motors (up to a capacity of 650 horsepower) which would allow for the conveyance of water into proposed new, and existing pipelines and the FKC. The proposed wells and pipelines will not run continuously but will be used to return previously banked water to banking partners during times of irrigation demand. Additionally, the proposed wells would be operated and maintained by the District under their existing Well Inspection and Maintenance Program. This program includes daily well site inspections (in pumping years) and minor maintenance work, which includes updating electrical systems and outdated equipment that may not be operating efficiently. Operation and maintenance activities would not generate wasteful, inefficient, or unnecessary consumption of energy resources. Therefore, the net increase in energy consumption would be *de minimis* but not wasteful, inefficient, or unnecessary. This impact would be **less than significant**.

#6 -b. Conflict with or obstruct a State or local plan for renewable energy or energy efficiency?

Kern County does not have a local plan for renewable energy or energy efficiency. As discussed previously, the proposed Project is bound by California and S.J.V.A.P.C.D. regulations regarding equipment operation, therefore, it is not anticipated that the proposed Project would conflict with or obstruct a State or local plan for renewable energy or energy efficiency. This impact would be **less than significant**.

3.7 Geology and Soils

VII. #7. GEOLOGY AND SOILS. Would the Project:

Criteria	Potentially Significant Impact.	Have Less-than-Significant Impact with Mitigation Incorporated?	Have Less-than-Significant Impact?.	Have No Impact?	Have Beneficial Impact?
#7 -a. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:					
#7 -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 California Geological Survey Special Publication 42.)	No.	No.	No.	Yes.	No.
#7 -a. ii. Strong seismic ground shaking?	No.	No.	Yes.	No.	No.
#7 -a. iii. Seismic-related ground failure, including liquefaction?	No.	No.	No.	Yes.	No.
#7 -a. iv. Landslides?	No.	No.	Yes.	No.	No.
#7 -b. Result in substantial soil erosion or the loss of topsoil?	No.	No.	Yes.	No.	No.
#7 -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?	No.	No.	Yes.	No.	No.
#7 -d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994, as updated),), creating substantial direct or indirect risks to life or property?	No.	No.	Yes.	No.	No.
#7 -e. Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	No.	No.	No.	Yes.	No.
#7 -f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	No.	**Yes.**	No.	No.	No.

Environmental Setting

Geology and Soils

The Project Areas are located on the following soil types: Kimberlina fine sandy loam (0-2% slopes), Lewkalb sandy loam (0-2% slopes), Milham sandy loam (0-2% slopes), Wasco sandy loam, Driver course sandy loam (0-2% slopes), and McFarland loam (USDA 2023). Project Area 2 is located adjacent to the Poso Creek fault. Other nearby faults include the Pond Fault located approximately 4 miles north of Project Area 2, the Premier Fault located approximately 6 miles northeast of Project Area 1, and the Kern Front Fault located approximately 9 miles east of Project Area 1 (CGS 2015a).

Seismic Hazards

Surface Fault Rupture

Seismically induced ground rupture is defined as the physical displacement of surface deposits in response to an earthquake's seismic waves. Ground rupture is considered more likely along active faults. The Project Areas are not located within an Alquist-Priolo Fault Rupture Hazard Zone, as designated through the Alquist-Priolo Earthquake Fault Zoning Act (1972) (CGS 2023), which requires the delineation of zones along active faults in California. The purpose of the Alquist-Priolo Act is to regulate development and prohibit construction on or near active fault traces to reduce hazards associated with fault rupture. The Alquist-Priolo Earthquake Fault Zones are the regulatory zones delineated on maps that include surface traces of active faults.

Ground Shaking

Areas most susceptible to intense ground shaking are those located closest to an earthquake-generating fault, and areas underlain by thick, loosely unconsolidated, and saturated sediments. Ground movement during an earthquake can vary depending on the overall magnitude, distance to the fault, focus of earthquake energy, and type of geologic material. The Project Areas are located within a seismically active area.

Liquefaction

Liquefaction is a phenomenon where unconsolidated and/or near saturated soils loses cohesion and are converted to a fluid state as a result of severe vibratory motion. The relatively rapid loss of soil cohesion during strong earthquake shaking results in the temporary fluid-like behavior of the soil. The Project Areas are not located within a known liquefaction zone (CGS 2022a).

Landslides

Landslides are deep-seated ground failures (several tens to hundreds of feet deep) in which a large section of a slope detaches and slides downhill. The California Geologic Survey (CGS) does not identify the Project Areas as susceptible to landslides (CGS 2022b).

Geologic Hazards

Expansive Soils

Expansive soils are predominantly comprised of clays, which expand in volume when water is absorbed and shrink when the soil dries. Expansion is measured by shrink-swell potential, which is the volume change in soil with a gain in moisture. Soils with a moderate to high shrink-swell potential can cause damage to roads, buildings, and infrastructure (USDA 2023). As described

above, the Project Areas' soils are predominantly made up of various sandy loams, which are not typically expansive.

Land Subsidence

Subsidence is the gradual settling or sudden sinking of the ground surface resulting from subsurface movement of earth materials. There are multiple causes and types of subsidence including decomposition of peat, pumping of groundwater, tectonic activity, and possibly gas or oil extraction. Subsidence caused by withdrawal of groundwater in quantities much larger than replacement is one cause of subsidence of concern in parts of Kern County. Subsidence varies throughout the District's Service Area. The greatest subsidence occurs in the central to northern portions of the District.

In 2014, the State adopted the Sustainable Groundwater Management Act (SGMA), which requires local Groundwater Sustainability Agencies (GSAs) to be formed for all high and medium priority basins in the State. GSAs must develop and implement Groundwater Sustainability Plans (GSPs), for managing and using groundwater without causing undesirable results for groundwater-level declines, groundwater-storage reductions, water quality degradation, and land subsidence; also referred to sustainability indicators.

The District is in the Kern County Subbasin (Subbasin), which was designated as a high priority for SGMA implementation. To comply with the regulation, the District partnered with the Shafter-Wasco Irrigation District (SWID) and submitted a Management Area Plan as a chapter of the Kern Groundwater Authority's (KGA) Umbrella GSP (NKWSD and SWID 2019, amended 2022). As SGMA implementation evolves, the District will continue to coordinate with the Subbasin GSA's, including periodic updates to GSPs. The Subbasin has designated the southern reach of the FKC as critical infrastructure that is vulnerable to subsidence. Since a portion of the FKC crosses directly through the District, the design and siting of the proposed Project included close evaluation of potential subsidence impacts and aimed to implement the wells in areas that support sustainable yield from the aquifer.

Paleontological Resources

Paleontological resources are the fossilized remains or impressions of plants and animals, including vertebrates (animals with backbones; mammals, birds, fish, etc.), invertebrates (animals without backbones; starfish, clams, coral, etc.), and microscopic plants and animals (microfossils). They are valuable, nonrenewable, scientific resources used to document the existence of extinct life forms and to reconstruct the environments in which they lived. The Project Areas are located on marine and non-marine sedimentary rock that consist of alluvium, lake, playa, and terrace deposits, and is from the Pleistocene-Holocene ages (CGS 2015b), which could contain paleontological resources.

Discussion

#7 -a. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

#7 -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* California Geological Survey Special Publication 42.)

Surface fault rupture is most likely to occur on active faults (i.e., faults showing evidence of displacement within the last 11,700 years). Faults that could potentially affect the proposed Project include the Quaternary Pond Fault and Historic Premier Fault, located within the vicinity of the proposed Project. However, these faults are not considered active, and the Project Areas are not located on or immediately adjacent to these faults, and are therefore, not located within an Alquist-Priolo Earthquake Fault Zone. Therefore, the proposed Project would have no adverse effects to people or structures within an Alquist-Priolo Earthquake Fault Zone and **no impact** would occur.

#7 -a. ii Strong seismic ground shaking?

In general, Southern California is a seismically active area, with most locations in proximity to faults that can produce detectable seismic ground shaking. As described above, the two faults located within the vicinity of the Project Areas are not considered active or potentially active. Nonetheless, these faults and others in the region have the potential to subject the Project Areas to ground shaking.

During proposed Project construction activities, ground shaking could expose persons working in the Project Areas to seismic hazards while operating heavy equipment or working in trenches. The District and its contractors would be required to adhere to all California Division of Occupational Safety and Health requirements for working within active construction sites, including specific provisions for working within trenches, that would ensure the safety of all construction workers onsite.

The proposed Project does not include permanent structures that would house people. However, during maintenance activities, District staff or others may be located around the proposed facilities. All proposed Project facilities would either be buried or extend only a few feet above ground and would not pose a direct risk to people during seismic activity. Further, proposed Project design would comply with California Uniform Building Code (UBC) which is based on, but more detailed and stringent than, the Federal UBC. Chapter 18 of the California UBC regulates excavation and geotechnical considerations, and Appendix J of the California UBC addresses grading, excavation, fill, drainage, and erosion control considerations (UpCodes 2023). Additionally, if a seismic event should cause a pipeline break or well to collapse, the water would be released underground in a low gradient, agricultural area, posing minimal risk to people or structures. Therefore, there would be no significant impact to people or structures from any seismic-related activity as a result of implementation of the proposed Project. This impact would be **less than significant**.

#7 -a.iii Seismic-related ground failure, including liquefaction?

The Project Areas are not located within a known liquefaction zone and therefore, **no impact** would occur.

#7 -a. iv. Landsides?

The Project sites are located in topographically flat areas and thus there would be no harm from landslides. Additionally, the CGS does not identify the Project sites as susceptible to landslides (CGS 2022). Therefore, this impact would be **less-than-significant**.

#7 -b, c, and d. Result in substantial soil erosion or the loss of topsoil? 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? Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994, as updated), creating substantial direct or indirect risks to life or property?

Potential Impacts of Soil Disturbance

Construction activities would result in short-term soil disturbance and could expose disturbed areas if a storm event occurs during construction. Rainfall of sufficient intensity could dislodge soil particles from the soil surface. If particles are dislodged and the storm is large enough to generate runoff, substantial localized erosion could occur. In addition, soil disturbance could result in substantial loss of topsoil from wind erosion.

The District would prepare and implement a SWPPP to prevent and control pollution and to minimize and control runoff and erosion in compliance with State and local laws. The SWPPP would identify the activities that may cause pollutant discharge (including sediment) during storms or strong wind events, techniques to control pollutant discharge, and an erosion control plan. Additionally, construction techniques and BMPs would be identified and implemented, as appropriate to reduce the potential for runoff and exposure to hazardous materials.

Topsoil may be stripped and stockpiled onsite for later reuse. Additionally, a Dust Control Plan or Construction Notification would be in place and therefore loss of topsoil would be minimized during construction. Operation of the proposed Project would not create the potential for soil erosion or loss of topsoil as the area is in a cultivated agricultural field and is topographically flat. With the implementation of a SWPPP and associated construction techniques and BMPs, as well as a Dust Control Plan or Construction Notification, the proposed Project would result in a **less-than-significant impact**.

Potential Impacts of Subsidence

The groundwater to be pumped from the Project Areas would be recovered from wells at varying depths and returned to groundwater banking partners via the FKC to their respective groundwater basins. Water supplies in the Project Areas are managed through conjunctive use; where aquifers are recharged with surface water in wet years to offset the effects of pumping during dryer periods. The District employs strategies and management actions that balance the positive effects of recharge with the stress of pumping on the aquifer. The proposed Project would exchange water and/or banking agreements with a specified quantity of "leave behind," resulting in a net increase in groundwater supplies. Current banking agreements do not allow the District's banking partners

to request water in excess of their share of the volume previously banked. In this manner, the District maintains recharge at rates greater than pumping to maintain spring groundwater levels at a consistent level, and limit subsidence.

For this Project, wells were sited near the Rosedale and Switch Field 1 spreading grounds/recharge basins which are areas with the least amount of historical subsidence and having recharge that can balance pumping. Wells were located more than 1 mile from the FKC to limit the potential for subsidence impacts to that infrastructure.

Additionally, the District would continue to participate in subsidence monitoring and mitigation programs: including basin-wide efforts coordinated through the GSP and the District's Management Area Plan; and the District's Annual Subsidence Tracking Program. Subsidence in the District's Service Area is monitored through: Continual Global Positioning System (CGPS) (Station P564) and Interferometric Synthetic Aperture Radar (InSAR) data; and the District's subsidence monitoring network which includes 13 stations located along the FKC. An analysis of the relationship between groundwater levels and measured subsidence was conducted in 2022, detailed in a technical memorandum attached to the revised Management Area Plan (NKWSD and SWID 2019, amended 2022). In Water Year 2022, which is representative of a groundwater recovery year in critically-dry drought conditions, InSAR data showed -0.2 to 0.4 feet of subsidence across the Project Areas and local vicinity. Both the CGPS Station P564 and the District's subsidence monitoring network showed relative agreement in the total cumulative subsidence over the same timeframe (NKWSD and SWID 2019, amended 2022).

Furthermore, banked water has predominately been returned during dry and critically dry water years with smaller volumes of water returned during the later portion of normal water years. Water is banked during above normal years and sometimes during the early portion of normal water years. Future banking and return operations are expected to follow the same pattern. The District would continue to manage the banking program to result in a net positive to the District's groundwater supplies. With implementation of existing monitoring, subsidence programs, and water recharge and recovery balancing program, impacts of subsidence would be considered **less than significant**.

#7 -e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

The proposed Project would not require the use of septic tanks or alternative wastewater disposal systems. During proposed Project implementation, the District or the contractor may have portable toilet facilities available onsite temporarily for use by construction workers. Once Project-related construction activities are concluded, such portable facilities would be removed, and the wastewater properly handled and disposed in accordance with all applicable laws and regulations. There would be **no impact** associated with wastewater disposal.

#7 -f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

As described previously, the Project Areas are located on marine and non-marine sedimentary rock that consist of alluvium, lake, playa, and terrace deposits, and is from the Pleistocene-Holocene ages. Since paleontological resources are found almost exclusively in sedimentary rock, there is a chance of discovering unknown paleontological resources within the Project Areas, which could result in a potentially significant impact.

However, implementation of Mitigation Measure GEO-1 would reduce potentially significant impacts to less-than-significant levels because the fossils would be preserved. Therefore, the proposed Project would result in a **less-than-significant impact with mitigation**.

Mitigation Measure GEO-1: Avoid Potential Effects on Paleontological Resources.

In the event that a paleontological resource is uncovered during Project implementation, all ground-disturbing work within 165 feet (50 meters) of the discovery shall be halted. A qualified paleontologist shall inspect the discovery and determine whether further investigation is required. If the discovery can be avoided and no further impacts will occur, no further effort shall be required. If the resource cannot be avoided and may be subject to further impact, a qualified paleontologist shall evaluate the resource and determine whether it is "unique" under CEQA, Appendix G, part VII. The determination and associated plan for protection of the resource shall be provided to the District for review and approval. If the resource is determined not to be unique, work may commence in the area. If the resource is determined to be a unique paleontological resource, work shall remain halted, and the paleontologist shall consult with the District staff regarding methods to ensure that no substantial adverse change would occur to the significance of the resource pursuant to CEQA. Preservation in place (i.e., avoidance) is the preferred method of mitigation for impacts to paleontological resources and shall be required unless there are other equally effective methods. Other methods may be used but must ensure that the fossils are recovered, prepared, identified, catalogued, and analyzed according to current professional standards under the direction of a qualified paleontologist. All recovered fossils shall be curated at an accredited and permanent scientific institution according to Society of Vertebrate Paleontology standard guidelines; typically, the Natural History Museum of Los Angeles County and University of California, Berkeley accept paleontological collections at no cost to the donor. Work may commence upon completion of treatment, as approved by the District.

Timing: Before and during construction.

Responsibility: District and its contractor(s).

3.8 Greenhouse Gas Emissions

VIII. #8. GREENHOUSE GAS EMISSIONS. Would the Project:

Criteria	Have Potentially Significant Impact?	Have Less-than-Significant Impact with Mitigation Incorporated?	Have Less-than-Significant Impact?	Have No Impact?	Have Beneficial Impact?
#8 -a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	No.	No.	Yes.	No.	No.
#8 -b. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	No.	No.	Yes.	No.	No.

Environmental Setting

Greenhouse gas (GHGs) emissions are defined as carbon dioxide (CO_2), Methane (CH4), Nitrous Oxide (N2O), Hydrofluorocarbons (HFCs), Perfluorocarbons (PFCs), and Sulfur Hexafluoride (SF6). Senate Bill 32 (Health & Safety Code § 38566) set a Statewide emission reduction mandate of 40 percent below 1990 levels by 2030. C.A.R.B. was appointed to develop policies to achieve this goal. Additionally, Executive Order B-55-18 set a target of Statewide carbon neutrality by 2045. In 2022, C.A.R.B. published an updated Climate Change Scoping Plan, the *2022 Scoping Plan for Achieving Carbon Neutrality* (Scoping Plan).

Kern County has not adopted a local plan for reducing GHG emissions. The S.J.V.A.P.C.D. has adopted the *Guidance for Valley Land-use Agencies Addressing GHG Emissions Impacts for New Projects under CEQA* (S.J.V.A.P.C.D. 2009). The methodology relied upon in this guidance for assessing whether GHG emissions would have a significant impact to the environment are performance-based standards.

Discussion

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

GHG emissions would be generated during the construction phase of the proposed Project from the use of diesel-powered vehicles. As described in Chapter 3.3, "Air Quality" above, the SPAL screening tool estimated that emissions during all phases of the proposed Project would be below the applicable level of significance. There would be a small amount of GHG emissions generated during the operation phase from maintenance and operation trips. However, it is anticipated that maintenance trips and activities would be similar to what occurs as part of the District's ongoing facility maintenance, with small changes in servicing and maintenance trips by staff with proposed Project implementation.

Water movement to the Project Areas would be primarily through gravity flow in existing facilities. To the extent that water is pumped to reach the Project Areas, those pumps are electric and do not directly produce GHG. The electricity is sourced from PG&E, which is covered by cap-and-trade. Since the electricity provider is already compliant with and exceeding California's mandates for reducing the emissions of GHGs, the electricity used for operation of the proposed Project would be **less than significant**.

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

California has issued numerous Executive Orders directing State agencies to implement programs to reduce GHG emissions to meet 2030 target of 40 percent below 1990 levels (California 2018). C.A.R.B. is the primary State agency responsible implementing GHG reduction programs. The Scoping Plan (C.A.R.B. 2022) describes croplands role in emissions reductions and carbon sequestration. Natural and working lands are a key sector in the State's climate change strategy. Storing carbon in trees, other vegetation, soils, and aquatic sediment is an effective way to remove carbon dioxide from the atmosphere (C.A.R.B. 2022). The Scoping Plan states that, "Healthy land can sequester and store atmospheric CO_2. Healthy lands also can reduce emissions of powerful SLCPs, limit the release of future GHG emissions, protect people and nature from the impacts of climate change, and build our resilience to future climate risk." State policy is clear that preservation of cropland is a critical goal, and a benefit to GHG reduction. The proposed Project is designed to recover and convey groundwater, making water supplies available to irrigated agriculture during times of drought. For these reasons, the proposed Project is compatible with the State's climate change policy.

Kern County does not have an adopted local GHG reduction plan. The S.J.V.A.P.C.D. provides guidance for addressing GHG emissions from land use development projects. The S.J.V.A.P.C.D. considers development projects to be less than significant if the project achieves 29 percent GHG emission reductions target by using approved Best Performance Standards (BPS), which includes project design elements and technologies, such as the use of energy efficient equipment, that reduce GHG emissions (S.J.V.A.P.C.D. 2009). The Guidance does not require quantification of project specific GHG emissions for projects that implement BPS. Consistent with CEQA Guidelines, such projects would be determined to have a less-than-significant individual and cumulative impact for GHG emissions (S.J.V.A.P.C.D. 2009). Because the District would comply with State policy regarding climate change and SJVAPDC Guidance, the impact would be **less than significant**.

3.9 Hazards and Hazardous Materials

IX. #9. HAZARDS AND HAZARDOUS MATERIALS. Would the Project:

	Criteria	Have Potentially Significant Impact?	Have Less-than-Significant Impact with Mitigation Incorporated?	Have Less-than-Significant Impact?	Have No Impact?	Have Beneficial Impact?
p)	#9 -a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	No.	No.	Yes.	No.	No.
q)	#9 -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?	No.	No.	Yes.	No.	No.
r)	#9 -c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	No.	No.	No.	Yes.	No.
s)	#9 -d. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	No.	No.	No.	Yes.	No.
t)	#9 -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.	No.	Yes.	No.	No.
u)	#9 -f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	No.	No.	No.	Yes.	No.
v)	#9 -g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	No.	No.	No.	Yes.	No.

Environmental Setting

The California Office of Emergency Services oversees State agencies and programs that regulate hazardous materials (Health and Safety Code, Article 1, Chapter 6.95). A hazardous material is any material that because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or environment.

Hazardous Material Sites

A review of the Department of Toxic Substances Control's (DTSC) Hazardous Waste and Substances List – Site Cleanup (Cortese List, enumerated in PRC Section 65962.5), DTSC EnviroStor, and State Water Board GeoTracker databases identified zero hazardous clean-up sites indicates within or immediately adjacent to the Project Areas (DTSC 2023a, 2023b, 2023c). Additionally, the Project Areas are not located in ultramafic rock areas, which are identified as more likely to contain asbestos by the DOC (2000), therefore, this issue is not discussed further in this IS/MND.

Schools

There are no schools within 0.25 mile of the Project Areas. The nearest school to Project Area 1 is Frontier High School located in the city of Bakersfield, approximately 5.8 miles south. The nearest school to Project Area 2 is James A. Forrest Elementary School located in the city of Wasco, approximately 4.2 miles west.

Airports

Kern County has established an Airport Land Use Compatibility Plan (ALUCP) which has been incorporated into the General Plan (Kern County 2012). The purpose of the Airport Land Use Compatibility Plan is to establish procedures and criteria by which Kern County and affected incorporated cities can address compatibility issues when making planning decisions. Project Area 1 is located within an Airport Influence Area of Shafter-Minter Field Airport (Kern County GIS 2023), labeled as Common Traffic Pattern (Zone C). These zone designations are identified by various levels of risk depending on proximity to runways and specify maximum land use densities and required amounts of open land (Kern County 2012).

Emergency Operations, Response and Evacuation

The Kern County Emergency Operations Plan (EOP) provides the basis for a coordinated response before, during and after a disaster affecting Kern County or other jurisdictions in the Operational Area. The Operations Annex and Logistics Annex of the EOP both provide guidance and include appropriate actions to respond to the County's most likely and demanding emergency conditions (Kern County 2022). Evacuation routes are developed specific to the incident emergency teams are responding to.

Wildland Fires

The Project Areas are located within a Local Responsibility Area (LRA) and are not located in a very high fire hazard severity zone (CALFIRE 2007, 2022).

Discussion

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

Proposed Project construction activities would involve the storage, transport, and use of small amounts of hazardous substances necessary to operate and maintain construction vehicles and equipment such as oils, lubricants, and fuel. The routine use or an accidental spill of these hazardous materials could result in inadvertent releases, which could adversely affect construction workers, the public, and the environment, resulting in a potentially significant impact.

However, the transport and use of hazardous materials are strictly regulated by local, State, and Federal agencies to minimize adverse hazards from accidental release. The EPA, DTSC, California Highway Patrol (CHP) and Caltrans implement and enforce State and Federal laws regarding hazardous material transportation. Contractors would be required to use, store, and dispose of any hazardous materials in accordance with all applicable regulations.

Additionally, as discussed in Chapter 3.3, "Air Quality", and Chapter 3.7, "Geology and Soils", the District would prepare and implement a SWPPP to prevent and control pollution and to minimize and control runoff and erosion in compliance with State and local laws. The SWPPP would list the hazardous materials (including petroleum products) proposed for use during construction; describe spill prevention measures, equipment inspections, equipment and fuel storage; protocols for responding immediately to spills; and describe BMPs for controlling site runoff.

Furthermore, Project workers handling hazardous materials are required to adhere to Occupational Safety and Health and California Division of Occupational Safety and Health (Cal/OSHA) health and safety requirements. Since compliance with existing hazardous materials regulations and programs are mandatory, Project construction activities are not expected to create a potentially significant hazard to construction workers, the public, or the environment. Furthermore, in the event of a spill that releases hazardous materials within the Project Areas, a coordinated response would occur at the Federal, State, and local level, depending on the location. In the event of a hazardous materials spill, the Kern County Fire Department (KCFD) and local police department would be simultaneously notified and sent to the scene to assess and respond to the situation.

Compliance with State and Federal laws, implementation of a SWPPP, adherence to Cal/OSHA, and coordination with local fire and police services, would reduce the potential impact from accidental spill of or exposure to hazardous materials during routine use, transport, or disposal to occur.

The proposed Project would not involve routine or long-term transport or disposal of hazardous materials, after construction. None of the proposed Project operations would involve the use of

acutely hazardous materials. Therefore, the proposed Project would have a **less-than-significant impact**.

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

Because there are no schools within 0.25 mile of the Project Areas, implementation of the proposed Project would not have the potential to emit hazardous emissions or handle hazards near a school. There would be **no impact**.

#9 -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?

The Project Areas are not identified on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. There would be **no impact**.

#9 -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?

Project Area 1 is located within an Airport Influence Area, labeled as Zone C. According to the ALUCP, Zone C presents a "limited" level of risk and noise. Additionally, Project Area 2 is not located within areas subject to the ALUCP or within 2 miles of any public airport. Therefore, the proposed Project is not anticipated to result in a safety hazard or excessive noise for people residing or working in the Project Areas. This impact would be **less than significant**.

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

As discussed above, the KCFD maintains the EOP for the Project Areas, which includes information for the public about what to do if an emergency or disaster were to occur. The EOP does not identify any specific evacuation areas or routes; therefore, construction activities within the Project Areas would not interfere with an emergency evacuation plan. Further, the proposed Project would not affect emergency response or evacuation activities as the proposed wells, pipelines, and discharge outfalls are minor in size and scope. Implementation of the proposed Project would not require any road closures, and therefore the proposed Project would not interfere with traffic routes or response vehicle transport.

Operation and maintenance activities for the proposed Project would be substantially similar to current conditions respective to emergency response and evacuation. No operation-related activities would occur within surrounding rights-of-ways that could impair or physically interfere with an adopted emergency response plan or emergency evacuation plan. As a result, **no impact** would occur.

#9 -g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

The Project Areas are not located in a very high fire hazard severity zone; therefore, implementation of the proposed Project is not anticipated to expose people or structures to a significant risk of loss, injury, or death involving wildland fires. There would be **no impact**.

3.10 Hydrology and Water Quality

X. #10. HYDROLOGY AND WATER QUALITY. Would the Project:

Criteria	Have Potentially Significant Impact?	Have Less-than-Significant Impact with Mitigation Incorporated?	Have Less-than-Significant Impact?	Have No Impact?	Have Beneficial Impact?
w) #10 -a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	No.	**Yes**.	No.	No.	No.
x) #10 -b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	No.	No.	Yes.	No.	No.
y) #10 -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:	No.	No.	No.	Yes.	No.
#10 -c. i. result in substantial erosion or siltation on- or off-site;	No.	No.	Yes.	No.	No.
#10 -c. ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	No.	No.	Yes.	No.	No.
#10 -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.	No.	No.	Yes.	No.
#10 -c. iv. Impede or redirect flood flows?	No.	No.	Yes.	No.	No.
z) #10 -d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	No.	No.	No.	Yes.	No.
aa) #10 -e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	No.	No.	No.	Yes.	No.

Environmental Setting

The FKC runs directly through the District's service area, entering approximately at MP 127.90 and exiting approximately at MP 148.89, with turnouts at various locations between these points. This enables the District to receive delivery of water from the FKC on behalf of other Central Valley Project[3] contractors during wet years for recharge in its spreading grounds/recharge basins. The primary source of water conveyed in the FKC is from the San Joaquin River watershed and stored in or flowing through Millerton Lake, which exhibits excellent water quality; however, in some years, Non-Millerton Lake water is introduced into the FKC at various locations. Non-Millerton Lake water is typically groundwater or State Water Project water, and of lesser quality than Millerton Lake water. Accordingly, the quality of the water in the FKC changes with the introduction of Non-Millerton Lake water (FWA 2023).

Friant Water Authority (FWA), the public agency responsible for operations, maintenance, and policies related to the Friant Division of the Federal Central Valley Project is implementing water quality derivatives and standards focused on agricultural beneficial uses. At a minimum, all pump-in water must comply with drinking water Maximum Contaminant Levels (MCL) defined in Title 22[1]. Title 22 limits for conductivity, total dissolved solids (TDS), chloride, and boron are higher than agronomic[2] limits and are not considered protective of agricultural uses; therefore, new water quality thresholds as well as monitoring and mitigation requirements are key provisions of their comprehensive water quality management on the FKC (FWA 2023).

In late 2019, the FWA formed a Water Quality Advisory Committee to develop a comprehensive Water Quality Ledger Program (Program) that addresses salinity thresholds that are protective of agricultural uses. The Program tracks and accounts for all inflows and diversions into and from the FKC and determines appropriate mitigation for impacted water quality; aiming to balance concerns by FKC contractors as a multi-layered assessment of agronomic impacts as a durable solution (FWA 2023).

Discussion

The purpose of the proposed Project is to expand the District's capacity to return previously banked water by adding nine additional wells, pipelines and two discharge locations. This estimated maximum capacity would only be exercised when the District has recharged quantities and appropriate "leave behind". This number of wells and maximum capacity offer the District operational flexibility while meeting their obligation to return water to banking partners. The

[3] Extending 400 miles through central California, the Central Valley Project is a complex, multi-purpose network of dams, reservoirs, canals, hydroelectric powerplants and other facilities (Bureau of Reclamation 2023)
[1] Title 22. The Domestic Water Quality and Monitoring Regulations specified by the State of California Health and Safety Code (Sections 4010-4037), and Administrative Code (Sections 64401 et seq.), as amended.
[2] Agronomic: the branch of agriculture dealing with field-crop production and soil management (Merriam-Webster 2023)

Project is being proposed at this time to maximize the District's flexibility to return water to banking partners, which includes priority/peak return water for irrigation use

The proposed well locations were selected based on hydrogeological conditions including local geology, groundwater levels, groundwater contours, and groundwater flow direction, along with water quality thresholds/limitations as defined in the FWA's Program, discussed above. Proposed wells were also sited with the intent to limit potential land subsidence. See Chapter 3.7, "Geology and Soils" for further discussion.

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

Construction

Construction of the proposed Project would require excavation and grading within the Project area. During these activities, soils could be become exposed to high winds or heavy precipitation causing a substantial increase in sedimentation in storm water run-off. In addition, construction activities would require the use of hazardous materials including but not limited to petroleum products (e.g., gasoline, diesel, and motor oil) and automotive fluids (e.g., antifreeze and hydraulic fluids). The mobilization of sediment or inadvertent spills or leaks of such pollutants could affect the quality of runoff water from the construction sites. However, as described previously, construction would be subject to the NPDES General Permit for Discharges of Storm Water Runoff Associated with Construction Activity (Construction General Permit). As part of this process, the District would be required to comply with the NPDES Construction General Permit. Compliance with this permit would require the preparation and implementation of a SWPPP that would identify pollutant sources that may affect the quality of storm water discharge and implement BMPs, such as erosion control and pollution prevention measures, to be used during the course of construction. The proposed Project's SWPPP would include BMPs to minimize the impacts of construction activities to water quality. With implementation of the BMP requirements required by the State Construction General Permit, the potential for pollutants and sediment to affect the water quality of runoff from construction sites would be minimized to less-than-significant levels.

Operation

During wet- and moderately-wet years, recharge water for the proposed Project would be secured from the District's groundwater banking partners and banked in existing spreading grounds/recharge basins for later recovery.

Once recovered, the groundwater would be introduced into the FKC via two new discharge outfalls. This groundwater would be subject to applicable pump-in water quality requirements. The District will enter into an agreement with the FWA that commits to meeting required water quality standards at each of the new discharges to the FKC. Prior to pumping extracted groundwater into the FKC, it would be the District's responsibility to ensure that the water quality is sufficient to meet applicable water quality requirements, and submit a proposal that identifies the water sources, planned operation, inflow water quality, and any anticipated impacts to water

quality and/or operations. Any water that does not meet water quality requirements would not be conveyed within the FKC.

Although the proposed wells were designed and sited to avoid water quality contaminants, implementation of the proposed Project still has the potential to result in water quality concerns specific to FKC discharge requirements. However, implementation of Mitigation Measures HYDRO-1 and HYDRO-2 would reduce potentially significant impacts to less-than-significant levels. Impacts would be **less than significant with mitigation incorporated.**

Mitigation Measure HYDRO-1: Construction-Period Water Quality Monitoring.

To ensure water quality in Project Areas 1 and 2 are acceptable for return to the FKC, the District will conduct water quality monitoring post-proposed well implementation, before proposed pipelines are constructed. Sampling will include Division of Drinking Water's Title 22 constituents along with "Constituents of Concern" that are not included in Title 22. The District will follow the water quality monitoring and reporting requirements in the Pump-In Agreement, and all sample results will be submitted to the FWA.

Timing: After construction of the proposed wells, only.

Responsibility: District and its contractor(s).

Mitigation Measure HYDRO-2: Operational Water Quality Monitoring.

To minimize potential effects of Project operations on groundwater quality, each year that banked water is returned, the District will conduct water quality sampling of all the wells used for pump-in and report results to the FWA. Sampling will include the same constituent parameters and monitoring and reporting requirements as detailed in Mitigation Measure HYDRO-1.

Timing: After construction.

Responsibility: District and its contractor(s).

Mitigation Measure HYDRO-3: Comply with the Water Quality Ledger Program.

The District will comply with the mitigation measures in the Program. The Program includes mitigation measures to compensate for potential effects related to Non-Millerton Lake supplies being introduced into the FKC.

Timing: After construction.

Responsibility: District and its contractor(s).

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

Until the proposed Project is constructed, there would be no new water recovery from the Project Areas. Therefore, relative to groundwater supplies during construction, there would be no impact.

The proposed Project seeks to further expand water banking in the District; which is supportive of sustainable groundwater management. The proposed Project would allow groundwater banking partners to recharge their water into the District's recharge basins/spreading grounds; and in turn, the District to return previously banked water, when needed, by connecting additional pump-in wells, and to increase the District's operational flexibility. During wet- and moderately-wet years, the Districts banking partners can take advantage of the District's available banking capacity with a percentage of water left behind. Proposed banking agreements require that a percentage of banked water is left behind, resulting in a net increase of water supply for the District. As such, the proposed Project would assist the District with the stabilization of groundwater levels and help achieve groundwater sustainability in the District Service Area by the SGMA-mandated date of 2040. Therefore, the Proposed Project would not have adverse localized effects to groundwater supplies and would support sustainable groundwater management of the basin. Impacts would be **less than significant**.

#10 -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:

#10 -i, ii, iii, and iv. Result in substantial erosion or siltation on- or off-site; Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite; 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 Impede or redirect flood flows?

Construction of the proposed Project would require excavation and grading within the Project Areas. During these activities, soils could be become exposed to high winds or heavy precipitation causing erosion. As discussed above, the proposed Project would disturb more than one acre, and therefore would be required to comply with the NPDES Construction General Permit, which would require the preparation and implementation of a SWPPP. The SWPPP would describe BMPs describing erosion control and pollution prevention measures to be used during the course of construction. The Project SWPPP would include BMPs to minimize the impacts of construction to a less than significant level. Erosion control BMPs have been proven effective at minimizing erosion during construction and associated earthwork activities. With implementation of the SWPPP, the Project would minimize the potential for erosion or siltation to occur during construction, and the impact would be less than significant.

The proposed pipelines would be primarily underground, and once installed there would be no change in surface runoff. Above ground wells and associated foundations would have a minimal footprint surrounded by pervious soil into which precipitation would infiltrate, as it does now. Therefore, there would be no impact regarding flooding due to altering the existing drainage

pattern within the Project Areas. Recovered water would be returned to the FKC through two new proposed discharge locations. The FKC has capacity to accept these returns, in addition to sheet flow runoff. Implementation of the proposed Project would not create or contribute new sources of runoff or polluted runoff; therefore, no drainage system would be necessary for storm water capture. Therefore, there would be no impact in regard to exceeding the capacity of drainage systems within the project area. Impacts would be **less than significant**.

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

The proposed Project facilities would not be located within a Federal Emergency Management Agency-designated 100-year flood zone and the proposed Project does not include the construction or renovation of any housing units. Therefore, there would be no impact to people or structures related to potential risk of loss, injury or death involving inundation in a flood hazard zone. Similarly, the Project Areas are not located within areas susceptible to the effects of a seiche, tsunami, or inundation from dam failure. Therefore, there would be no impact to people or structures related to potential risk of loss, injury or death involving inundation by a seiche, tsunami or dam failure. There would be **no impact**.

3.11 Land Use and Planning

XI. #11. LAND USE AND PLANNING. Would the Project:

Criteria	Have Potentially Significant Impact?	Have Less-than-Significant Impact with Mitigation Incorporated?	Have Less-than-Significant Impact?	Have No Impact?	Have Beneficial Impact?
bb) #11 -a. Physically divide an established community?	No.	No.	No.	Yes.	No.
cc) #11 -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?	No.	No.	No.	Yes.	No.

Environmental Setting

Project Area 1 is located within the city of Shafter limits containing parcels with land use designations for agriculture and industrial. Project Area 2 is located in unincorporated Kern County and only contains parcels with designated land use for intensive agriculture (Kern County GIS 2023). The Project Areas are located in rural Kern County and surrounded by various agricultural crops, water conveyance canals, roads, and in Project Area 1, partially bordered by large warehouses buildings.

Discussion

#11 -a. Physically divide an established community?

The physical division of an established community generally refers to the construction of a feature such as an interstate highway or railroad tracks, or removal of a means of access, such as a local road or bridge that would impact mobility within an existing community or between a community and outlying area. Given that the proposed Project would not construct any permanent, linear aboveground physical structures, the proposed Project would result in no impact to the physical division of an established community.

#11 -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?

The proposed Project would be implemented on the outer edges of agricultural parcels, along established dirt roads which are barren. The proposed Project Areas are located outside of existing communities and are consistent with existing zoning. There are no adopted HCPs, Natural Community Conservation Plans, other local, regional, or State habitat conservation plans within the Project Areas or vicinity that would be impacted by the proposed Project, *see* Chapter 3.4, "Biological Resources" for more information on this subject. There would be **no impact**.

3.12 Mineral Resources

XII. #12. MINERAL RESOURCES. Would the Project:

Criteria	Have Potentially Significant Impact?	Have Less-than-Significant Impact with Mitigation Incorporated?	Have Less-than-Significant Impact?	Have No Impact?	Have Beneficial Impact?
dd) #12 -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?	No.	No.	Yes.	No.	No.
ee) #12 -b. Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	No.	No.	No.	Yes.	No.

Environmental Setting

Lands throughout Kern County are classified as Mineral Resource Zones (MRZs) of varying significance. The MRZ categories are as follows:

- MRZ-1: Areas where adequate information indicates that no significant mineral deposits are present or where it is judged that little likelihood exists for their presence.
- MRZ-2: Areas where adequate information indicates significant mineral deposits are present, or where it is judged that a high likelihood exists for their presence.
- MRZ-3: Areas containing mineral deposits the significance of which cannot be evaluated from available data.
- MRZ-4: Areas where available information is inadequate for assignment to any other MRZ.

The Project Areas are located within a Surface Mining and Reclamation Act of 1975 study area for aggregate materials in the Bakersfield production-consumption region. The Project Areas are designated as Mineral Resource Zone-3 (DOC 2022). The USGS' Mineral Resources Data System does not identify the Project Areas as having history of mineral extraction (USGS 2023). The Kern County GIS Database includes a planning layer which designated various local areas as Mineral Resource Recovery Sites based off the County's General Plan. The Project Areas are not located within one of these locally important mineral resource areas (Kern County GIS 2023).

Discussion

#12 -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?

The proposed Project includes the installation of nine wells, pipelines, and two discharge outfalls. The proposed facilities would be constructed in previously disturbed areas within and adjacent to agricultural fields and dirt roads. The Project Areas are located in an MRZ-3 Zone, which are not areas known to contain significant mineral deposits. Furthermore, the Project Areas are not identified as a mineral resource area and do not have a history of mineral extraction uses. Although unlikely, there is a potential for implementation of the proposed Project facilities to result in a loss of mineral resources; however, this effect to would be nominal compared to the scale of MRZ-3 areas within the county. As a result, implementation of the proposed Project would not impede future access to subsurface mineral resources of regional importance. This impact would be **less than significant**.

#12 -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?

The Project Areas are not located within the vicinity of a locally important mineral resource recovery site. There would be **no impact**.

3.13 Noise

XIII. #13. NOISE. Would the Project:

Criteria	Have Potentially Significant Impact?	Have Less-than-Significant Impact with Mitigation Incorporated?	Have Less-than-Significant Impact?	Have No Impact?	Have Beneficial Impact?
ff) #13 -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 in other applicable standards of other agencies?	No.	No.	Yes.	No.	No.
gg) #13 -b. Generation of excessive groundborne vibration or groundborne noise levels?	No.	No.	Yes.	No.	No.
hh) #13 -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 2 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.	No.	Yes.	No.	No.

Environmental Setting

The Project Areas are located in rural agricultural settings. The nearest sensitive receptor to Project Area 1 is a farmhouse residence approximately 1.4 miles south. The nearest sensitive receptor to Project Area 2 is farmhouse residence approximately 185 feet from the proposed pipeline along Smith Avenue. Additionally, SR 99 is located within close proximity to both Project Areas, and SR 46 is located adjacent to Project Area 2. The Kern County Code of Ordinances states that construction related noise is limited to the hours of 6:00 a.m. to 9:00 p.m. on weekdays and 8:00 a.m. to 9:00 p.m. on weekend (Kern County 2023).

Discussion

#13 -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 in other applicable standards of other agencies?

Construction noise impacts typically occur when construction activities take place during noise-sensitive times of the day (e.g., early morning, evening, or nighttime hours), when construction activities occur immediately adjacent to noise sensitive land uses, or when construction durations last over extended periods of time. Construction of the proposed Project would temporarily increase the ambient noise levels within the vicinity of the Project Areas.

Although construction activities would occur only during the daytime hours, uncontrolled construction noise could still be considered disruptive to residents adjacent to the Project Areas. The proposed Project would generate temporary construction noise from the use of heavy machinery during construction activities, and from the transport of construction workers and materials to the site. The list of construction equipment that may be used for proposed Project construction activities is shown in **Table 3-5** with typical noise levels generated at 50 feet from the equipment (reference levels). Since the closest sensitive noise receptor is approximately 185 feet from the proposed Project, construction noise levels at the sensitive noise receptors would be considerably lower. Additionally, construction related noise would be short-term and temporary and therefore would not be considered significant, long-term. All work within the proposed Project Areas would be limited to the hours identified in Kern County's Noise Ordinance.

Table 3-5. Typical Noise Level from Construction Equipment

Type of Equipment	Typical Noise Levels (dBA) Lmax at 50 feet
Backhoe	80
Dozer	82
Drill Rig	79
Excavator	81
Hoist Crane	81
Trencher	80
Pick-up Truck	75
Water Truck	75

Notes: dBA = a weighted scale for judging loudness that corresponds to the hearing threshold of the human ear; Lmax = maximum instantaneous sound level

Source: Construction equipment list based on Federal Highway Administration 2006, adapted by GEI.

During proposed Project operations, minimal noise would be generated from the use of existing electric well motors and pumps. Impacts related to noise levels would be **less than significant**.

#13 -b. Generation of excessive groundborne vibration or groundborne noise levels?

Activities associated with implementation of the proposed Project have the potential to generate low levels of groundborne vibration due to the operation of equipment (i.e., drill rigs and haul trucks). Groundborne vibrations propagate though the ground and rapidly diminish in intensity with increasing distance from the source. No high-impact activities, such as pile driving or blasting, would be used during Project-related activities. However, some vibration may occur during proposed well drilling and construction equipment mobilization. The vibrations could potentially be detectable by nearby sensitive receptors; however, the closest sensitive noise receptor is approximately 185 feet from the proposed Project so a vibrational impact would not only be temporary but would also not be considered significant. Therefore, this impact would be **less than significant**.

#13 -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 2 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?

As described previously in Chapter 3.9, "Hazards and Hazardous Materials", Kern County has established an ALUCP which has been incorporated into the General Plan (Kern County 2012). Project Area 1 is partially within the outer areas of the Common Traffic Pattern (Zone C) of Shafter-Minter Field Airport (Kern County GIS 2023). Zone C is the outer boundary of the ALUCP mapping area and is defined as the area where aircraft are commonly below 1,000 feet above ground level. Zone C is further described as a "limited level of risk and noise." The prohibited uses in this area include schools, hospitals, nursing homes, and hazards to flight. Project Area 2 is not located within areas subject to the ALUCP or within 2 miles of an airport. The proposed Project involves constructing and installing nine wells, pipelines and two discharge outfalls. Therefore, implementation of the proposed Project would not include prohibited uses within Zone C, and the proposed Project would not expose people residing or working in the Project Areas to excessive noise levels, within the vicinity of an ALUCP. This impact would be **less than significant**.

3.14 Population and Housing

XIV. #14. POPULATION AND HOUSING. Would the Project:

Criteria	Have Potentially Significant Impact?	Have Less-than-Significant Impact with Mitigation Incorporated?	Have Less-than-Significant Impact?	Have No Impact?	Have Beneficial Impact?
ii) #14 -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)?	No.	No.	No.	Yes.	No.
jj) #14 -b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	No.	No.	No.	Yes.	No.

Environmental Setting

The Project Areas are located in unincorporated Kern County and the city of Shafter. In 2020, the population of Kern County was estimated to be 909,235 in (U.S. Census Bureau 2020a). The city of Shafter's estimated total population in 2020 was 19,953 (U.S. Census Bureau 2020b).

Discussion

#14 -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)?

The proposed Project does not include construction of new homes or businesses that would result in a direct increase in population or create a substantial number of jobs. While the proposed Project could result in temporary employment during construction activities, the on-site workforce of a daily maximum of 10 people for construction is negligible over the temporary construction period. The construction workers would come from the existing labor pool within Kern County. As such, the proposed Project would not require construction of housing to accommodate workers, since they would commute to the sites. Once construction activities are complete, the proposed Project would not otherwise directly induce population growth. No impact would occur.

The proposed Project would not remove an obstacle to growth, such as constraint on a required public service, such as roads, water supply or wastewater treatment capacity. The Project would not increase the amount of water pumped to the District; it would allow for more flexibility to recover banked water to the District partners during dry years. Therefore, the proposed Project would not indirectly induce population growth. There would be **no impact**.

#14 -b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

The Project Areas are located in a predominately agricultural area with sparse residential properties in the vicinity. No residences would be condemned or displaced by the proposed Project. Therefore, the proposed Project would not displace people or housing necessitating the construction of replacement housing elsewhere. There would be **no impact**.

3.15 Public Services

XV. #15. PUBLIC SERVICES. Would the Project:

Criteria	Have Potentially Significant Impact?	Have Less-than-Significant Impact with Mitigation Incorporated?	Have Less-than-Significant Impact?	Have No Impact?	Have Beneficial Impact?
kk) #15 -a. Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the 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:	No.	No.	No.	Yes.	No.
Fire protection?	No.	No.	No.	Yes.	No.
Police protection?	No.	No.	No.	Yes.	No.
Schools?	No.	No.	No.	Yes.	No.
Parks?	No.	No.	No.	Yes.	No.
Other public facilities?	No.	No.	No.	Yes.	No.

Environmental Setting

Fire Services

The KCFD provides fire protection to residents of the unincorporated areas of Kern County, and the cities of Arvin, Delano, Maricopa, McFarland, Ridgecrest, Shafter, Tehachapi and Wasco (KCFD 2023). A mutual agreement between the County and the cities of Bakersfield, Taft, and California City allows for protection and assistance in the jurisdiction of each as needed. Kern County Fire Department participates in the State Master Mutual Aid System and has operating agreements with the USDA Forest Service Sequoia and Los Padres National Forests, the Bakersfield and Cal Desert Districts of the Bureau of Land Management, California Department of Forestry and Fire Protection, and the USFWS. The cooperation of these agencies encompasses the fire protection delivery system in Kern County (KCFD 2022).

Police Services

The Kern County Sheriff Office (KCSO) and CHP provide law enforcement services for unincorporated Kern County (KCSO 2023). The Shafter Police Department has jurisdiction within the city of Shafter limits (City of Shafter 2005).

Schools

The Project Areas are served by various school districts including but not limited to Bakersfield City School District, Greenfield Union School District, McFarland Unified School District, and

Wasco Union Elementary School District, along with private schools not associated with a district (BCSD 2023, GUSD 2023, MUSD 2023, WUESD 2023).

Parks

Parks located in Kern County are operated and managed by the County's Parks and Recreation Department, while parks located in the city of Shafter are operated and managed by the City of Shafter's Recreation and Park District (Kern County 2023, City of Shafter 2023).

Discussion

#15 -a. Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the 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:

The proposed Project would not change existing demand for public services described above because the proposed Project would not result in a permanent increase of employees or population to the Project Areas. The proposed Project would not substantially increase the need for new public services' staff or new facilities as compared to existing conditions. There would be **no impact**.

3.16 Recreation

XVI. #16. RECREATION. Would the Project:

Criteria	Have Potentially Significant Impact?	Have Less-than-Significant Impact with Mitigation Incorporated?	Have Less-than-Significant Impact?	Have No Impact?	Have Beneficial Impact?
ll) #16 -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?	No.	No.	No.	Yes.	No.
mm) #16 -b. Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	No.	No.	No.	Yes.	No.

Environmental Setting

The nearest recreational areas to Project Area 1 are approximately 5 miles away and include Hudson Park, Veterans Park, and Rodriguez Park in the city of Shafter. Project Area 2 is located approximately 3 miles from the nearest recreational areas, including Westside Park, Cormack Park, and Wasco Barker Park in Wasco (Kern County GIS 2023).

Discussion

#16-a and b. 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 or include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?

The proposed Project would not directly or indirectly induce population growth (*see* Chapter 3.14, "Population and Housing") and as such would not introduce new residents to Project Areas. Therefore, the proposed Project would not increase the use of existing recreational facilities described above and would result in the physical deterioration of recreational facilities.

Furthermore, implementation of the proposed Project would not require recreational facilities to serve the proposed Project (*see* Chapter 3.15, "Public Services"). Therefore, the proposed Project would not result in an adverse physical effect on the environment from the construction or expansion of additional recreational facilities. No impacts to recreational facilities or from the construction of recreational facilities would occur. There would be **no impact**.

3.17 Transportation

XVII. #17. TRANSPORTATION. Would the Project:

Criteria	Have Potentially Significant Impact?	Have Less-than-Significant Impact with Mitigation Incorporated?	Have Less-than-Significant Impact?	Have No Impact?	Have Beneficial Impact?
nn) #17 -a. Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	No.	No.	No.	Yes.	No.
oo) #17 -b. Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?	No.	No.	No.	Yes.	No.
pp) #17 -c. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	No.	No.	No.	Yes.	No.
qq) #17 -d. Result in inadequate emergency access?	No.	No.	No.	Yes.	No.

Environmental Setting

The proposed Project Areas are located in rural, unincorporated Kern County and the city of Shafter. The Project Areas can be accessed via SR 99. The Project Areas do not contain any bicycle/pedestrian facilities or transit routes (Kern Council 2018, Kern Transit 2023). Within Project Area 2, there are two proposed well sites and 0.5 mile of pipeline that would parallel SR 46 for approximately 0.5 mile. SR 46 is a main arterial roadway with wide shoulders on both sides of the road and is part of the Kern Public Transit Route.

Discussion

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

Direct impacts to the local circulation system would occur due to the temporary addition of Project-related vehicles to local roadways over the construction period. Implementation of the Proposed Project could temporarily increase the number of vehicles on local roadways and dirt roads due to the transport and delivery of construction equipment and daily worker commute trips. All equipment and materials would be transported to the site on public highways and local dirt roads, using standard transport vehicles. The construction equipment would be offloaded at staging areas (*refer to* **Figure 2-2** and **Figure 2-3**), and then mobilized to each localized Project site. Construction staging areas in both Project Areas are not located along or near roadways and any construction activities along roadways would not interfere with traffic or transit routes within the Project Areas.

The delivery of construction vehicles and equipment to the Project Areas is only expected to occur when the equipment is delivered to/from the site (two one-way trips for all equipment). The majority of traffic impacts would occur from the daily arrival and departure of workers, which would be an average of 10 roundtrips per day over the course of construction. The addition of an average of 10 worker round trips (20 one-way trips) along local roadways would not substantially affect the circulation capacity. No traffic control would be required for proposed Project implementation. All worker parking would be accommodated at the staging areas on-site. Project-generated traffic would be nominal and temporary, and therefore, would not result in any long-term degradation in operating conditions on local roadways used for the proposed Project.

Additionally, the proposed Project would not conflict with adopted policies, plans, or programs related to public transit or alternative modes of transportation because the Project Areas do not contain these types of facilities. The local circulation system, transit, roadway, bicycle, and pedestrian facilities would not be affected by the proposed Project. There would be **no impact**.

#17 -b. Would the Project conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?

"Vehicle miles traveled" refers to the amount and distance of automobile travel attributed to a project. A maximum of 10 workers would be required during various construction activities. These trips would be temporary over the construction period and would not result in any perceivable increase in vehicle miles traveled that would exceed a City or County threshold of significance. There are no new permanent vehicle trips associated with the proposed Project. As a result, the proposed Project would be consistent with CEQA Guidelines Section 15064.3 subdivision (b), and **no impact** would occur.

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

The proposed Project would be implemented entirely within Project Areas 1 and 2. The proposed Project does not include the construction or design of any roadway infrastructure that would cause a safety risk to vehicle operations. The proposed Project would not adversely alter the physical configuration of the existing roadway network serving the Project vicinity and would not introduce unsafe design features associated with large equipment transport. Additionally, the proposed Project would not introduce uses (types of vehicles) that are incompatible with existing uses already served by the area's road system. There would be **no impact**.

#17 -d. Result in inadequate emergency access?

Refer to Chapter 3.9, "Hazards and Hazardous Materials", above. The proposed Project would temporarily add vehicles to the local roadway and circulation system. However, no lane or road closures would be required. All Project-related activities would occur onsite within the Project Areas and would not interfere with emergency response access. There would be **no impact**.

3.18 Tribal Cultural Resources

XVIII. #18. TRIBAL CULTURAL RESOURCES. Would the Project cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC 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:

Criteria	Have Potentially Significant Impact?	Have Less-than-Significant Impact with Mitigation Incorporated?	Have Less-than-Significant Impact?	Have No Impact?	Have Beneficial Impact?
rr) #18 -a. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in PRC Section 5020.1(k), or	No.	No.	No.	Yes.	No.
ss) #18 -b. 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©) of PRC Section 5024.1. In applying the criteria set forth in subdivis© (c) of PRC Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	No.	No.	No.	Yes.	No.

Environmental Setting

The NAHC maintains a confidential Sacred Lands File (SLF) which contains sites of traditional, cultural, or religious value to the Native American community. On January 24, 2023, a request for a SLF search was sent to the NAHC. To date, the NAHC has not responded. Under CEQA, the lead agency shall determine if consultation with Native American Tribes is necessary, and coordinate consultation efforts. The District has not received any notice from California Native American tribes requesting consultation on projects per AB 52 (PRC Section 21080.3.1), therefore, no letters requesting consultation could be sent.

Discussion

#18 -a and b) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC 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 listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in PRC Section 5020.1(k)? 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 PRC Section 5024.1. In applying the criteria set forth in subdivision (c) of PRC Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

There are no known tribal cultural resources located within or adjacent to the Project Areas. Additionally, there are no known Indian Sacred Sites in the Project vicinity. Since there are no known Indian Sacred Sites that have been identified within the Project Areas, there would be no direct, indirect, or cumulative impacts to Indian Sacred Sites due to proposed Project implementation. The proposed Project would not have the potential to affect or prohibit access to any ceremonial use of Indian Sacred Sites. There would be **no impact**.

3.19 Utilities and Service Systems

XIX. #19. UTILITIES AND SERVICE SYSTEMS. Would the Project:

Criteria	Have Potentially Significant Impact?	Have Less-than-Significant Impact with Mitigation Incorporated?	Have Less-than-Significant Impact?	Have No Impact?	Have Beneficial Impact?
tt) #19 -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?	No.	No.	No.	Yes.	No.
uu) #19 -b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?	No.	No.	No.	Yes.	No.
vv) #19 -c. Result in a determination by the wastewater treatment provider that 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.	No.	No.	Yes.	No.
ww)#19 -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?	No.	No.	Yes.	No.	No.
xx) #19 -e. Comply with State, State, and local management and reduction statutes and regulations related to solid waste?	No.	No.	Yes.	No.	No.

Environmental Setting

Water

Domestic water is serviced to the Project Areas by various water purveyors consisting of public and private water systems.

Wastewater

Sewage disposal within the Project Areas is managed by both public and private agencies, and by private individual systems. Several incorporated and unincorporated communities receive wastewater disposal services from community service districts. The closest wastewater treatment plants to Project Areas 1 and 2 are the Shafter Wastewater Treatment Plant and Wasco Wastewater Treatment Plant, respectively.

Energy and Natural Gas

The Project Areas and vicinity are provided with electricity services from PG&E, Southern California Edison, and Southern California Gas (Kern County 2004).

Solid Waste

The Kern County Public Works Department currently owns and operates seven recycling and sanitary landfills, six transfer stations, and one bin site, of which the closest landfill is the Shafter-Wasco Landfill located in the city of Shafter (KCPW 2023).

Discussion

#19 -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?

The proposed Project may require a limited use of water during construction activities for dust suppression purposes. New water facilities or expansion of existing facilities would not be required to support this nominal use. No water or wastewater treatment facilities would be installed as part of the proposed Project. Implementation of the proposed Project would not require significant amounts of new electric power or natural gas (*see* Chapter 3.6, "Energy", above for more details), and would not require the use of any telecommunications facilities. As stated above in Chapter 3.10, "Hydrology and Water Quality", the proposed Project would not substantially alter the local drainage pattern of the Project Areas. As such, the proposed Project would not require the construction or expansion of new storm water drainage facilities. Therefore, there would be no construction of utility infrastructure associated with the proposed Project. There would be **no impact**.

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

The proposed Project consists of construction of nine wells with connection the FKC to improve return capacity and increase water supply reliability within the region. The proposed Project may require a limited use of water during construction activities for dust suppression purposes. No permanent water supply would be required to serve the proposed Project. There would be **no impact**.

#19 -c. Result in a determination by the wastewater treatment provider that 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?

The proposed Project would result in the generation of wastewater associated with temporary use of portable toilets. During Project implementation, the District or its contractor may have portable toilet facilities available onsite temporarily for use by construction workers. Given the small construction workforce of a maximum of 10 workers onsite daily for the construction period, this

amount of waste would be minimal. Once construction is concluded, such portable facilities would be removed, and the wastewater properly handled and disposed in accordance with all applicable laws and regulations. Therefore, the proposed Project does not require a wastewater treatment provider to serve the Project. There would be **no impact**.

#19 -d and e) 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? Comply with State, and local management and reduction statues and regulations related to solid waste?

Implementation of the proposed Project would result in nominal solid waste, limited to trash and other construction-related materials. Because the proposed Project would not demolish existing facilities on-site, there would be no construction debris to be disposed of or transported. All soil excavated would be stockpiled and stored on-site. As no other debris would be required to be removed from the proposed Project site, no landfills in the vicinity would need to be used. In any case, the Shafter-Wasco Landfill or other local landfills have available capacity, should they need to be used. The proposed Project would result in no impacts related to local infrastructure capacity and would not impair attainment of solid waste reduction goals. For the minor amount of solid waste anticipated to be produced by the proposed Project, the District would be required to comply with all laws and regulations related to the disposal and recycling of waste. Impacts would be **less than significant**.

3.20 Wildfire

XX. #20. WILDFIRE. If located in or near State responsibility areas or lands classified as very high fire hazard severity zones, would the Project:

Criteria	Have Potentially Significant Impact?	Have Less-than-Significant Impact with Mitigation Incorporated?	Have Less-than-Significant Impact?	Have No Impact?	Have Beneficial Impact?
yy) #20 -a. Substantially impair an adopted emergency response plan or emergency evacuation plan?	No.	No.	No.	Yes.	No.
zz) #20 -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?	No.	No.	No.	Yes.	No.
aaa) #20 -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?	No.	No.	No.	Yes.	No.
bbb) #20 -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?	No.	No.	No.	Yes.	No.

Environmental Setting

The Kern County Fire Department provides fire protection for residents of the unincorporated areas of the County and the cities of Arvin, Delano, Maricopa, McFarland, Ridgecrest, Shafter, Tehachapi and Wasco (KCFD 2023). Project Area 1 is located in an incorporated LRA, while Project Area 2 is located in an unincorporated LRA. The Project Areas are unzoned/undesignated and are not located within high fire hazard severity zones (CALFIRE 2007, 2022).

Discussion

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

As discussed in Chapter 3.9, "Hazards and Hazardous Materials", implementation of the proposed Project would not substantially impair an adopted emergency response plan or evacuation plan. Construction activities would not interfere with emergency response access to the Project Areas. **No impact** would occur.

#20 -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?

The Project Areas are not located within a State Responsibility Area very high fire hazard severity zone. Due to the agricultural nature of the Project Areas, there is a lack of dry, vegetative fuels that could easily catch fire. Additionally, the Project Areas are composed of generally flat lands and do not contain significant slopes, which contribute to more severe wildfire conditions. Due to these Project Area characteristics, it is very unlikely that a wildfire would occur within the Project Areas. Additionally, operation of the proposed wells, pipelines and discharge outfalls are not uses that would typically exacerbate wildfire conditions with an area. Further, the operation of the proposed facilities would not require permanent workers or occupants within the Project Areas, who could be exposed to pollutant concentrations from a wildfire. As a result, **no impact** would occur.

#20 -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?

The proposed Project includes the construction and operation of return wells, pipelines, and discharge outfalls. Implementation of the proposed Project would not require the installation or maintenance of roads, fuel breaks, emergency water sources, power lines or other utilities that may exacerbate wildfire risk. Once operational, the proposed Project would largely resemble the existing conditions for wildfire. As such, implementation of the proposed Project would not exacerbate fire risk and **no impact** would occur.

#20 -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?

Due to the flat topography, the Project Areas are not prone to landslides as discussed further in Chapter 3.7, “Geology and Soils”. Further, as discussed in Chapter 3.10, “Hydrology and Water Quality”, the Project Areas would not result in increased drainage or runoff that could contribute to flooding impacts. In the event of an unexpected wildfire, the flat topographic characteristic of the Project Areas would not put structures or people at risk to post-fire landslide, slope instability, or flooding. **No impacts** to structures or people due to post-fire slope or drainage changes would occur.

3.21 Mandatory Findings of Significance

XXI. #21. MANDATORY FINDINGS OF SIGNIFICANCE. Would the Project:

	Have Potentially Significant Impact?	Have Less-than-Significant Impact with Mitigation Incorporated?	Have Less-than-Significant Impact?	Have No Impact?	Have Beneficial Impact?
ccc) #21 -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 an endangered, rare, or threatened species, or eliminate important examples of the major periods of California history or prehistory?	No.	**Yes.**	No.	No.	No.
ddd) #21 -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)?	No.	**Yes.**	No.	No.	No.
eee) #21 -c. Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	No.	No.	Yes.	No.	No.

Discussion

#21 -a. Would 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 an endangered, rare, or threatened species, or eliminate important examples of the major periods of California history or prehistory?

The analysis conducted in this IS/MND concludes that implementation of the proposed Project would not have a significant impact on the environment. As evaluated in Chapter 3.4, "Biological Resources", impacts on biological resources would be less than significant, or less than significant with mitigation incorporated. With the implementation of mitigation measures, the proposed Project would not 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; or reduce the number or restrict the range of an endangered, rare, or threatened species. Furthermore, as discussed in Chapter 3.5, "Cultural Resources", the proposed Project would not eliminate important examples of the major periods of California history or prehistory with the implementation of mitigation measures. This impact would be **less than significant with mitigation incorporated**.

#21 -b. Would 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.)

A cumulative impact could occur if the proposed Project would result in an incrementally considerable contribution to a significant cumulative impact in consideration of past, present, and reasonably foreseeable future projects for each resource area. Due to similar construction and operational requirements within the same geographic scope of the Project vicinity; past, present, and future cumulative projects, were identified (**Table 3-6**), are expected to result in similar impacts as the proposed Project.

Table 3-6. Past, Present, And Future Cumulative Projects

No.	Name	Project Status
1	Friant-Kern Canal TCP Mitigation Replacement Pump-in Well Project	Active
2	2018 Regional Drought Resiliency Project (DRP)	Active
3	2020 Regional DRP	Active
4	2022 Return Capacity Improvements for DRP	Future Project
5	Landowner Groundwater Recharge and Banking Project	Active
6	Future Groundwater Banking Partnership Wells	Future Project

Past projects have included mitigation measures to reduce potentially significant impacts to less than significant levels, including measures to address impacts to water quality and quantity, geology, biological, cultural, and paleontological resources. Future projects are also likely to require similar mitigation measures to reduce impacts to less than significant levels.

As discussed in this IS/MND, the proposed Project would result in less-than-significant impacts or no impacts to aesthetics, air quality, GHG emissions, hazards and hazardous materials, land use and planning, mineral resources, noise, population and housing, public services, recreation, transportation, tribal cultural resources, utilities and service systems, and wildfire. The temporary nature of the proposed Project's construction impacts, and the minor, negligible changes to long-term operations and maintenance within the Project Areas would result in no impacts or less-than-significant environmental impacts on the physical environment. No direct significant impacts were identified for the proposed Project that could not be mitigated to a less than significant level.

None of the proposed Project's impacts make cumulatively considerable, incremental contributions to cumulative impacts. This impact would be **less than significant with mitigation incorporated**.

#21 -c. Would the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?

The proposed Project would not result in substantial adverse effects, either direct or indirect, on human beings. As described in Chapter 3.3, "Air Quality", air emissions associated with the proposed Project would not result in adverse health effects to sensitive receptors. Further, as described in Chapter 3.13, "Noise", construction noise and/or vibration also would not result in adverse effects to sensitive receptors. Impacts to human beings would be **less than significant**.

4.0 References

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No citations.

Chapter 2.0, Project Description

No citations.

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Chapter 3.21, Mandatory Findings of Significance

No citations.

5.0 Report Preparers

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Jesse Martinez, RPA .....Cultural Resources and Tribal Cultural Resources

Ryan Snyder.....Geographic Information Systems

Gigi Gable.....Report Editing

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Appendix A – Biological Database Information

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CNPS Rare Plant Inventory

California Native Plant Society

Search Results

27 matches found. Click on scientific name for details

Search Criteria: Quad is one of [**3511953:3511952:3511954:3511964:3511943:3511942:3511941:3511951:3511963:3511962:3511932:3511973**]

▲ SCIENTIFIC NAME	COMMON NAME	FAMILY	BLOOMING PERIOD	FED LIST	STATE LIST	CA RARE PLANT RANK
Allium howellii var. *howellii*	Howell's onion	Alliaceae	Mar-Apr	None	None	4.3
Astragalus hornii var. *hornii*	Horn's milk-vetch	Fabaceae	May-Oct	None	None	1B.1
Atriplex cordulata var. *erecticaulis*	Earlimart orache	Chenopodiaceae	Aug-Sep(Nov)	None	None	1B.2
Atriplex coronata var. *coronata*	crownscale	Chenopodiaceae	Mar-Oct	None	None	4.2
Atriplex coronata var. *vallicola*	Lost Hills crownscale	Chenopodiaceae	Apr-Sep	None	None	1B.2
Atriplex minuscula	lesser saltscale	Chenopodiaceae	May-Oct	None	None	1B.1
Atriplex subtilis	subtle orache	Chenopodiaceae	(Apr)Jun-Sep(Oct)	None	None	1B.2
Calochortus striatus	alkali mariposa-lily	Liliaceae	Apr-Jun	None	None	1B.2
Caulanthus californicus	California jewelflower	Brassicaceae	Feb-May	FE	CE	1B.1
Chloropyron molle ssp. *hispidum*	hispid salty bird's-beak	Orobanchaceae	Jun-Sep	None	None	1B.1
Cirsium crassicaule	slough thistle	Asteraceae	May-Aug	None	None	1B.1
Delphinium recurvatum	recurved larkspur	Ranunculaceae	Mar-Jun	None	None	1B.2
Eremalche parryi ssp. *kernensis*	Kern mallow	Malvaceae	Jan(Feb)Mar-May	FE	None	1B.2
Eriastrum hooveri	Hoover's eriastrum	Polemoniaceae	Mar-Jul	FD	None	4.2
Eriogonum gossypinum	cottony buckwheat	Polygonaceae	Mar-Sep	None	None	4.2
Eryngium spinosepalum	spiny-sepaled button-celery	Apiaceae	Apr-Jun	None	None	1B.2
Goodmania luteola	golden goodmania	Polygonaceae	Apr-Aug	None	None	4.2
Hordeum intercedens	vernal barley	Poaceae	Mar-Jun	None	None	3.2
Imperata brevifolia	California satintail	Poaceae	Sep-May	None	None	2B.1
Lasthenia chrysantha	alkali-sink goldfields	Asteraceae	Feb-Apr	None	None	1B.1
Lasthenia ferrisiae	Ferris' goldfields	Asteraceae	Feb-May	None	None	4.2
Lasthenia glabrata ssp. *coulteri*	Coulter's goldfields	Asteraceae	Feb-Jun	None	None	1B.1
Layia munzii	Munz's tidy-tips	Asteraceae	Mar-Apr	None	None	1B.2
Monolopia congdonii	San Joaquin woollythreads	Asteraceae	Feb-May	FE	None	1B.2
Opuntia basilaris var. *treleasei*	Bakersfield cactus	Cactaceae	Apr-May	FE	CE	1B.1
Stylocline masonii	Mason's neststraw	Asteraceae	Mar-May	None	None	1B.1
Trichostema ovatum	San Joaquin bluecurls	Lamiaceae	(Apr-Jun)Jul-Oct	None	None	4.2

Showing 1 to 27 of 27 entries

Suggested Citation:

California Native Plant Society, Rare Plant Program. 2023. Rare Plant Inventory (online edition, v9.5). Website https://www.rareplants.cnps.org [accessed 8 August 2023].

Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Wasco (3511953) OR Wasco NW (3511964) OR Wasco SW (3511954) OR Famoso (3511952) OR Rosedale (3511942) OR Delano West (3511973) OR Rio Bravo (3511943) OR Stevens (3511932) OR North of Oildale (3511951) OR Oildale (3511941) OR McFarland (3511962))
 AND Taxonomic Group IS (Ferns OR Gymnosperms OR Monocots OR Dicots OR Lichens OR Bryophytes)

Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Astragalus hornii var. hornii Horn's milk-vetch	PDFAB0F421	None	None	GUT1	S1	1B.1
Atriplex cordulata var. erecticaulis Earlimart orache	PDCHE042V0	None	None	G3T1	S1	1B.2
Atriplex coronata var. vallicola Lost Hills crownscale	PDCHE04371	None	None	G4T3	S3	1B.2
Atriplex minuscula lesser saltscale	PDCHE042M0	None	None	G2	S2	1B.1
Atriplex subtilis subtle orache	PDCHE042T0	None	None	G1	S1	1B.2
Calochortus striatus alkali mariposa-lily	PMLIL0D190	None	None	G3	S2S3	1B.2
Caulanthus californicus California jewelflower	PDBRA31010	Endangered	Endangered	G1	S1	1B.1
Chloropyron molle ssp. hispidum hispid salty bird's-beak	PDSCR0J0D1	None	None	G2T1	S1	1B.1
Cirsium crassicaule slough thistle	PDAST2E0U0	None	None	G1	S1	1B.1
Delphinium recurvatum recurved larkspur	PDRAN0B1J0	None	None	G2?	S2?	1B.2
Eremalche parryi ssp. kernensis Kern mallow	PDMAL0C031	Endangered	None	G3G4T3	S3	1B.2
Eriastrum hooveri Hoover's eriastrum	PDPLM03070	Delisted	None	G3	S3	4.2
Eryngium spinosepalum spiny-sepaled button-celery	PDAPI0Z0Y0	None	None	G2	S2	1B.2
Imperata brevifolia California satintail	PMPOA3D020	None	None	G3	S3	2B.1
Lasthenia chrysantha alkali-sink goldfields	PDAST5L030	None	None	G2	S2	1B.1
Lasthenia glabrata ssp. coulteri Coulter's goldfields	PDAST5L0A1	None	None	G4T2	S2	1B.1
Monolopia congdonii San Joaquin woollythreads	PDASTA8010	Endangered	None	G2	S2	1B.2
Opuntia basilaris var. treleasei Bakersfield cactus	PDCAC0D055	Endangered	Endangered	G5T1	S1	1B.1
Stylocline masonii Mason's neststraw	PDAST8Y080	None	None	G1	S1	1B.1

Record Count: 19

Selected Elements by Common Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Wasco (3511953) OR Wasco NW (3511964) OR Wasco SW (3511954) OR Famoso (3511952) OR Rosedale (3511942) OR Delano West (3511973) OR Rio Bravo (3511943) OR Stevens (3511932) OR North of Oildale (3511951) OR Oildale (3511941) OR McFarland (3511962))
 AND Taxonomic Group IS (Fish OR Amphibians OR Reptiles OR Birds OR Mammals OR Mollusks OR Arachnids OR Crustaceans OR Insects)

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
American badger *Taxidea taxus*	AMAJF04010	None	None	G5	S3	SSC
Bakersfield legless lizard *Anniella grinnelli*	ARACC01050	None	None	G2G3	S2S3	SSC
blunt-nosed leopard lizard *Gambelia sila*	ARACF07010	Endangered	Endangered	G1	S2	FP
Buena Vista Lake ornate shrew *Sorex ornatus relictus*	AMABA01102	Endangered	None	G5T1	S1	SSC
burrowing owl *Athene cunicularia*	ABNSB10010	None	None	G4	S2	SSC
California glossy snake *Arizona elegans occidentalis*	ARADB01017	None	None	G5T2	S2	SSC
California horned lark *Eremophila alpestris actia*	ABPAT02011	None	None	G5T4Q	S4	WL
coast horned lizard *Phrynosoma blainvillii*	ARACF12100	None	None	G4	S4	SSC
Crotch bumble bee *Bombus crotchii*	IIHYM24480	None	Candidate Endangered	G2	S2	
hoary bat *Lasiurus cinereus*	AMACC05032	None	None	G3G4	S4	
Hopping's blister beetle *Lytta hoppingi*	IICOL4C010	None	None	G1G2	S2	
Kern shoulderband *Helminthoglypta callistoderma*	IMGASC2080	None	None	G1	S1	
Le Conte's thrasher *Toxostoma lecontei*	ABPBK06100	None	None	G4	S3	SSC
molestan blister beetle *Lytta molesta*	IICOL4C030	None	None	G2	S2	
Nelson's (=San Joaquin) antelope squirrel *Ammospermophilus nelsoni*	AMAFB04040	None	Threatened	G2G3	S3	
San Joaquin coachwhip *Masticophis flagellum ruddocki*	ARADB21021	None	None	G5T2T3	S3	SSC
San Joaquin kit fox *Vulpes macrotis mutica*	AMAJA03041	Endangered	Threatened	G4T2	S3	

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
San Joaquin pocket mouse *Perognathus inornatus*	AMAFD01060	None	None	G2G3	S2S3	
Swainson's hawk *Buteo swainsoni*	ABNKC19070	None	Threatened	G5	S4	
Tipton kangaroo rat *Dipodomys nitratoides nitratoides*	AMAFD03152	Endangered	Endangered	G3T1T2	S2	
tricolored blackbird *Agelaius tricolor*	ABPBXB0020	None	Threatened	G1G2	S2	SSC
Tulare grasshopper mouse *Onychomys torridus tularensis*	AMAFF06021	None	None	G5T1T2	S1S2	SSC
western mastiff bat *Eumops perotis californicus*	AMACD02011	None	None	G4G5T4	S3S4	SSC
western pond turtle *Emys marmorata*	ARAAD02030	None	None	G3G4	S3	SSC
western spadefoot *Spea hammondii*	AAABF02020	None	None	G2G3	S3S4	SSC
white-tailed kite *Elanus leucurus*	ABNKC06010	None	None	G5	S3S4	FP

Record Count: 26

United States Department of the Interior

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

In Reply Refer To:
Project Code: 2023-0113959
Project Name: Groundwater Banking Partnership Project

August 08, 2023

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

To Whom It May Concern:

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

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

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

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

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

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

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

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

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

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

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

Attachment(s):

- Official Species List

OFFICIAL SPECIES LIST

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

This species list is provided by:

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

PROJECT SUMMARY

Project Code: 2023-0113959
Project Name: Groundwater Banking Partnership Project
Project Type: Pipeline - Onshore - New Constr - Below Ground
Project Description: The project includes construction and operation of nine high-quality wells to increase return capacity and new pipelines and two connections/tie-ins to the Friant-Kern Canal to convey previously banked water.

Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@35.53884395,-119.22751497371097,14z

Counties: Kern County, California

ENDANGERED SPECIES ACT SPECIES

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

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

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

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

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

MAMMALS

NAME	STATUS
Buena Vista Lake Ornate Shrew *Sorex ornatus relictus* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1610	Endangered
Giant Kangaroo Rat *Dipodomys ingens* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6051	Endangered
San Joaquin Kit Fox *Vulpes macrotis mutica* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2873	Endangered
Tipton Kangaroo Rat *Dipodomys nitratoides nitratoides* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7247	Endangered

BIRDS

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

REPTILES

NAME	STATUS
Blunt-nosed Leopard Lizard *Gambelia silus*	Endangered

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/625

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus*	Candidate

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

CRUSTACEANS

NAME	STATUS
Vernal Pool Fairy Shrimp *Branchinecta lynchi*	Threatened

There is **final** critical habitat for this species. Your location does not overlap the critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/498

FLOWERING PLANTS

NAME	STATUS
San Joaquin Wooly-threads *Monolopia (=Lembertia) congdonii*	Endangered

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/3746

CRITICAL HABITATS

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

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

IPAC USER CONTACT INFORMATION

Agency: Private Entity
Name: Anne King
Address: 5901 Priestly Drive, Suite 301
City: Carlsbad
State: CA
Zip: 92008
Email aking@geiconsultants.com
Phone: 6195172753

LEAD AGENCY CONTACT INFORMATION

Lead Agency: Bureau of Reclamation