Initial Study/Proposed Mitigated Negative Declaration

In-District Groundwater Recharge and Recovery Project

Prepared for:

Southern San Joaquin Municipal Utility District

March 2022

Prepared by:

GEI Consultants

Consulting Engineers and Scientists

Initial Study/Proposed Mitigated Negative Declaration

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Prepared for:

Southern San Joaquin Municipal Utility District

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March 2022

Project No. 1902450

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Table of Contents

List of Tables

List of Figures

Appendices

Abbreviations and Acronyms

A	Exclusive Agriculture
AF	acre-feet
AFY	acre-feet per year
APN	Accessor Parcel Number
BMPs	best management practices
CAAQS	California Ambient Air Quality Standards
CalEPA	California Environmental Protection Agency
CAL FIRE	California Department of Forestry and Fire Protection
Caltrans	California Department of Transportation
CalRecycle	California Department of Resources Recycling and Recovery
CARB	California Air Resources Board
CCR	California Code of Regulations
CDMG	California Division of Mines and Geology
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CF	Community Facilities
cfs	cubic feet per second
CGS	California Geological Survey, California Department of Conservation
CO	carbon monoxide
CVP	Central Valley Project
CVRWQCB	Central Valley RWQCB
dB	decibel
District	Southern San Joaquin Municipal Utility District
DOC	California Department of Conservation
DOF	Department of Finance
DTSC	California Department of Toxic Substances Control
DWR	California Department of Water Resources
EIR	Environmental Impact Report
EPA	U.S. Environmental Protection Agency
FOA	Funding Opportunity Announcement

GEI	GEI Consultants, Inc.
GHG	greenhouse gas
GSP	Groundwater Sustainability Plan
H_2S	hydrogen sulfide
IRWM Group	Poso Creek Integrated Regional Water Management Group
IS/MND	Initial Study/proposed Mitigated Negative Declaration
L_{dn}	daynight average sound level
MRZ	Mineral Resource Zone
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NCIC	North Central Information Center
NKWSD	North Kern Water Storage District
NMFS	National Marine Fisheries Service
NRCS	Natural Resource Conservation Service
NO_x	nitrogen oxides
NO_2	nitrogen dioxide
PG&E	Pacific Gas and Electric
PM_{10}	particulate matter less than 10 microns in diameter
$PM_{2.5}$	particulate matter less than 2.5 microns in diameter
PRC	California Public Resource Code
proposed project	Groundwater Recharge and Recovery Project
Reclamation	Bureau of Reclamation
ROW	right-of-way
RWQCB	Regional Water Quality Control Board
SCADA	Supervisory control and data acquisition
SJVAPCD	San Joaquin Valley Air Pollution Control District
SMARA	Surface Mining and Reclamation Act
SO_2	sulfur dioxide
SWPPP	Storm Water Pollution Prevention Plan
SWMP	Storm Water Management Plan
SWRCB	California State Water Resource Control Board
USDA	U.S. Department of Agriculture
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service

Chapter 1. Introduction

The Southern San Joaquin Municipal Utility District (SSJMUD or District) has prepared this Initial Study/proposed Mitigated Negative Declaration (IS/MND) to provide the public, responsible agencies, and trustee agencies with information about the potential environmental effects of the proposed *In District Groundwater Recharge Project* (Project or proposed Project). This Initial Study was prepared pursuant to the requirements of the California Environmental Quality Act (CEQA) of 1970 (as amended) and the State CEQA Guidelines (14 California Code of Regulations 15000 et seq.).

1.1 Purpose of the Initial Study

CEQA requires state and local agencies to consider the environmental impacts of projects they propose to carry out or over which they have discretionary authority before implementing or approving those projects. The Initial Study is a tool used to evaluate a project's effect on the physical environment. The IS considers all phases of a project (planning, implementation, and operation) when evaluating environmental impacts. The IS responses to checklist questions informs the lead agency on the type and severity (significance) of a project's impact, facilitates identification of mitigation measures and design modifications to avoid or lessen those significant impacts, and guides decision on whether to prepare an EIR or a Negative Declaration.

If a project, either individually or cumulatively, is found to have a potentially significant or significant impact, an EIR must be prepared (CEQA Guidelines, CCR Section 15064[a]). If the agency determines impacts would be less than significant, or that mitigation measures would reduce impacts to a less-than-significant level, a Negative Declaration (ND) or MND can be prepared. In the event an EIR is required, the findings would be used to focus the EIR contents.

In order to foster public involvement and informed decision-making, CEQA requires an IS to be circulated for review and comment by interested agencies, stakeholders. Comments on the project's environmental impacts must be considered by a lead agency during the decision to approve or deny the project.

1.2 Summary of Findings

Chapter 3, Environmental Checklist, of this document contains the analysis and discussion of potential environmental impacts of the proposed project. The checklist responses determined the project would result in no impacts on the following issue areas:

- Mineral Resources
- Population and Housing

- Public Services
- Recreation
- Wildfire

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

- Aesthetics
- Agriculture and Forestry Resources
- Air Quality
- Energy
- Greenhouse Gas Emissions
- Land Use and Planning
- Noise
- Recreation
- Transportation
- Utilities and Service Systems

The project would result in less-than-significant impacts *after* mitigation on the following:

- Biological Resources
- Cultural Resources
- Geology and Soils
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Tribal Cultural Resources
- Mandatory Findings of Significance

1.3 Document Organization

This document is divided into five key sections:

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

Chapter 2 Project Description identifies the project location and background, project objectives, project characteristics, construction activities, operations, and discretionary approvals required.

Chapter 3 Environmental Checklist presents an analysis of environmental issues and determines whether project implementation would result in a beneficial impact, 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 issue area.

Chapter 4 References Cited lists the references used to prepare this IS.

Chapter 5 Report Preparers identifies individuals who helped prepare or review this document.

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Chapter 2. Project Description

This chapter describes the project location, background and context, funding, project components and operations, construction activities, and approvals that may be required.

2.1 Project Location

The District is in the Tulare Lake Basin, Kern Subbasin and lies wholly within Kern County, approximately 30 miles northwest of Bakersfield (**Figure 2-1)**. The SSJMUD– City of Delano Recharge Basin and the City of Delano Stormwater and Spreading Basin are located within the City of Delano, approximately 1 mile west of State Route (SR) 99. The Giumarra Recharge Basin is in the unincorporated area of Kern County and borders the Delano city limits; an existing municipal well would serve as a recovery well for the SSJMUD Delano Recharge Basin (**Figure 2-2 and 2-3)**.

2.2 District History and Operations

The District was formed in 1935 to obtain and deliver surface water supplies for agricultural use within its service area. The District is in the CVP's Friant Division and receives water via the FKC under contract with the United States Bureau of Reclamation (Reclamation). Current District CVP contract supplies are detailed in **Table 2-1**.

Table 2-1 Existing District CVP Contract Supplies

Water Supply	Annual Contracted Allocation (Acre-Feet)
CVP – Class 1	97,000
CVP – Class 2	45,000
Total	**142,000**

Source: GEI 2021

Over time, improved wells and CVP facility construction have supported a change from livestock-focused agriculture to irrigated crops within the District. During wet years, the District can receive 100% of the 142,000 AF of allocated water from both CVP contract. The District's contracted supplies exceed the volume of water needed to serve its irrigation demands, which are roughly 110,000 AF. Due to the lack of existing groundwater recharge facilities, during wet years, the District may need to forego taking delivery of approximately 32,000 AF of contract water supply. During dry years, when CVP allocations are reduced, CVP surface water supplies are rarely able to meet irrigation demand, and growers within the District must pump groundwater to adequately irrigate their crops, see **Table 2-2** for historical deliveries from the FKC to the District.

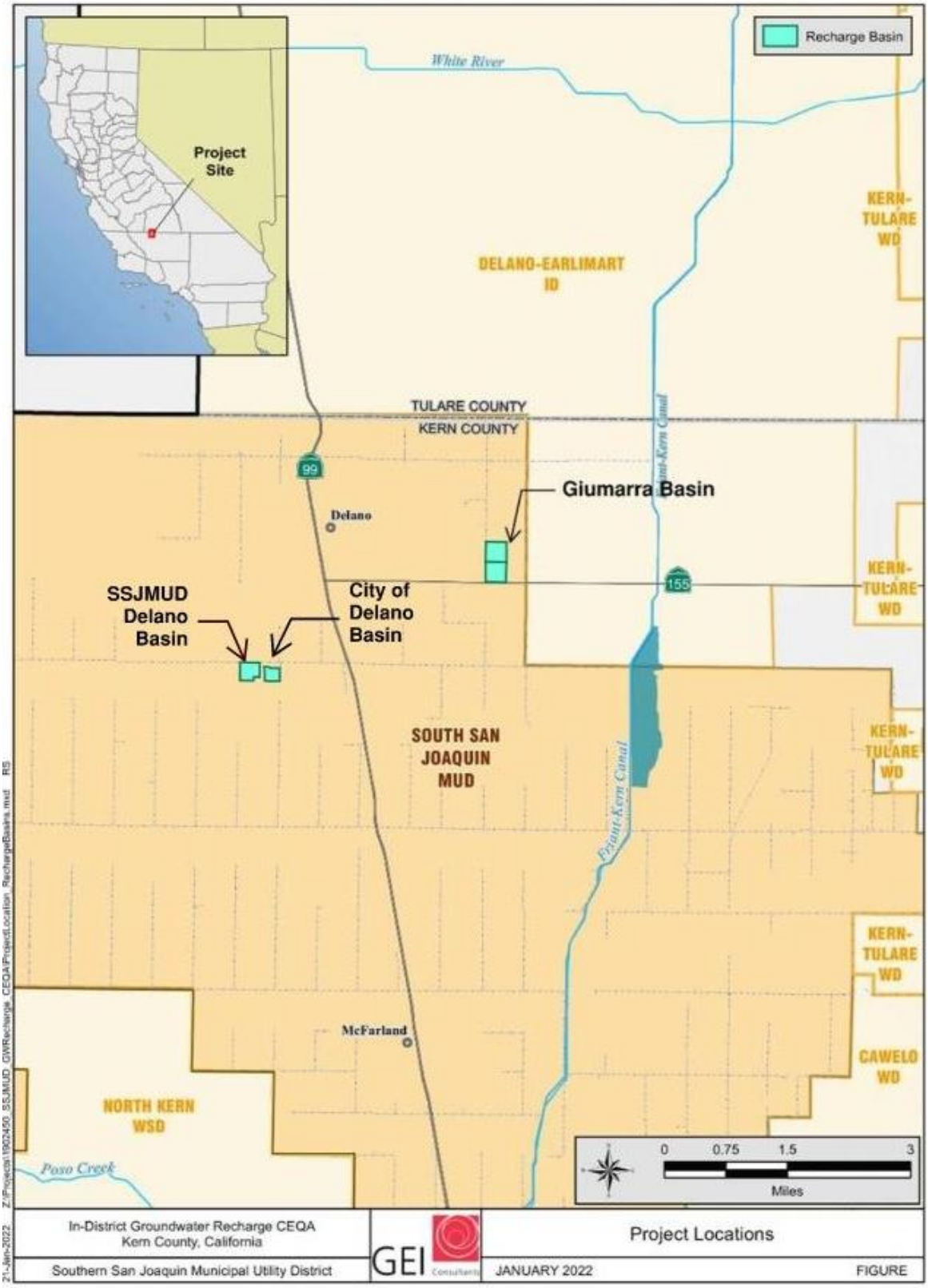

Figure 2-1 Project Location

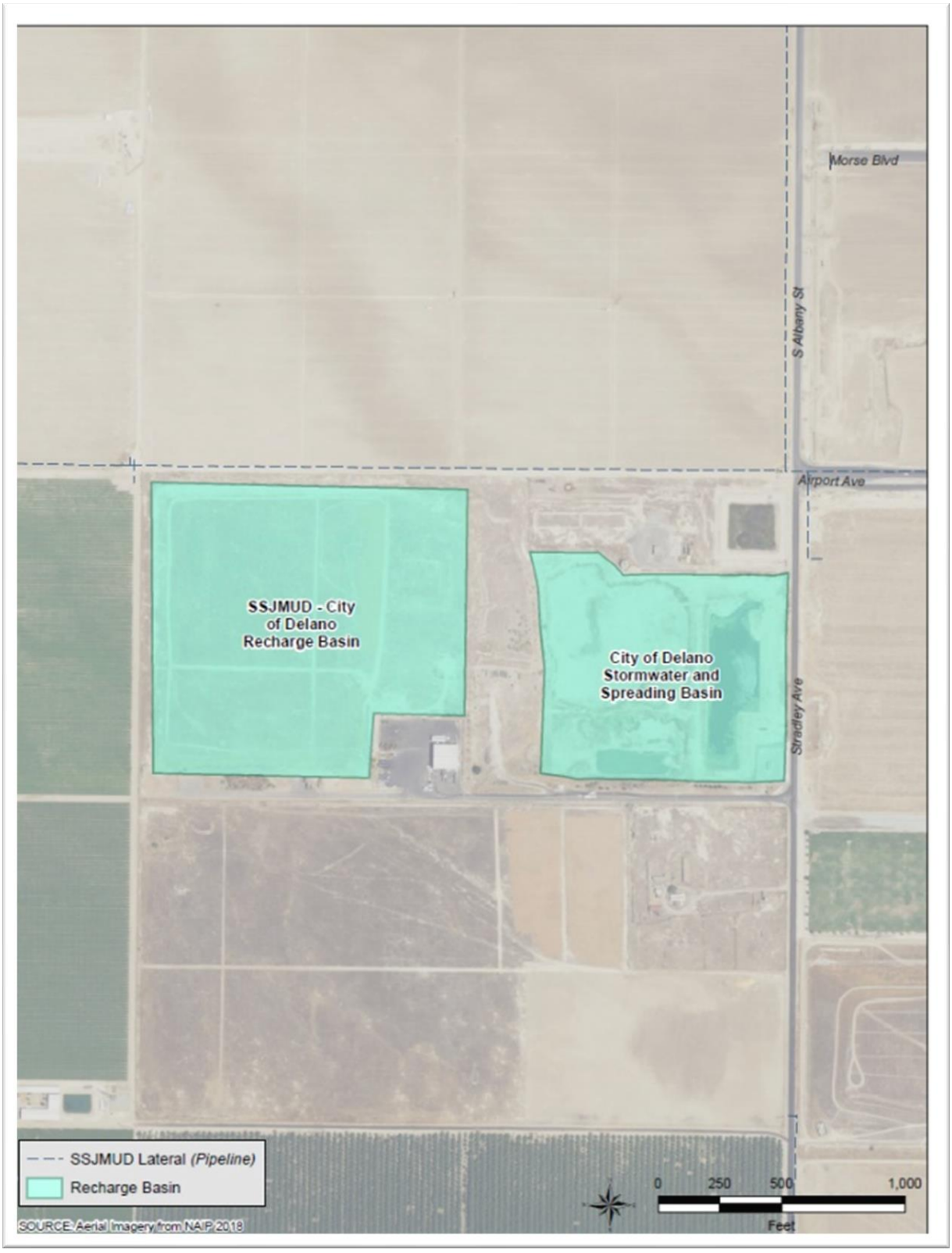

Figure 2-2 SSJMUD and City of Delano Recharge and Stormwater Basin Site

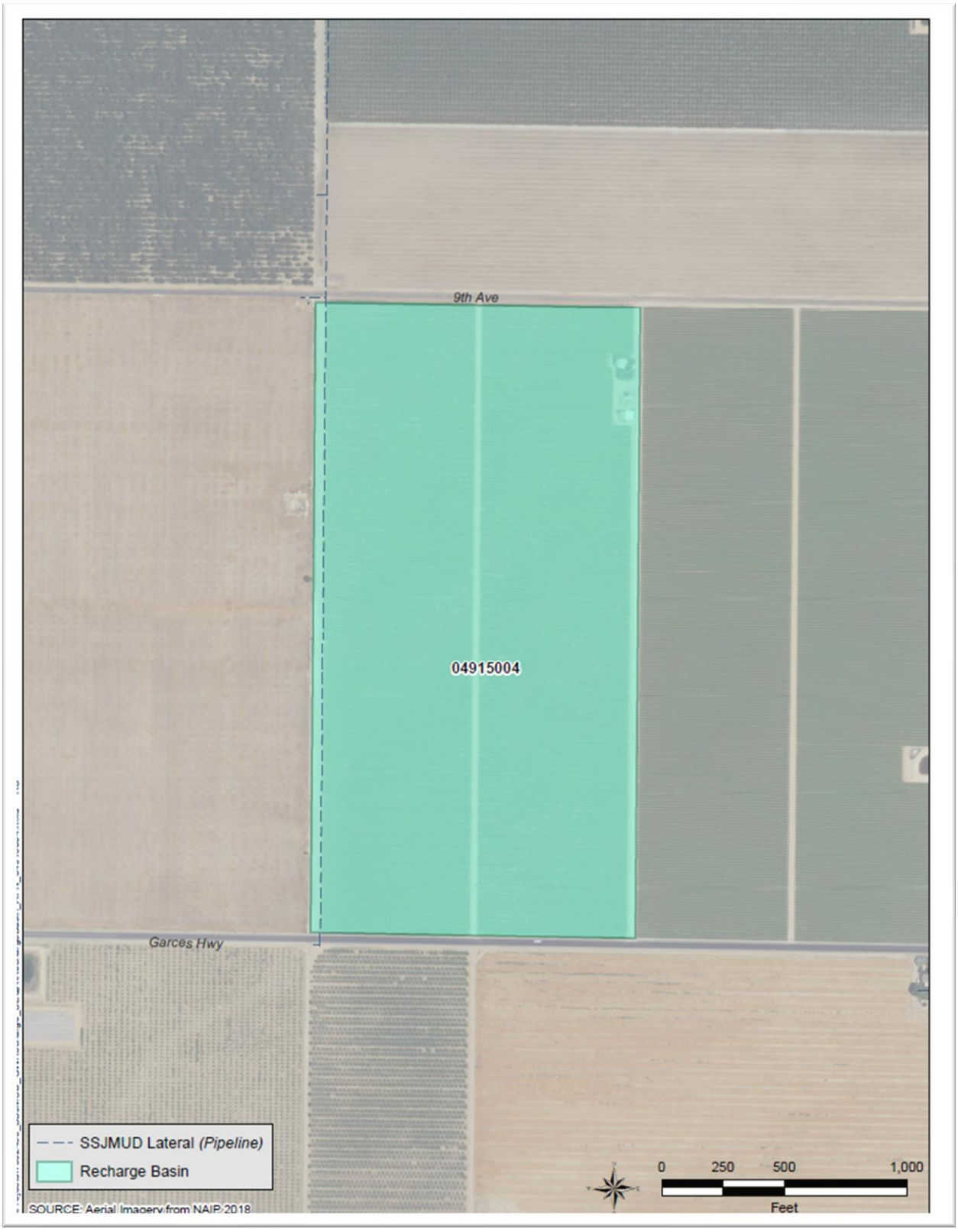

Figure 2-3 Giumarra Recharge Basin Site

Table 2-2 District Surface Water Supplies (AF)

Source	Diversion Restrictions	2013	2014	2015	2016	2017	2018
CVP	Water year type and priority rights	60,953	5,627	3,309	73,206	142,000	57,019

Source: GEI 2021

2.2.1 Groundwater Recharge Activities and Constraints

Severe statewide drought conditions between 2014-2015 reduced surface water supplies. However, between 2016-2017, CVP operations showed a spill within the Friant Division, meaning excess water supplies may have been available to the District. However, without a developed groundwater recharge system, the District was unable to take advantage of the contract water supply in excess of irrigation demand and store the water underground for future use in times of drought. Climate change may reduce surface water supply reliability as a result of more extreme drought and flood cycles. For this reason, it is important that the District make use of underground storage of wet year contract water to prepare and manage for drought years.

While the District is in the process of developing its own groundwater recharge facilities, it currently delivers excess water to NKWSD. Conjunctive use is practiced by the District and neighboring districts to increase resilience during drought years. Persistent shortfalls of CVP allocations and subsequent groundwater pumping have led to decreased groundwater elevations and an increase in the cost of overall surface supplies. The District and other agencies have used existing groundwater recharge facilities in nearby districts to offset these effects. However, NKWSD lacks the infrastructure, capacity, and resources to return stored water to SSJMUD to meet their needed return capacity during peak irrigation season.

Construction of recharge basins to recharge groundwater is the most common technique used in and around Kern County. The Poso Creek Integrated Regional Water Management Group (IRWM Group), of which the District is a part, has identified construction of spreading basins to be the key to recharge groundwater in the local basin. Constructing spreading basins for the project will retire farmlands, which will reduce the water demand within the district so that land that was formerly consuming water will now contribute to recharge. Moreover, sustained banking of water in these basins would provide a favorable habitat for migratory birds.

2.3 Project Summary, Funding, and Water Savings

The project would allow the District flexibility to store excess contract water in low-demand months, or during wet-periods, for use in high-demand months, or during dry months when water availability is limited. The District proposes to construct three recharge basins which would use existing District water conveyance infrastructure to the extent possible and assure a reliable water supply, including the SSJMUD – City of Delano Recharge Basin and the City of Delano

Stormwater and Spreading Basin and Giumarra Spreading Basin (Figure 2-2 and 2-3). The recharge basins would have a combined water saving capacity of 1,296 acre-feet per year (AFY)

The recharge basins would be funded as follows:

- **DWR Proposition 1 IRWM Round 1 Grant (Agreement No. 4600013880)** – State funding for improvements to the SSJMUD – City of Delano Recharge Basin and the City of Delano Stormwater and Spreading Basin. Construction of these basins was covered under previous CEQA documentation by the County. Only recharge operation of the basins is covered in this IS/MND.

- **Reclamation Bay-Delta Restoration Program CALFED Water Use Efficiency Grants (Agreement No. R19AP00259).** The District was awarded this grant for the development of 40 acres of the 78-acre Giumarra Spreading Basin.

2.4 Project Components

The District is proposing to develop capacity within the District's existing service area to recharge up to 10,000 AFY of CVP contracted water delivered via the Friant-Kern Canal. The ability to recharge 10,000 AFY would meet the District's goals identified in the Kern County Subbasin Groundwater Sustainability Plan (GSP) and support the Kern County Subbasin in reaching sustainability by 2040.

No new water supplies would be acquired for recharge. As discussed previously, during dry years CVP surface water supplies are rarely able to meet irrigation demand during the irrigation season. With implementation of the project, contract surface water, when available for recharge, would be absorbed and stored to use during drought years. The implementation of recharge basins would allow for a more reliable water supply and limit growers need to pump groundwater to fulfill irrigation demands.

The Friant-Kern Canal (FKC) runs through the District in a north-south direction. Multiple turnouts and laterals are connected to the canal to supply water throughout the District. Water would flow through the FKC, exit the appropriate turnout to a lateral that conveys and delivers into the proposed spreading basins for temporary storage. For the District - City of Delano spreading basin and City of Delano Stormwater Retention Basin, a nearby existing municipal supply well will serve to recover the banked water by the City of Delano for the benefit of City customers. When the District needs to recover stored water from the Giumarra Recharge Basin, an existing agricultural well rehabilitated and connected to the distribution system to meet demands would be used to recover banked water. However, the existing well shaft would need to be inspected to confirm that it is suitable for recovery. If the well is deemed unsuitable, the existing well would be properly abandoned and a new well would be constructed.

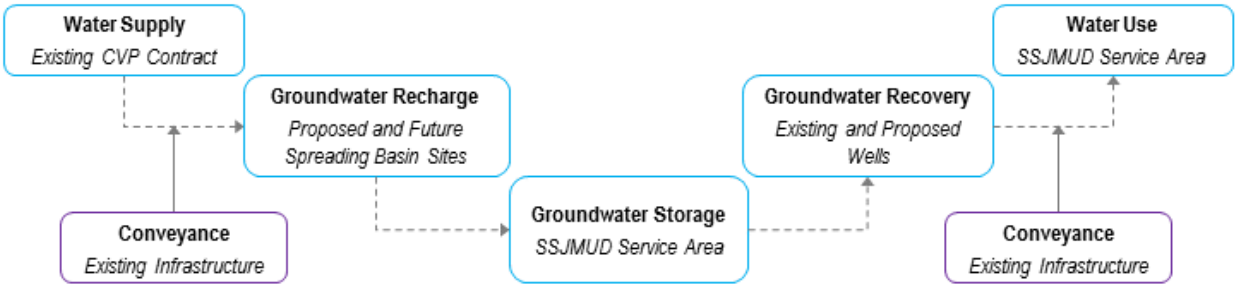

Figure 2-4 In-District Groundwater Recharge and Recovery Elements

The 126-acres of new spreading basins would be connected to the District's existing conveyance system, allowing for delivery using multiple lateral locations from the FKC. Spreading basins are essentially engineered ponds, excavated to shallow depths below the ground surface, that are kept partially full of standing water for sustained periods. By constructing the proposed spreading basins, this Project will improve regional infiltration capacity and provide direct recharge of groundwater supply.

Three sites are proposed for the development of recharge basins:

- The District - City of Delano spreading basin is located at APNs 521-090-35 and 521-090-13 and is approximately 32 acres in size.
- The City of Delano Stormwater Retention Basin is located at APNs 521-090-14 and 521-090-34 and is approximately 16 acres in size.
- The Giumarra Recharge Basin is located at Accessor Parcel Number (APN) 049-150-04 and is approximately 78 acres in size.

SSJMUD Spreading Basin

The District plans to construct a 32-acre spreading basin on vacant land located southwest of the City of Delano, at the intersection of South Albany Street and Woollomes Avenue. The site is adjacent to an existing City of Delano stormwater retention facility that is served by infrastructure which can be leveraged by the District for use in establishing the planned spreading basin. The District is working closely with the City of Delano to reach agreement on a plan outlining the priority use of each facility and the methods to operate the two basins as a coordinated system.

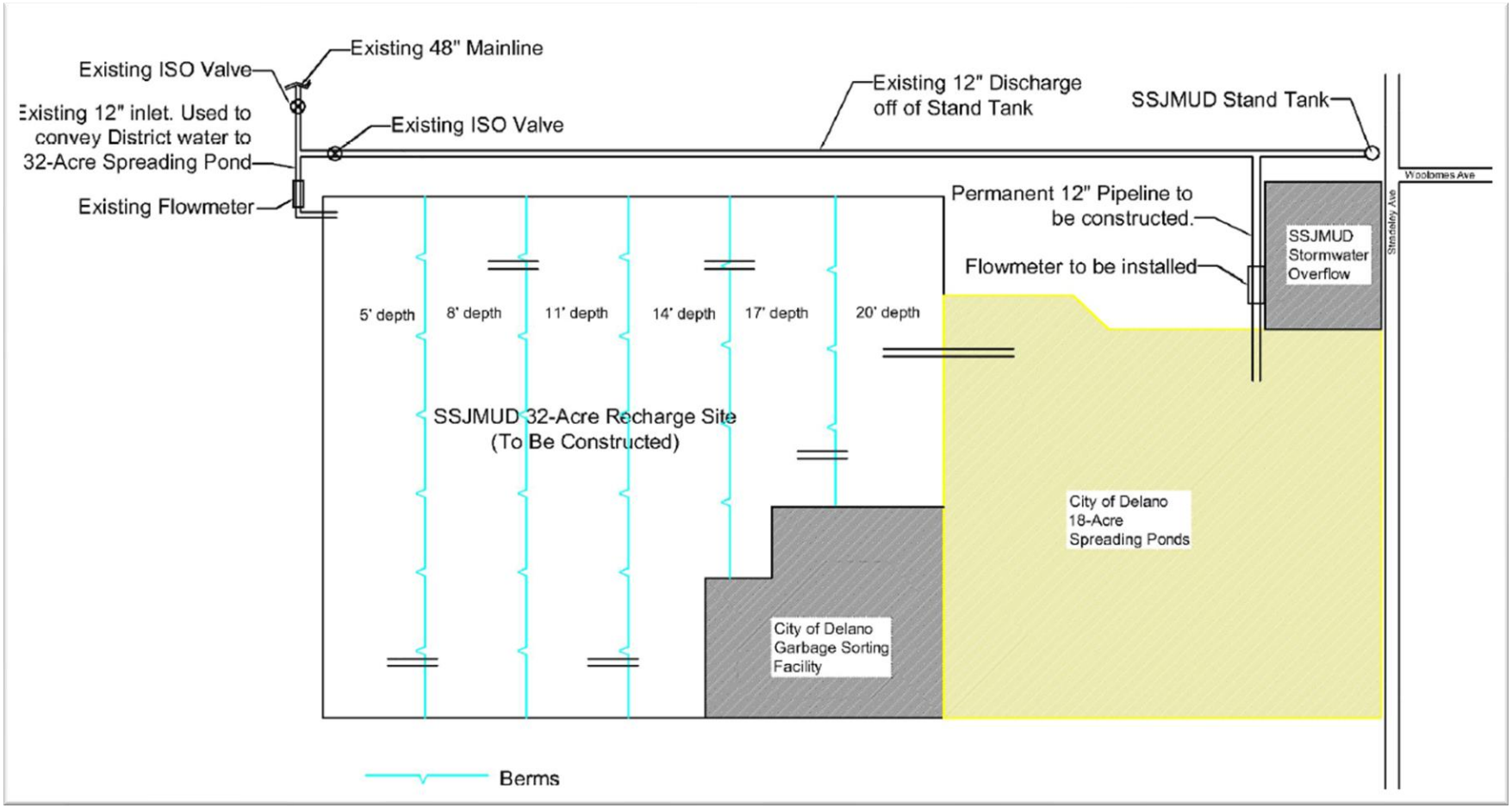

Figure 2-5 Proposed Improvements at SSMUD and City of Delano Spreading Basins

The proposed SSJMUD spreading basin would be constructed to a depth that varies from a low of 5' feet below ground surface on the western boundary sloping to the east where a maximum depth of 20 feet below grade is reached at the eastern boundary (**Figure 2-5**). Soil removed during excavation would be positioned around the perimeter of the spreading pond and compacted to form an 8-foot berm with a side slope of 3:1. The remainder of soil displaced during excavation would be exported to the City of Delano retention basin for use in constructing interior levees designed to control the rate at which stormwater leaves the Delano basin and enters the new District spreading ponds.

Water supplied to the site for groundwater banking would be conveyed by a newly constructed turnout off an existing District owned pipeline running parallel to the property in existing rights of way. Monitoring equipment would be installed at the turnout and basin to measure rate of flow and water level, which would be collected and sent to the District by a Supervisory Control and Data Acquisition (SCADA) for use in evaluating groundwater recharge performance. Recovery of groundwater would rely on an existing municipal supply well that is owned and operated by the City.

City of Delano Spreading Basin

The Project would upgrade the existing Delano stormwater retention basin to create a dual use facility that serve as a groundwater recharge basin during dry periods (**Figure 2-5**). The basin's primary use as a stormwater retention basin would not be affected by these improvements, since water from the District would be delivered during the spring and summer months, when rainfall is minimal, and storage of stormwater is not required.

The existing basin is 16 acres in size and constructed with earthen bottom and bank. Basin depth is a uniform 8 feet. Improvements required to serve as a spreading pond include ripping the bottom to loosen soil and promote infiltration, raising the earthen berm to a height of 8 feet and strengthening the berm by compacting the applied soils and shaping the berm to create a side slope of 3:1. To promote interoperability between the proposed District basin and the upgraded City of Delano spreading pond a pipe would be constructed connecting the two basins allowing for the transfer of stormwater between them. All existing water lines would be removed and replaced with a permanent tee and turnout off the District's existing 12" pipeline to serve the basin. Monitoring devices would be installed to measure rate of flow and water level. This data would be captured by the SCADA system and sent to the City for use in evaluating groundwater recharge performance. Recovery of banked water would take place using an existing municipal well.

Giumarra Spreading Basin

The Giumarra spreading basin is proposed for 78 acres of land located south of 9th Avenue and north of Garces Highway. The project requires excavation of soil to a depth of 5' feet below ground surface with the displaced soil deposited around the perimeter of the spreading basin. The excavated soil would be compacted to form a berm of varying height with a side slope of 4:1. Each berm would be topped with a minimum four-inch base of aggregate. Displaced soil would also be

used to form interior levees within the spreading basin creating six individual ponds (**Figure 2-6**). The ponds would be connected by a series of 24-inch corrugated steel pipes with the pipe inlet and outlet surrounded by rip rap.

A permanent tee and turnout would be constructed off the existing District pipeline located approximately one mile east of the property along Driver Road. A new pipe would extend from the turnout west along the 9th Avenue road right of way to a new inlet constructed at Pond 1. Monitoring devices would be installed to measure rate of flow and water level. This data would be captured by the SCADA system for use in evaluating groundwater recharge performance.

The District plans to use an existing on-site agricultural well for the recovery of banked water. However, inspection of the agricultural well would be required and if it the well is deemed unsuitable for use as recovery well, then the existing agricultural well would be properly abandoned and a new well would be constructed on-site. Well abandonment would follow all procedures outlined by the Kern County Public Health Services Department (Kern County 2006).

If construction of a new well is required, the extraction well would be a large-diameter (18 to 24 inches) steel-cased well with completion intervals between approximately 200 and 900 feet below ground surface (bgs). The well depth could be deeper depending on water quality and expected aquifer yield. The recovery well would be located at the midpoint along the northern Giumarra property boundary. The wellhead would consist of riser pipe, discharge pipe, wellhead motor, pumps, and other appurtenances. The wellhead would be protected by a lockable, roofed, metal-mesh pump house that is approximately 12 feet in height and constructed on square concrete pads. Typical wellhead facilities are shown in **Figure 2-7.** The new well would be designed to pump groundwater at a recovery rate of approximately 5 to 6 cubic feet per second (cfs). Actual recovery rates may be slightly more or less based on aquifer conditions.

A six-foot, galvanized steel chain fence topped with razor wire would surround the spreading basin. Access to the facility would be taken from a double drive gate located off Garces Highway. Access to the interior of each pond is provided by two, 25-foot wide access ramps

2.5 Project Construction

Construction of the proposed recharge facilities would include the following phases: site clearing and demolition; excavation and stockpiling; construction of earthen berm levees and basins, conveyance pipelines; and site restoration. The site clearing and demolition phase would include demolition of existing irrigation piping systems as necessary. Recharge basins would be constructed by excavating and contouring each site to reach the desired depth below ground surface and placing excavated soil around the basin to form a compacted berm approximately eight feet in height.

2.5.1 Equipment and Work Crews

Up to 20 construction personnel at a proposed recharge basin would be actively working at any one time to construct improvements. The number of personnel working at a site would vary depending on the type of activity and would increase during times when trucks arrive at the site to drop off material or haul debris from the active construction zone.

The amount and types of equipment a contractor would use to construct an individual recharge basin for the Project is provided in **Table 2-3**.

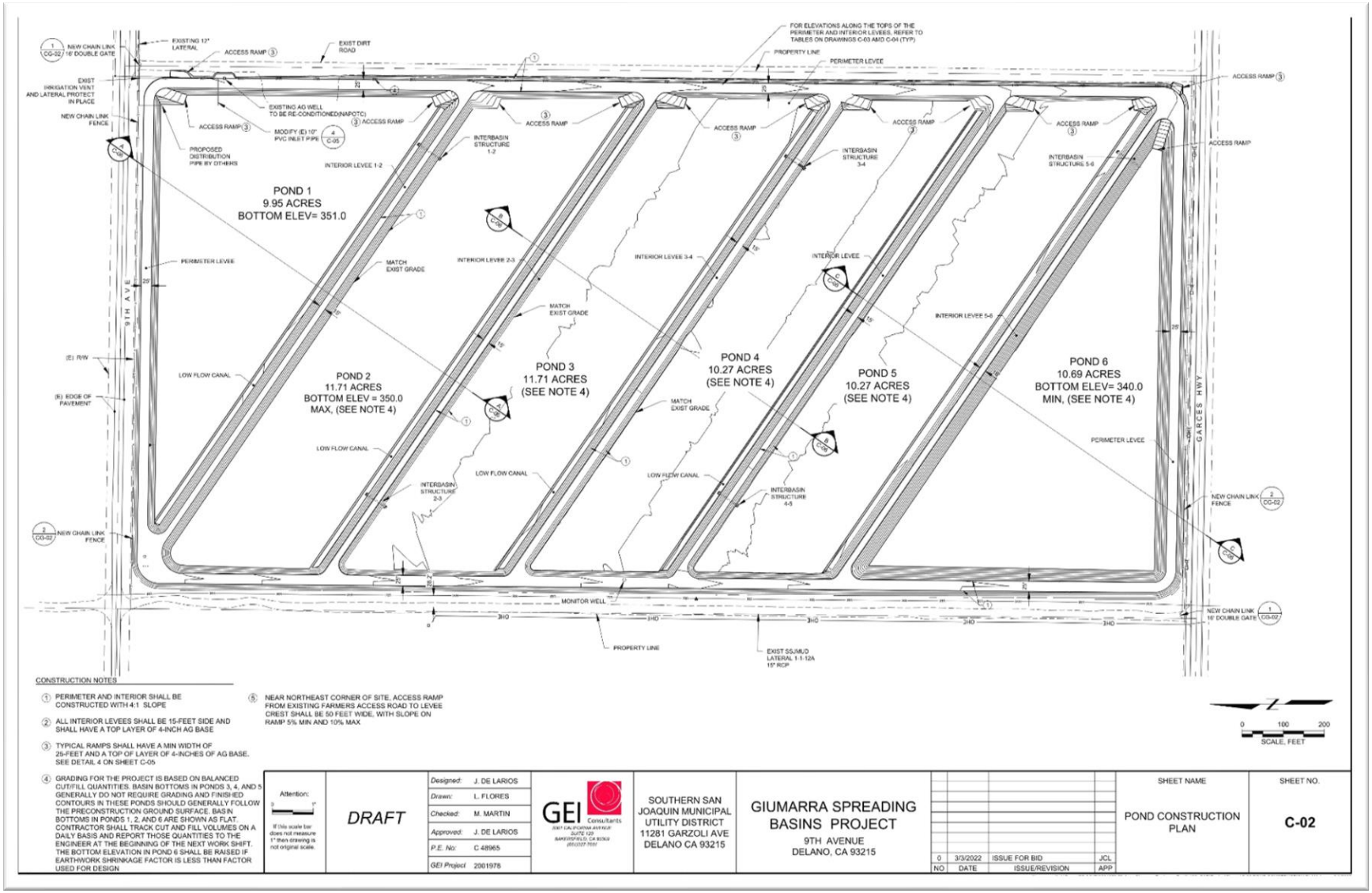

Figure 2-6 Preliminary Design Giumarra Recharge Basin

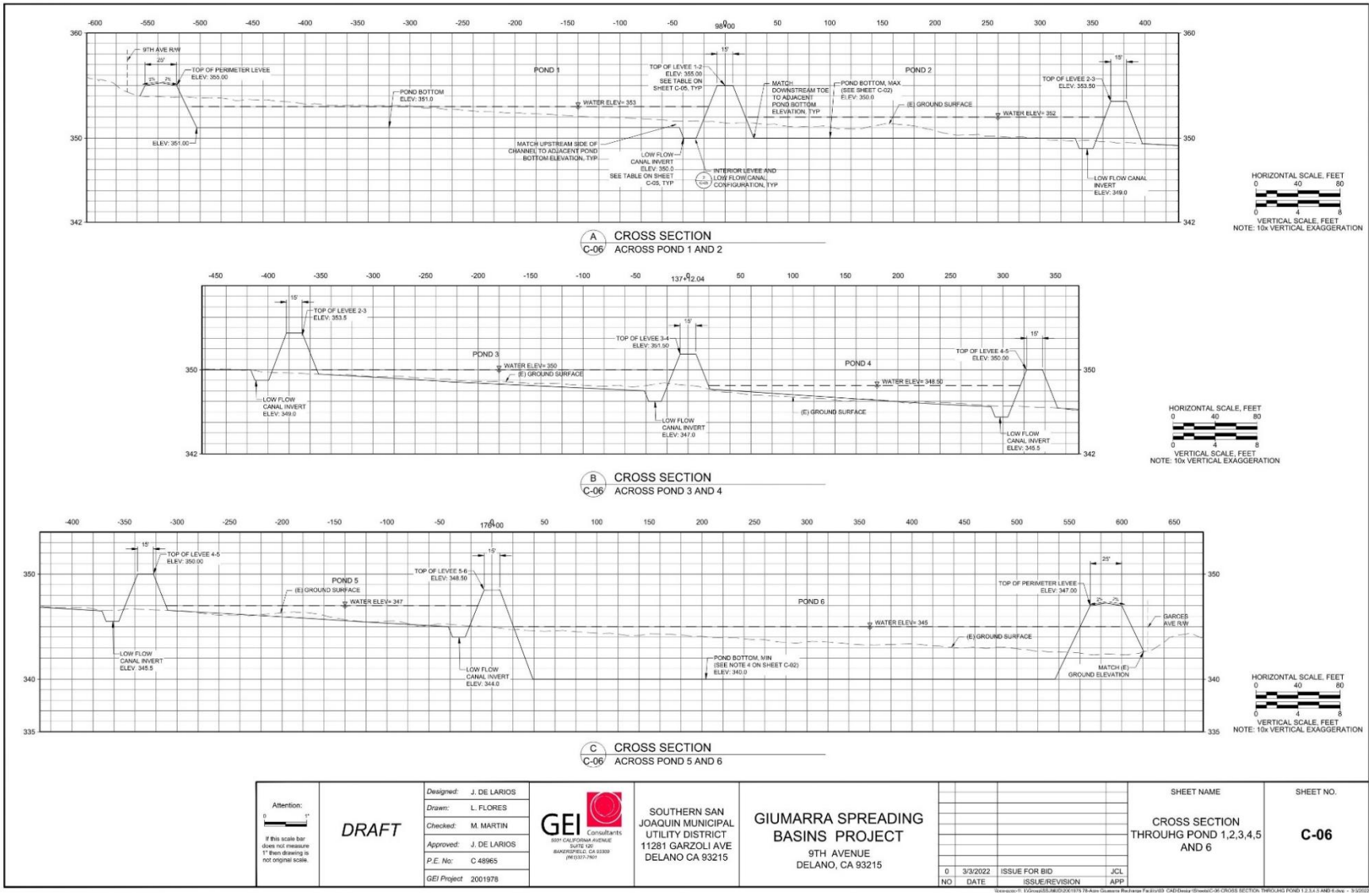

Figure 2-7 Cross Sections of Giumarra Basin

Figure 2-8 Typical Recovery Well

Table 2-3 Typical Construction Equipment

Equipment Type	Number of Units	Estimated Duration of Use (workdays)
Excavator 268 hp	1	10
Excavator 168 hp	1	30
Dozer 140 hp	2	15
Grader 185 hp	2	10
Scraper 500 hp	4	15
Tractor/Skip Loader	1	40
Dump Truck (12 yards)	2	10
Water Truck (4,000 gal)	2	40
Compactor	2	15

Source: GEI Consultants, 2022

2.5.2 Construction Schedule

Construction activities at each recharge basin would occur over the course of 60 workdays where no recovery well is needed and up to 205 workdays if a well is needed. Construction of the project would start in summer of 2022 at the Giumarra Basin. Each of the three individual recharge basins would be constructed independently as the district allocates funds to construct and completes the bidding and procurement for the improvements planned. Construction activity would occur between the hours of 8 a.m. and 6 p.m., Monday through Friday, and 8 a.m. and 3 p.m. on weekends.

2.5.3 Land Disturbance

Project related construction (all three basins) would directly disturb a total of 126 acres of land. Upon completion of the construction activity all rubbish, excess materials, temporary structures, and equipment would be removed, the construction zone restored to match native grade then seeded or otherwise protected to control erosion.

2.6 Operations and Maintenance

Following construction activities, the District would assume responsibility for operation and maintenance of the recharge basins. Water from the District would be delivered for recharge during the spring and summer months, and most of the precipitation in the region occurs during the fall and winter months. The timing for available water supplies to store allows for the recharge basins to capture stormwater runoff in addition to the water imported from the CVP through the District.

When the City of Delano is not utilizing their spreading basin, the capacity in the Project is available for surrounding entities such as SSJMUD though a Priority of Use (POU) agreement.

The POU agreement will define the conditions under which the District or other entities will have access to the spreading basin for groundwater recharge activities and ensure the City will continue to have first right to use the facility for urban stormwater collection or for groundwater recharge which direct benefits the City. Recovery of the banked water would be conducted through use of an existing well serving municipal uses in the City of Delano. Extraction for the proposed project would be limited to the amount previously recharged less losses.

Maintenance involves periodic earthwork to maintain levees, enhance soil permeability, and remove vegetative growth. Recharge basins would be subject to periodic disking or scraping to remove the top layer (e.g., one inch) of sediment, approximately once every three years. The accumulated sediment would be applied to the surroundings and does not require off-site soil removal or disposal. Earthwork equipment could include graders, loaders, and tractors (110- HP light motor). Weed and pest control would be conducted as necessary, utilizing products approved for aquatic use to protect and preserve groundwater quality.

2.7 Regulatory Requirements, Permits, and Approvals

As the CEQA lead agency, 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 permitting agencies that may have permitting approval or review authority over portions of the proposed project are listed below:

- **U.S. Army Corps of Engineers (USACE).** Permit to discharge dredged or fill material into waters of the U.S. (U.S. Clean Water Act Section 404).
- **U.S. Department of the Interior, Bureau of Reclamation.** Approval of grant funding.
- **California Department of Water Resources.** Approval of grant funding.

Chapter 3. Environmental Checklist

Project Information

1. Project title:	In-District Groundwater Recharge and Recovery Project
2. Lead agency name and address:	Southern San Joaquin Municipal Utility District 11281 Garzoli Avenue Delano, CA 93215
3. Contact person and phone number:	Roland Gross, General Manager 661-725-0610 roland@ssjmud.org
4. Project location:	Kern County
5. Project sponsor's name and address:	*See* #2, above.
6. General plan designation:	Map Code 8.1 (Intensive Agriculture) Kern County, Land in Delano designated for Community Facilities (CF)
7. Zoning:	A – Exclusive Agriculture
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.)	The proposed project includes the construction of approximately 126 acres of spreading basins and recovery well.
9. Surrounding land uses and setting: Briefly describe the project's surroundings:	The Project is located on unincorporated as well as incorporated lands within Kern County, California. The District – City of Delano Recharge Basin and the City of Delano Stormwater and Spreading Basin are located within the City of Delano. Both sites are zoned as Community Facilities. The Giumarra Recharge Basin is in the unincorporated area of Kern County and is zoned as A (Exclusive Agriculture). Surrounding land uses are agriculture. *See* "Environmental Setting" discussion under each issue area in Chapter 3, Environmental Checklist.
10. Other public agencies whose approval may be required or requested (e.g., permits, financing approval, or participation agreement.)	USACE, USBR, USDA, and DWR.

11. Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, has consultation begun?	Yes. Consultation is described in more detail in Sections 3.5, Cultural Resources, and 3.17, Tribal Cultural Resources.

Environmental Factors Potentially Affected

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

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

Determination (To be completed by the Lead Agency)

On the basis of this initial evaluation:

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

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

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

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

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

By: Roland Gross

Roland Gross
General Manager
Southern San Joaquin Municipal Utility District

3/11/2022
Date

Evaluation of Environmental Impacts

1) A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

2) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts. Operations and maintenance impacts of the proposed project are routine, minimal, and essentially the same as current operations and maintenance of the

existing facilities. There is no potential for significant impacts to any resource category from project operations and maintenance of the existing and proposed facilities.

3) Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less-than-significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required. "Beneficial impacts" are also identified where appropriate to provide full disclosure of any benefits from implementing the proposed project.

4) "Less-than-significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less-Than-Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less-than-significant level.

5) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

6) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

7) This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.

8) The explanation of each issue should identify:

   a) the significance criteria or threshold, if any, used to evaluate each question; and

   b) the mitigation measure identified, if any, to reduce the impact to less-than-significant.

Significance thresholds are identified for certain resources, but others are not necessary because there is clearly no impact or the question itself provides the basis for the significance threshold.

3.1 Aesthetics

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

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

3.1.1 Environmental Setting

The landscape in the project area is characterized by orchards, agricultural lands, and rural residences. Elements of the built environment (structures, roads, irrigated ditches, other man-made improvements) are present; however, they are secondary to the agricultural landscape that dominates views of the setting. There are no scenic highways within the vicinity of the project sites (Caltrans 2019 and 2005). Kern County designated three scenic routes within Kern County, however, none of these routes are located within the project area. There are no scenic vistas designated within the City of Delano General Plan (2005) and Kern County General Plan (2009).

- *District – City of Delano Recharge Basin.* This site is located within the City of Delano. This site is located approximately one mile west of State Route (SR) 99. The site is mostly barren with sparse ruderal vegetation throughout. The McFarland Delano Transfer Station is located adjacent the southeast corner of the site. The site is surrounded on the north, west, and south by agricultural lands. On the east is the City of Delano Stormwater and Spreading Basin site, which is currently being used as for stormwater detention.

- *City of Delano Stormwater and Spreading Basin.* This site is located adjacent to the District – City of Delano Recharge Basin, within the City of Delano. The site is currently being used for stormwater detention. The Delano Marketplace is located approximately 0.5-mile from the project site; however, the Marketplace can just barely be seen from the project site. Agricultural lands surround the project site.

- *Giumarra Recharge Basin.* This site is located just outside the City of Delano, in the unincorporated area of Kern County. The site is surrounded by agricultural lands, with the Cesar E. Chavez High school located approximately 0.3-mile west of the site. SR 99 is located approximately 2 miles west of the site. The site was previously in agricultural production for table grapes but presently lies fallow.

3.1.2 Discussion

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

There are no designated scenic vistas located in the vicinity of the project sites. Therefore, the project would have **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 scenic highways in the vicinity of the project. 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 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?

During construction of the recharge basins, equipment would be seen by motorists traveling along SR 99 and local roads. Views of construction activity would be temporary, and construction equipment is similar in size and scale to agricultural equipment that is used in the fields to prepare the soil, cultivate crops and process the harvest. Temporary views of construction activity would cease once construction is complete and would not substantially alter the visual character of the area. Impacts during project construction are considered to be less than significant.

Land at the site of the proposed recharge basins would undergo conversion to water conveyance and recharge uses from open agricultural fields. These sites would be graded to clear vegetation and excavated to form berms and create depressions that water can be applied for infiltration. The conversion of agricultural lands to water recharge basins would not substantially degrade the existing visual character or quality of the area because the area is predominately agricultural in nature and views change depending on the time of year as crops are sown, grow then harvested. Further, water conveyance and storage related infrastructure is directly related to agricultural use and is commonly observed on surrounding agricultural Therefore, this impact 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 project would not include any new light sources. There would be **no impact**.

3.2 Agriculture and Forestry Resources

#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:**

#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?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? **Yes**.	Have No Impact? No.	Have Beneficial Impact? No.
#2 -b. Conflict with existing zoning for agricultural use, or a Williamson Act contract?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? **Yes**.	Have No Impact? No.	Have Beneficial Impact? 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))?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? **Yes**.	Have Beneficial Impact? No.
#2 -d. Result in the loss of forest land or conversion of forest land to non-forest use?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? **Yes**.	Have Beneficial Impact? 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?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? **Yes**.	Have No Impact? No.	Have Beneficial Impact? No.

3.2.1 Environmental Setting

The District – City of Delano Recharge Basin and the City of Delano Stormwater and Spreading Basin are located within the City of Delano, approximately 1 mile west of Highway 99. Both of these sites are zoned as CF (Community Facilities) by the City of Delano (2011) and are designated as non-agricultural and Natural Vegetation by the Department of Conservation (DOC) (DOC 2018). The Giumarra Recharge Basin is located in unincorporated Kern County adjacent to the Delano city limits. This site is zoned as A (Exclusive Agriculture) by Kern County and is designated as Prime Farmland by the DOC (Kern County 2009, DOC 2018). While this site is no longer in agricultural production, the property was most recently used for cultivation of table grapes. There is no forestland located within the project area.

3.2.2 Discussion

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

Construction of the project would convert approximately 78 acres of Prime Farmland to groundwater recharge basins. In 2018, Kern County contained approximately 874,026 acres of Important Farmland. Therefore, the total area of Important Farmland that would be converted to non-agricultural land is approximately 0.00008 acres. Given the significant amount of agricultural land that would remain in production, and the fact that the project purpose is to maintain the availability of water for agricultural use, this impact is considered **less than significant**.

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

The project area and surrounding vicinity do not include land designated as forest land or timberland, or timberland zoned for timberland production. There would be **no impact**.

3.3 Air Quality

#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:**

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

3.3.1 Environmental Setting

The project is located in the San Joaquin Valley Air Basin (SJVAB) which is subject to the authority of the Pollution Control District (SJVAPCD). The SJVAPCD attains and maintains air quality conditions in San Joaquin, Stanislaus, Merced, Madera, Fresno, Tulare, King, and part of Kern County.

The Federal Clean Air Act and the California Clean Air Act required the U.S. Environmental Protection Agency (EPA) and California Air Resources Board (CARB) to establish health-based air quality standards at the Federal and State levels. National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) were established for the

following criteria pollutants: carbon monoxide (CO), ozone, sulfur dioxide (SO_2), nitrogen dioxide (NO_2), particulate matter less than 10 microns in diameter (PM_{10}), particulate matter less than 2.5 microns in diameter ($PM_{2.5}$), lead, hydrogen sulfide (H_2S), sulfates, and visibility reducing particles. These standards have been established with a margin of safety to protect the public's health. Both EPA and CARB designate areas of the State as attainment, nonattainment, maintenance, or unclassified for the various pollutant standards according to the Federal Clean Air Act and the California Clean Air Act, respectively.

An "attainment" designation for an area signifies that pollutant concentrations did not violate the NAAQS or CAAQS 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 NAAQS 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. CAAQS and NAAQS are listed in **Table 3-1**. Additionally, the SJVAPCD thresholds of significance for criteria pollutants are shown in **Table 3-2**.

Table 3-1 Ambient Air Quality Standards and Attainment Status

Pollutant	Averaging Time	California Standards Concentration	Federal Primary Standards Concentration
Ozone (O3)	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.)
	1-hour	0.09 parts per million. (180 micrograms per cubic meter)	(None; see Note #2.)
Respirable Particulate Matter (PM10)	24-hour	50 micrograms per cubic meter	150 micrograms per cubic meter
	Annual Arithmetic Mean	20 micrograms per cubic meter	(None.)
Fine Particulate Matter (PM2.5)	24-hour	(None.)	35 micrograms per cubic meter
	Annual Average	12 micrograms per cubic meter	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)
	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 meter.)	0.053 parts per million. (100 micrograms per cubic meter.)
	1-hour	0.18 parts per million. (339 micrograms per cubic meter.)	0.100 parts per million. (188 micrograms per cubic meter.)
Lead	30-day Average	1.5 micrograms per cubic meter.	(None.)
	Rolling 3-Month Average	(None.)	0.15 micrograms per cubic meter
	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)
	3-hour	(None.)	(None.)
	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 ppm. 2. 1-Hour ozone standard revoked effective June 15, 2005, although some areas have continuing obligations under that standard.
Source: CARB 2016

Table 3-2 SJVAPCD Thresholds of Significance for Criteria Pollutants

Pollutant/Precursor	Construction and Operation Emissions
CO	100
NOx	10
ROG	10
SOx	27
PM10	15
PM2.5	15

Notes: carbon monoxide (CO), sulfur oxides (SO_x), oxides of nitrogen (NO_x), reactive organic gases (ROG), particulate matter less than 10 microns in diameter (PM_{10}), particulate matter less than 2.5 microns in diameter ($PM_{2.5}$),
Source: SJVAPCD 2022.

The closest sensitive receptor to the District – City of Delano Recharge Basin and the City of Delano Stormwater and Spreading Basin is a residence located approximately 0.60-mile north of the sites. There are several rural residences located within 0.5-mile of the Giumarra Recharge

Basin, the closest being a residence located approximately 0.2-mile east of the site, on the intersection of Garces Highway and Driver Road. Additionally, the Cesar E. Chavez High School is located approximately 0.30-mile west of the recharge basin site.

3.3.2 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 Federal or state ambient air quality standard?

The project would temporarily generate emissions during construction from vehicle engine exhaust from heavy-duty construction equipment, haul trips, and construction worker trips, and particulate matter emissions from ground-disturbing activities. Construction emissions from the project would be short-term and limited at each project site location.

The SJVAPCD Guidance for Assessing and Mitigating Air Quality Impacts on Air Quality (GAMAQI) recommends that an ambient air quality analysis (AAQA) be conducted if, after mitigation, on-site construction or operational emissions of any criteria pollutant would exceed 100 pounds per day or any applicable threshold of significance (Table 3-2). To streamline the process of assessing significance of criteria pollutant emissions from common construction projects, SJVAPCD has developed a screening tool, the Small Project Analysis Level (SPAL) to assist in determining if constructing a project in the County would exceed the construction significance threshold for criteria pollutants. The tool uses project type and size, and SJVAPCD pre-quantified emissions to determine a size below which it is reasonable to conclude that a project would not exceed applicable thresholds of significance for criteria pollutants (SJVAPCD 2012).

SPAL levels are based on NOx emissions since NOx is the predominant combustion exhaust pollutant and would be the first pollutant to exceed the 100 pounds per day trigger for conducting an AAQA. Projects in which total combined horsepower hours for all equipment operated on site, within a 24-hour period, are less than 18,278 horsepower hours are determined to not require an ambient air quality analysis (SJVAPCD 2012). Based on the construction plan presented in **Table 2-3**, the proposed project would result in up to 15,381 horsepower hours within a 24-hour period, which is significantly lower than the SPAL threshold (See Appendix A). Therefore, the project would not exceed the screening level for criteria air pollutant emissions. Additionally, minimal additional emissions would be generated during operations given the infrequent maintenance required and the ability to coordinate and combined maintenance trips with existing maintenance trips, for the most part. However, 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 (SJVAPCD 2004). Since the project would generate less than 18,278 horsepower hours within a 24-hour period, would obtain a Dust Control Prevention Plan prior to construction, and would generate minimal emissions during operations, 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 project's air quality impacts. These people include children, older adults, any person with pre-existing respiratory or cardiovascular illness, and athletes and others who engage in frequent exercise. Sensitive receptors include residences, schools, playgrounds, childcare centers, athletic facilities, long-term health care facilities, rehabilitation centers, convalescent centers, and retirement homes. The proposed project would temporarily generate air pollutants from the use of diesel-powered vehicles, and from ground disturbance activities that would temporarily increase PM. However, construction activities would be short-term, consisting of a 12-month construction period, and there are very few residences near the construction area.

Maintenance activities would involve periodic earthwork to maintain levees, enhance soil permeability, and remove vegetative growth. Recharge basins would be subject to periodic disking or scraping to remove the top layer (e.g., one inch) of sediment, approximately once every three years. Earthwork equipment could include graders, loaders, and tractors (110- HP light motor). Other scheduled activities include annual inspections of the pipeline and pump station, and removal of debris in the trash racks. Due to the limited intensity of maintenance work and infrequency of this work, maintenance activities would generate minimal air pollutants.

Additionally, SJVAPCD states that a facility is subject to the "Hot Spots" requirements under AB 2588 Air Toxic Hot Spots and Assessment Act, if it emits any substances listed in Appendix A of the Emission Inventory Criteria and Guidelines Report, and 1) emits more than ten tons per year of Total Organic Gases, PM, NO_x, SO_x or 2) belongs to any class listed in Appendix E of the Emission Inventory Criteria and Guidelines Report (SJVAPCD 2017). The proposed project would not meet any of these screening criteria, therefore, it would not be subject to the "Hot Spots" requirements.

The project would not expose sensitive receptors to substantial pollutant concentration due to the short-term nature and distance to sensitive receptors. Therefore, this impact would be **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 odors varies greatly. Typically, odors are regarded as an annoyance rather than a health hazard. However, manifestations of a person's reaction to foul odors can range from psychological (e.g., irritation, anger, anxiety) to physiological (e.g., circulatory, and respiratory reactions, nausea, vomiting, headaches) The recharge basins would not generate any odor that would adversely affect a substantial number of people. There would be **no impact**.

3.4 Biological Resources

#4. BIOLOGICAL RESOURCES. Would the Project:

#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 U.S. Fish and Wildlife Service?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? **Yes.**	Have Less-than-Significant Impact? No.	Have No Impact? No.	Have Beneficial Impact? No.
#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?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? Yes.	Have Beneficial Impact? No.
#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?	Have Potentially Significant Impact? No..	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? **Yes.**	Have Beneficial Impact? No.
#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?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? **Yes.**	Have No Impact? No.	Have Beneficial Impact? No.
#4 -e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? **Yes**.	Have Beneficial Impact? No.
#4 -f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated?	Have Less-than-Significant Impact? No.	Have No Impact? **Yes.**	Have Beneficial Impact? No.

approved local, regional, or State habitat conservation plan?		No.			

3.4.1 Environmental Setting

Information presented in this environmental setting is based on observations made during field surveys and review of biological resource databases and other available information regarding biological resources in the project vicinity.

Background Review

Biological resource information that was reviewed included the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB) (CDFW 2022) and the California Native Plant Society (CNPS) Rare Plant Program's online Rare Plant Inventory (CNPS 2022). These reviews were centered on the Delano East and Pond U.S. Geologic Survey 7.5-minute quadrangles, containing the project site locations, and included the twelve surrounding quadrangles. A list of species and habitats of Federal conservation concern that could occur in the project area was obtained from the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Conservation website (USFWS 2022a); the USFWS online map of critical habitat for Federally threatened and endangered species (USFWS 2022b) also was reviewed. Results of the CNDDB and CNPS Inventory queries and current USFWS species list are provided in **Appendix B**. Aerial imagery on Google Earth® and National Wetlands Inventory data (USFWS 2022c) also were reviewed.

Field surveys of the project site were conducted by biologist Devin Barry on September 24, 2020. The surveys focused on evaluating the potential for special-status species to occur on or adjacent to the project sites and to be affected by project activities.

Existing Conditions

The project sites and surrounding areas are almost entirely comprised of almond orchard, cultivated agricultural row crops and vineyards, rural residences, and ruderal habitat associated with formerly cultivated agricultural fields. The road shoulders are compacted and barren, and unplanted fields and lots were barren or recently tilled at the time of the field surveys. The only remnant natural habitat near the project site are the Kern National Wildlife Refuge and the Lost Hills, which are over 10 miles west of the western project sites. The City of Delano Recharge Basin and the City of Delano Stormwater and Spreading Basin (western project sites) are sparsely vegetated, interior of both sites appeared to be mechanically tilled, and a few active burrow (measuring less than 5 inches in diameter) were found along the western boundary of the project site, immediately adjacent to an active vineyard. The Giumarra Recharge Basin (eastern project site) is no longer in agricultural production; however, the property was most recently used for cultivation of table grapes. Orchards are adjacent to the site on the north and south sides, and cultivated agriculture is adjacent to the site on the east and west sides. Topography is generally

flat, with an average elevation of approximately 275 feet above mean sea level in the western project sites and the approximately 350 feet above mean sea level in the eastern project site.

Ruderal and other disturbed habitats on the project sites support a low diversity of wildlife species that are adapted to this intensely managed environment. Undeveloped and uncultivated habitats in the hills and wildlife refuges west of the project site provide much higher quality wildlife habitat and support a higher diversity of species. Because the project sites are ruderal habitats that is periodically mechanically tilled and these sites are nearly completely surrounded by actively cultivated agricultural lands, only the most mobile species (e.g., birds and mammals with large home ranges) that typically use agricultural habitats are likely to occur on the project sites.

Sensitive Biological Resources

Sensitive biological resources addressed in this section include those that are afforded consideration or protection under state and federal laws and regulations.

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 by the State or Federal government as endangered, threatened, or rare
- candidates for State or Federal listing as endangered or threatened
- taxa that meet the criteria for listing, even if not currently included on any list, as described in State CEQA Guidelines California Code of Regulations Section 15380
- species identified by CDFW as species of special concern
- species listed as Fully Protected under the California Fish and Game Code
- plants considered by CDFW to be "rare, threatened, or endangered in California" (i.e., List 1B and 2B plants)
- species afforded protection under local or regional planning documents.

Table 3-3 includes information on all special-status species that were evaluated for potential to occur on or adjacent to the project site.

Plants

Nineteen special-status plants included in the CNDDB and/or online Rare Plant Inventory search results were evaluated for their potential to occur on the project site (**Table 3-3**). Several special-status plant species have been documented within the CNNDB search radius 5 miles of the project sites, as shown in **Figure 3-1**. Based on observations made during the field surveys, no special-

status plants have potential to occur on or adjacent to the project sites, because no suitable habitat for them is present.

Table 3-3 Special-status Plants Evaluated for Potential to Occur on the Project sites

Species	Blooming Period	Status[1]		Habitat Associations	Potential to Occur on Project Site
		Federal	State		
Horn's milk-vetch *Astralagus hornii* var. hornii	May–October	–	1B.1	Alkaline lake margins, meadows and seeps, and playas. Alkaline soils and lake margins.	None; no suitable habitat is present on or adjacent to the project sites.
Lost Hills crownscale *Atriplex coronata var. vallicola*	April–September	–	1B.2	Chenopod scrub, Valley and foothill grassland, vernal pools. Alkaline soils.	None; no suitable habitat is present on or adjacent to the project sites.
Earlimart orache *Atriplex cordulata* var. *erecticaulis*	August–November	–	1B.2	Valley and foothill grassland	None; no suitable habitat is present on or adjacent to the project sites.
Brittlescale *Atriplex depressa*	April–October	–	1B.2	Chenopod scrub, meadows and seeps, playas, Valley and foothill grassland, vernal pools. Alkaline and clay soils.	None; no suitable habitat is present on or adjacent to the project sites.
Lesser saltscale Atriplex minuscula	May–October	–	1B.1	Chenopod scrub, Playas, Valley and foothill grassland. Alkaline and sandy soils.	None; no suitable habitat is present on or adjacent to the project sites.
Vernal pool smallscale *Atriplex persistens*	June – October	–	1B.2	Vernal pools	None; no suitable habitat is present on or adjacent to the project sites.
Subtle orache *Atriplex subtilis*	June–September	–	1B.2	Valley and foothill grassland. Alkaline soils.	None; no suitable habitat is present on or adjacent to the project sites.
Alkali mariposa lily *Calochortus striatus*	April – June	–	1B.2	Chaparral, chenopod scrub, meadows and seeps, Mojavean desert scrub. Alkaline soils.	None; no suitable habitat is present on or adjacent to the project sites.
California jewelflower *Caulanthus californicus*	February–May	E	E/1B.1	Meadows and seeps, playas, and valley and foothill grassland. Sandy soils.	None; no suitable habitat is present on or adjacent to the project sites.

Species	Blooming Period	Status[1]		Habitat Associations	Potential to Occur on Project Site
		Federal	State		
Slough thistle *Cirsium crassicaule*	May–August	–	1B.1	Chenopod scrub, marshes and swamps, riparian scrub	None; no suitable habitat is present on or adjacent to the project sites.
Recurved larkspur *Delphinium recurvatum*	March–June	–	1B.2	Alkaline soils in chenopod scrub, cismontane woodland, and valley and foothill grassland. Alkaline soils.	None; no suitable habitat is present on or adjacent to the project sites.
Kern mallow *Eremalche parryi* ssp. *kernensis*	January–May	E	1B.2	Open sandy and clay soils, in chenopod scrub, pinyon and juniper woodland, and valley and foothill grassland	None; no suitable habitat is present on or adjacent to the project sites.
Spiny-sepaled button-celery *Eryngium spinosepalum*	April–June	–	1B.2	Vernal pools in valley and foothill grassland	None; no suitable habitat is present on or adjacent to the project sites.
Coulter's goldfields *Lasthenia glabrata* ssp. *coulteri*	February–June	–	1B.1	Marshes and swamps, playas, vernal pools	None; no suitable habitat is present on or adjacent to the project sites.
Alkali sink goldfields *Lasthenia chrysantha*	February–April	–	1B.1	Vernal pools. Alkaline soils.	None; no suitable habitat is present on or adjacent to the project sites.
Munz's tidy-tips *Layia munzii*	March–April	–	1B.2	Alkaline clay soils in chenopod scrub and valley and foothill grassland. Above 490-foot elevation.	None; no suitable habitat is present on or adjacent to the project sites.
San Joaquin wooly-threads *Monolopia congdonii*	February–May	E	1B.2	Sandy soils in chenopod scrub, valley and foothill grassland	None; no suitable habitat is present on or adjacent to the project sites.
Bakersfield cactus *Opuntia basilaris* var. *treleasei*	April–May	E	E; 1B.2	Sandy and gravelly soils in chenopod scrub, cismontane woodland, and valley and foothill grassland	None; no suitable habitat is present on or adjacent to the project sites.
San Joaquin adobe sunburst	February–April	T	E; IB.1	Cismontane woodland, Valley and foothill grassland	None; no suitable habitat is present on or adjacent to the project sites.

Species	Blooming Period	Status[1] Federal	Status[1] State	Habitat Associations	Potential to Occur on Project Site
Pseudobahia peirsonii					

Notes: CNDDB = California Natural Diversity Database; CRPR = California Rare Plant Rank

[1] **Status Definitions**

Legal Status

E Listed as Endangered under the Federal or State Endangered Species Act

T Listed as Threatened under the Federal or State Endangered Species Act

California Rare Plant Ranks

1B Plant species considered rare or endangered in California and elsewhere (but not legally protected).

California Rare Plant Rank Extensions

.1 Seriously endangered in California (greater than 80 percent of occurrences are threatened and/or have a high degree and immediacy of threat).

.2 Fairly endangered in California (20 to 80 percent of occurrences are threatened and/or have a moderate degree and immediacy of threat).

– no status

Sources: CDFW 2022; CNPS 2022; USFWS 2022a; GEI Consultants, Inc. field survey observations

Wildlife

Twenty special-status wildlife taxa included in the CNDDB search results and/or on the USFWS resource list were evaluated for their potential to occur on or adjacent to the project sites (**Table 3-4**). Several special-status wildlife species have been documented within 5 miles of the project site, as shown in **Figure 3-1**. As with the plant species, nearly all of the wildlife species were determined to have no potential to occur on or adjacent to the project sites because of restricted distribution and/or lack of suitable habitat or microhabitat (e.g., moist soils, vernal pools and other seasonal wetlands, permanent wetlands, riparian, scrubland). The six special-status wildlife taxa whose current distribution includes the project sites and for which at least potentially suitable habitat occurs on or adjacent to the sites were evaluated in further detail and are discussed below.

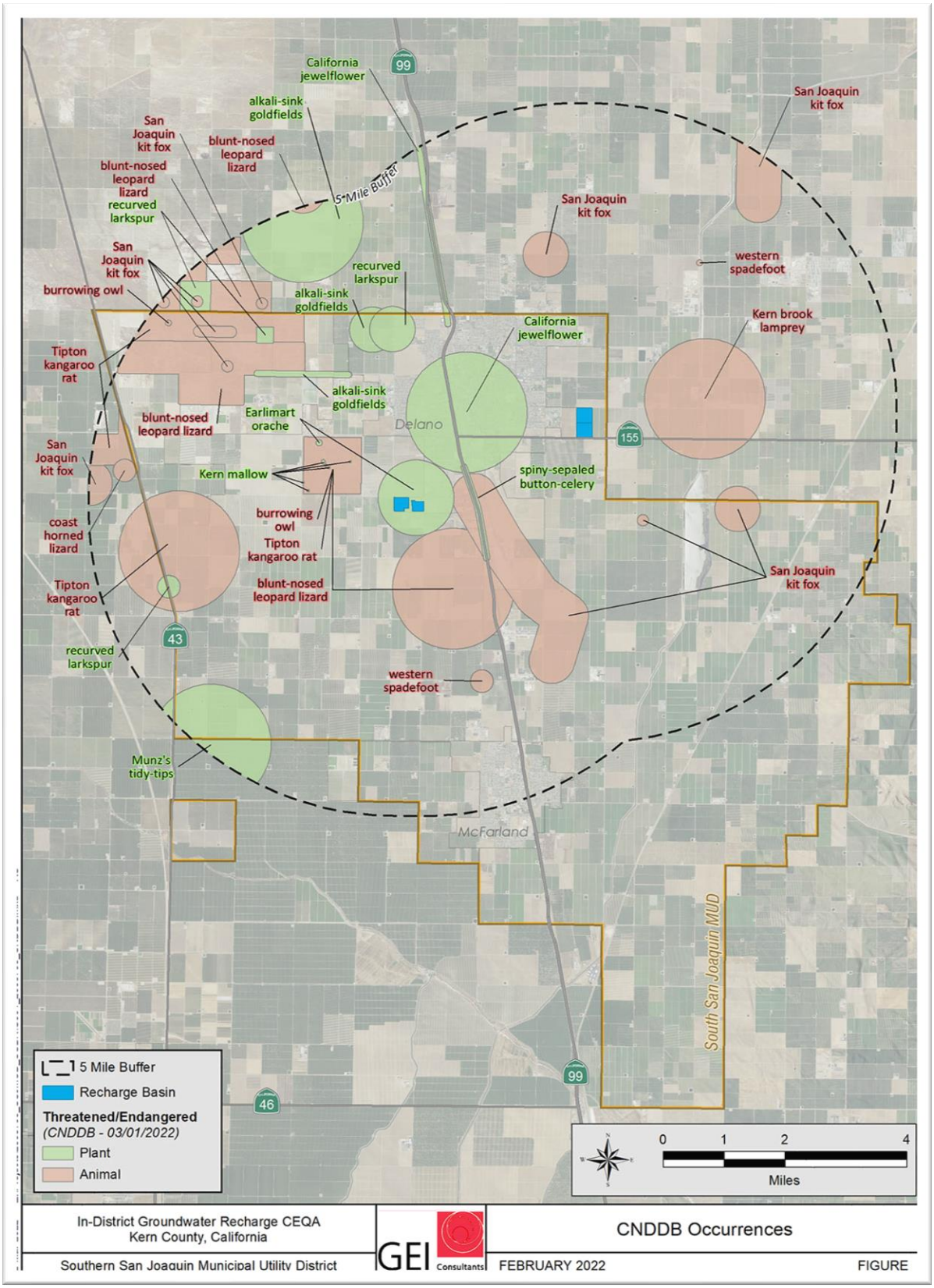

Figure 3-1 CNDDB Results

Two special-status reptiles could occur on and adjacent to the project site: blunt-nosed leopard lizard (*Gambelia silus*) and San Joaquin coachwhip (*Masticophis flagellum ruddocki*). Potential for these species to occur on this project site is low because the project site provides only marginally suitable habitat conditions for these species. Several occurrences of blunt-nosed leopard lizard have been documented in the CNDDB within 5 miles of the project site. However, all but one of these are from more than 30 years ago, and the one 28-year-old occurrence is from remnant areas of valley floor natural habitat. Nearly all of these occurrences are west of Interstate 5, in xx habitat that is more suitable for this species. There is one 35-year-old CNDDB occurrence of San Joaquin coachwhip adjacent to the project site.

Two special-status bird species have the potential to occur on or adjacent to the project site: burrowing owl (*Athene cunicularia*) and Swainson's hawk (*Buteo swainsonii*). There is one CNDDB record of a Swainson's hawk and several records of burrowing owl within 5 miles of the project site, but not the other two species. Potentially suitable nesting habitat for burrowing owl is on and adjacent to the project site and includes cultivated and uncultivated fields and ruderal habitats. Concentrations of ground squirrel burrows were observed along the western edge of the westernmost project site during the field surveys, and the scattered burrows could be suitable for burrowing owl. Swainson's hawks could forage in these habitats.

Two special-status mammals have the potential to occur on or adjacent to the project site: San Joaquin kit fox (*Vulpes macrotis mutica*) and American badger (*Taxidea taxus*). Several occurrences of San Joaquin kit fox have been documented within 5 miles of the project site, but these CNDDB records are at least 20 years old. Several occurrences of American badger have been documented within 5 miles of the project site, but these CNDDB records are at least 60 years old. Potentially suitable habitat for these species is on and adjacent to the project sites and includes uncultivated fields and ruderal habitats. The burrows that were observed on the project sites are too small to be suitable for either species.

Table 3-4 Special-status Fish and Wildlife Evaluated for Potential to Occur on the Project Sites

Species	Status		Habitat Associations	Potential to Occur on the Project Site
	Federal	State		
Fish				
Delta smelt *Hypomesus transpacificus*	T	E	Semi-anadromous; typically restricted to the Sacramento-San Joaquin River Delta and the lower Sacramento River	None; no suitable habitat is present on or adjacent to the project sites, which are outside the range of this species.
Kern brook lamprey *Lampetra hubbsi*	–	SCC	Aquatic, found in Sacramento/San Joaquin flowing waters	None; no suitable habitat is present on or adjacent to the project sites.
Invertebrates				

Species	Status		Habitat Associations	Potential to Occur on the Project Site
	Federal	State		
Vernal pool fairy shrimp *Branchinecta lynchi*	T	–	Vernal pools/seasonal wetlands, including a wide range of sizes and depths.	None; no suitable habitat is present on or adjacent to the project sites.
Monarch butterfly *Danaus plexippus*	C	–	Winter roost sites located in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby. Relies on milkweed as its obligate larval host plant.	None; no suitable habitat is present on or adjacent to the project sites.
Amphibians				
California red-legged frog *Rana draytonii*	T	SSC	Lowlands and foothill areas, in or near permanent deep water with dense, shrubby or emergent riparian vegetation	None; no suitable habitat is present on or adjacent to the project sites.
Western spadefoot *Spea hammondii*	–	SSC	Vernal pools and seasonal wetlands in grasslands and open woodlands	None; no suitable habitat is present on or adjacent to the project sites.
Reptiles				
Bakersfield legless lizard *Anniella grinnelli*	–	SSC	Sandy soils in sparsely vegetated dunes, chaparral, pine-oak woodland, desert scrub, sandy washes, and stream terraces.	None; suitable habitat is not present on or adjacent to the project sites.
California glossy snake *Arizona elegans occidentalis*	–	SSC	Wide variety of habitats, including grassland and scrub, often with loose or sandy soils	None; suitable habitat is not present on or adjacent to the project sites.
Coast horned lizard *Phrynosoma blainvillii*	–	SSC	Most commonly along sandy washes with scattered low bushes	None; suitable habitat is not present on or adjacent to the project sites.
Blunt-nosed leopard lizard *Gambelia sila*	E	E, FP	Sparsely vegetated and relatively flat grasslands and alkali and desert scrub habitats	Could occur; marginally suitable habitat occurs within the project site, but on-site habitat is poor.

Species	Status		Habitat Associations	Potential to Occur on the Project Site
	Federal	State		
San Joaquin coachwhip *Masticophis flagellum ruddocki*	–	SSC	Open, dry habitats with little or no tree cover, including grasslands and saltbush scrub	Could occur; habitat on and adjacent to the project sites is marginally suitable.
Giant gartersnake *Thamnophis gigas*	T	T	Open water and emergent vegetation in marshes, sloughs, and other aquatic habitats; also requires open upland habitat	None; no suitable habitat is present on or adjacent to the project site, which is outside the current range of this species.
Birds				
Le Conte's thrasher *Toxostoma lecontei*	–	SSC	Dry, open scrub habitats with dense spiny vegetation	None; no suitable habitat is present on or adjacent to the project site.
Burrowing owl *Athene cunicularia*	–	SSC	Nests and forages in grasslands, agricultural lands, and other open habitats with natural or artificial burrows or friable soils	Could occur; suitable habitat is present adjacent to the project site.
Swainson's hawk *Buteo swainsoni*	–	T	Nests in riparian forest and scattered trees; forages in grasslands and agricultural fields	Low; no suitable nesting habitat is present within or adjacent to the project site; project sites support suitable foraging habitat.
Tricolored blackbird *Agelaius tricolor*	–	C	Nests in dense cattails and tules, riparian scrub, grain crops, and other low dense vegetation; forages in grasslands and agricultural fields	None; suitable habitat is not present on or adjacent to the project site.
Mammals				
Nelson's antelope squirrel *Ammospermophilus nelsoni*	–	T	Grasslands and open shrubland with gullies and washes.	None; project is outside the range of this species.

Species	Status		Habitat Associations	Potential to Occur on the Project Site
	Federal	State		
Tipton kangaroo rat *Dipodomys nitratoides*	E	E	Saltbrush and sink scrub vegetation with soft, friable soils	None; suitable habitat is not present on or adjacent to the project site. Habitats within the action area are not typically associated with the species, the action area does not support Valley Sink or Valley Saltbush Scrub habitat, and areas of ruderal vegetation in the action area lack seepweed (*Suaeda* spp.).
American badger *Taxidea taxus*	–	SSC	Dry, open areas in various habitats with friable soils and uncultivated ground	Could occur; uncultivated fields within the project site provide marginally suitable habitat.
San Joaquin kit fox *Vulpes macrotis mutica*	E	T	Primarily grasslands and sparsely vegetated shrublands with loose-textured soils; can also use open agricultural habitats	Could occur; habitat on and adjacent to the project site is marginally suitable.

Notes: CNDDB = California Natural Diversity Database; DPS = Distinct population segment

[1] **Status Definitions**

E = Listed as Endangered under the Federal or State Endangered Species Act
T = Listed as Threatened under the Federal or State Endangered Species Act
C = Candidate for listing as Threatened or Endangered under the Federal or State Endangered Species Act
FP = Fully Protected under the California Fish and Game Code
SSC = California Species of Special Concern

Sources: CDFW 2022; USFWS 2022a; GEI Consultants, Inc. data collected in 2022

Sensitive Habitats

Sensitive habitats include those that are of special concern to resource agencies or are afforded specific consideration through the California Environmental Quality Act, the Federal Endangered Species Act (ESA), Section 1602 of the California Fish and Game Code, Section 404 of the Federal Clean Water Act, and the Porter-Cologne Water Quality Control Act. Sensitive habitats may be of special concern for a variety of reasons, including their locally or regionally declining status, or because they provide important habitat for special-status species. Critical habitat is a geographic area containing features determined to be essential to the conservation of a species listed as threatened or endangered under the ESA. CDFW maintains a list of terrestrial natural communities that are native to California, the List of Vegetation Alliances and Associations (CDFG 2010). Within that list, CDFW identifies and ranks natural communities of special concern considered to be highly imperiled. The project site does not support any natural communities of special concern. No sensitive habitats, including state or federally protected wetlands, critical habitat for federally listed species, or state-designated natural communities of special concern, are present on or adjacent to the project sites.

3.4.2 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, U.S. Fish and Wildlife Service, or National Marine Fisheries Service?

Special-status species were evaluated for the potential to occur at the project site locations, based on the database reviews and on-site habitat conditions (refer to **Table 3-3** and **Table 3-4**). Species that were determined to have at least low potential to occur at the project site locations are discussed below.

Special-status Plants

Based on review of existing documentation and observations made during the field survey, habitat for special-status plants is absent from the project sites, and none of the species was determined to have potential to occur on or adjacent to the project sites. Therefore, there would be **no impact** on special-status plants.

Special-status Wildlife

Based on the review of existing documentation, habitat requirements of each species, and habitat evaluations made during field survey, most of the animal species also have no potential to occur on or adjacent to the project site (see **Table 3-4**). Some wildlife species, however, have some potential to occur on or near the project sites. These species are discussed further below.

Special-status Reptiles

Potential for special-status reptiles to be impacted by the project is moderate, since up to 126 of potentially suitable habitat for San Joaquin coachwhip and blunt-nosed leopard lizard would be disturbed during project construction. However, because the project site provides only marginally suitable habitat conditions for these species and the lack of recent records of these species in the project area, it is very unlikely that an individual of this special-status reptile species would be present on the project sites and vulnerable to being injured or killed by project activities. Further, because extensive areas of similar quality habitat are present in the immediate vicinity of the project site, such disturbance would be a minor impact on these species. Based on the low probability for a very few, if any, individuals of San Joaquin coachwhip and blunt-nosed leopard lizard to be impacted, this would not have a substantial adverse effect on this species. Therefore, impacts on this species would be **less than significant**.

Special-status Birds

Special-status bird species that could be impacted by project activities are known or likely to occur in the general region, and habitat on and adjacent to the project site is suitable for them. Potentially suitable foraging habitat for two special-status bird species, approximately 126 acres of

uncultivated agricultural and ruderal land, would be temporarily disturbed or permanently converted to retention basins. However, because extensive areas of similar or higher quality foraging habitat are present in the vicinity of the project site, such disturbance would be a minor impact on the potentially affected species and this impact would **be less than significant**.

There are no trees in on or in the immediate vicinity of the project sites that support suitable nesting habitat for Swainson's hawk. Further, Kern County is at the south end of the Swainson's hawk breeding range, and the species occurs sparsely in this region; no nesting pairs were detected in Kern County during the statewide 2005 inventory (CDFG 2007). The CNDDB includes only 20 presumed extant active Swainson's hawk nests or nesting pairs documented since 1990 in the County, and none of these is within 10 miles of the project site. Based on the scarcity of Swainson's hawks in the region and the absence of potential nest trees, there is no potential for this species to nest on or near the project sites, and Swainson's hawk occurrence in the project vicinity is likely limited to migratory individuals. Because the project site is subject to regular disturbance from adjacent agricultural activities, road traffic, and rural residences, and project disturbance would be similar in intensity to existing agricultural activities, project activities would not disturb any potential foraging activities in the project vicinity. Project activities are also unlikely to disturb nesting activities, in the very unlikely event a nesting pair is present in the area during project construction. Therefore, this impact would **be less than significant**.

The project sites may support suitable nesting habitat for burrowing owl. If occupied burrowing owl burrows are present on or near a construction or a staging area, they could be directly destroyed and birds could be injured or killed, and project activities could result nest 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 **potentially significant**. The following mitigation measures have been identified to address this impact.

Mitigation Measure BIO-1: 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 Project activities begin. If any occupied burrows are observed, protective buffers will be established and implemented. A qualified biologist will monitor the occupied burrows during Project activities to confirm effectiveness of the buffers. The size of the buffer will depend on type and intensity of Project disturbance, presence of visual buffers, and other variables that could affect susceptibility of the owls to disturbance.

- If it is not feasible to implement a buffer of adequate size and it is determined, in consultation with CDFW, that passive exclusion of owls from the Project site is an appropriate means of minimizing impacts, an exclusion and relocation plan will be developed and implemented in coordination with CDFW. However, passive exclusion cannot 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 project site that would not be subject to inundation or project-related ground disturbance.

Timing: Before and during project construction activities
Responsibility: SSJMUC and construction contractor(s)

Implementation of Mitigation Measure BIO-1 would reduce this impact to a less-than-level by conducting surveys prior to construction activities to determine the potential for nesting birds, and establishing protective buffers as needed. This impact would be **less-than-significant with mitigation incorporated**.

Special-status Mammals

San Joaquin kit fox and American badger are the only mammals with reasonable potential to occur on the project sites. Based on current habitat conditions, the potential for San Joaquin kit fox and American badger to den on or adjacent to the project sites is low. Potentially suitable habitat for these mammal species, approximately 126 acres of uncultivated agricultural and ruderal land, would be temporarily disturbed or permanently converted to retention reservoirs. However, because extensive areas of similar quality habitat are present in the vicinity of the project site, such disturbance would be a minor impact on the potentially affected species.

There is potential for individuals of both species to occasionally disperse through the sites, as they travel through agricultural areas and along the roads and canals on and adjacent to the project site. If a special-status mammal species is present during project activities, it could be injured or killed if struck by a project vehicle or project equipment or become trapped in pipes or trenches. In the very unlikely event, a burrow or den becomes established on or near the project sites, it could be abandoned if project activities are disruptive enough.

Based on the low probability for a very few, if any, individuals of American badger to be impacted, this would not have a substantial adverse effect on this species; therefore, impacts on this species would be **less-than-significant.** Disturbance of a den occupied by San Joaquin kit fox could result in injury or death of this animal; because of the endangered status of San Joaquin kit fox, potential to injure or kill even one individual is considered **potentially significant**. The following mitigation measure has been identified to address this impact.

Mitigation Measure BIO-2: Conduct Focused Surveys and Implement Measures to Minimize Potential for Impacts on San Joaquin Kit Fox.

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

- Before project activities begin, an Environmental Awareness Program will be presented to all project personnel working on the project site. The program will be conducted by a qualified biologist with knowledge of San Joaquin kit fox. The program will address the following: biology and habitat needs; regulatory status and protection; measures required to reduce potential impacts during project construction; penalties for non-compliance; and benefits of compliance.

- No more than 30 days before project activities begin in a given area, a qualified biologist will conduct a pre-construction survey to determine the potential for San Joaquin kit fox to occur in the area. If potential or known dens for San Joaquin kit fox are found, exclusion zones will be established and maintained, in accordance with the Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox (USFWS 2011).

- If project 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, project 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, project activities will stop, and escape ramps or structures will be installed immediately to allow the animal to escape.

- 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 project activities near the pipe will stop, and the animal will be allowed to leave the pipe voluntarily.

- All food-related trash items such as wrappers, cans, bottles or food scraps generated during project activities will be disposed of in closed containers and removed daily from the project site. No deliberate feeding of wildlife will be allowed, and no pets associated with project personnel will be permitted on the project site.

Timing: Before and during project construction activities
Responsibility: SSJMUD and construction contractor(s)

Implementation of Mitigation Measure BIO-2 would reduce this impact to a less-than-significant level by requiring an Environmental Awareness Program to be presented, conducting surveys prior to construction activities to determine the potential for San Joaquin kit fox, establishing protective buffers as needed, and establishing BMPs during construction. This impact would be **less-than-significant with mitigation incorporated**.

#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 site does not support riparian habitat, designated critical habitat, or other sensitive natural communities identified in local or regional plans, policies, or regulations. Therefore, there would **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?

The site also does not support any state- or federally-protected wetlands. Therefore, there would **no impact** on these resources.

#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 site is part of a much larger area dominated by agricultural lands and scattered towns, and it does not support any corridors of natural habitat that facilitate wildlife movement; it also does not support fish movement corridors or wildlife nursery sites. Terrestrial wildlife may travel along agricultural roads and through orchards and vineyards adjacent to the project sites, but these potential travel routes are not migratory corridors. In addition, project construction would disturb a very narrow corridor along existing paved roadways, and wildlife would easily be able move through similar habitat in adjacent areas that are undisturbed by project activities. Further, project activities would only occur during the day, while most wildlife movement would likely be at night, and disturbance of the project site would be relatively minor. Therefore, implementing the proposed project would not substantially interfere with the movement of 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. Therefore, 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, which is currently being updated, includes several policies and implementation measures designed to protect and conserve threatened and endangered species and oak trees (County of Kern 2004). No oak trees are present on the project site. The General Plan requires discretionary projects to consider effects to biological resources and wildlife agency comments during the CEQA process; this is consistent with the CEQA review process being implemented by SSJMUD for the project. Therefore, implementing the proposed project would not conflict with any local policies or ordinances protecting biological resources and there would be **no impact**.

#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 site is not within the area covered by an adopted Habitat Conservation Plan (HCP), Natural Community Conservation Plan (NCCP), or other approved local, regional, or state habitat conservation plan. The project site is within the area anticipated to be covered by the Kern County Valley Floor HCP. A draft of this HCP was distributed in 2006 (County of Kern 2006), but the HCP was not adopted, and a revised plan has not been distributed. The project site is within an extensive area of "White Zone," which is of lower conservation concern and not identified for acquisition of preserve areas. Because this or a revised version of the HCP would not be adopted by the participants or approved by the regulatory agencies before the proposed project is implemented, consistency of the proposed project with the Kern County Valley Floor HCP is not required to be analyzed under CEQA. Therefore, implementing the proposed project would have **no impact** related to potential conflict with an adopted HCP, NCCP, or other approved conservation plan.

3.5 Cultural Resources

#5. CULTURAL RESOURCES. Would the Project:

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

3.5.1 Environmental Setting

Cultural resources are defined as buildings, sites, structures, or objects, each of which may have historic, architectural, archaeological, cultural, or scientific importance. CEQA defines a "historical resource" as any resource listed in or determined to be eligible for listing in the California Register of Historical Resources (CRHR).

Prehistoric Setting

The chronology constructed for the Sacramento Valley and Delta regions is often extended to the San Joaquin Valley. This chronology, known as the Central California Taxonomic System (CCTS), divides the prehistoric past into Early, Middle, and Late horizons, each defined more by artifact types and frequency than chronological methods. The stylistic divisions of the CCTS were further defined and incorporated with updated temporal information by Fredrickson, who proposed the Paleo-Indian, Archaic, and Emergent periods, each with associated date ranges and diagnostic artifact and burial styles (Fredrickson 1974, 1994).

The Paleo-Indian Period (11,550-8550 cal B.C.)

There is little evidence for terminal Pleistocene-early Holocene habitation in the San Joaquin Valley. Changing climate at the end of the Pleistocene brought floods, which covered much of the Central Valley with layers of alluvial soils that buried evidence of human occupation. People living in the San Joaquin Valley during this time are thought to have been hunters and foragers, living in small groups and travelling often from camp to camp in response to seasonal availability of resources. Sites are expected to have been primarily located along lakesides (Fredrickson 1994).

In Tulare County, sites have been identified along the shoreline of the now-dry Tulare Lake, approximately 40 miles north of the Project area. Concave-base fluted projectile points are one of the diagnostic artifacts for the Paleo-Indian Periods. In Kings County, the Witt site (CA-KIN-32) contained hundreds of concave base points and uncalibrated dates on nearby collected bone date to between 10,788 and 17,745 years ago (ka) (Rosenthal et al. 2007).

The Lower Archaic (8550-5550 cal B.C.)

The ancient shores of Tulare Lake are the nearest location for discovery of Lower Archaic period sites. In this area, north of the Project, stemmed projectile points (e.g., Borax Lake, Lake Mojave, Silver Lake, and Pinto styles), chipped stone crescents, and bi-pointed "humpies" have been discovered (Rosenthal et al. 2007). Lower Archaic period artifacts found within the San Joaquin Valley are often found as isolates, without associated faunal bone or food processing tools, such as milling equipment.

The Middle Archaic (5550-550 cal B.C.)

Towards the end of the Middle Archaic period Settlement patterns became more stable, especially along river corridors (Rosenthal et al. 2007). During the Middle and Upper Archaic periods, the Windmiller Pattern was common throughout the Central Valley, extending south as far as Buena Vista Lake (Rosenthal et al. 2007). This archaeological pattern is identified by burial style in which individuals were interred in extended positions, oriented towards the west, and often buried with artifacts such as quartz crystals, red pigment (ochre or cinnabar), *Olivella* shell beads (particularly types A1a and L), abalone (*Haliotis)* beads (type M) and pendants, stone pipes, charmstones, large, leaf-shaped projectile points associated with the atlatl, bone tools (e.g., awls, needles, strigles), baked-clay net weights, and ground stone tools (mortars, pestles, millingstones, and manos) (Moratto 1984).

The Upper Archaic (550 cal B.C. to cal A.D. 1100)

The Upper Archaic period began at roughly the same time as the Late Holocene, ushering in a period of cooler, wetter conditions. More alluvium was deposited over the earlier archaeological sites as rivers and lakes grew and flooded. Cultural diversity and complexity both developed during the Upper Archaic, and new variation is seen in burial contexts, artifact styles, bead types, and ground stone tool forms.

While many sites dating to the Upper Archaic have been recorded in the Sacramento Valley and northern San Joaquin Valley, very few have been found from the southern San Joaquin Valley where the Project is located (Rosenthal et al. 2007).

The Emergent Period (cal A.D. 1000 to the Historic Era)

The Emergent Period was a time of economic diversity, including the expansion of trade networks, increased social inequity, and the introduction of clamshell disc beads as a kind of currency (Fredrickson 1994). The introduction of bow and arrow technology resulted in the development of several new styles of small projectile points. In the southern San Joaquin Valley, Cottonwood projectile points were the most common.

Historic Setting

Kern County was established in 1866 and Bakersfield became the county seat in 1874. Gold was discovered near the Kern River in 1851 and gold mining became the dominant activity in the county for the next ten years. As gold deposits disappeared and became harder to find, many miners turned towards agricultural pursuits as steadier source of income. Argonauts moved from the mountains to the valley and established small farms. Sheep and cattle raising, in particular, presiding over crop farming because the soil in Kern County was not suitable for adequate farming (Hoover et al 1990; Kern County Centennial Observance Committee 1966:9; Wallace W. Elliott & Co. 1883:102, 101-114). Crop farming became more available as irrigation improvements in the valley took place. This allowed farmers to grow crops such as alfalfa, cotton, grapes, potatoes, and nuts (Kern County Centennial Observance Committee 1966:77; Morgan 1914:43-44).

The dominant economic activity changed once again when oil was discovered in the 1860s. Settlers of Kern County flocked to oil fields and oil towns sprang up such as Whiskey Flat, Bakersfield, and Buttonwillow. The Desert Land Act of 1877, which promoted settlement of arid land in the American West, and the establishment of the Southern Pacific Railroad (SPRR) near Bakersfield caused Kern County's population to boom (Ganoe 1937: 142-157). After the SPRR laid its lines, other railroad lines saw opportunity and followed in suit (USGS Bakersfield 1906). The San Francisco and San Joaquin Valley Railroad and the Santa Fe Railroad also laid tracks in the county which attracted more people. Today, the county still participates in agricultural pursuits and petroleum extraction.

The city of Delano was founded in 1869 as a railroad town created by the SPRR and incorporated in 1915. Delano consisted of mostly farm workers who worked in the surrounding area throughout the nineteenth and twentieth centuries. By the 1950s, Delano became a major hub for Filipino and Hispanic farm worker organization efforts to combat unfair working conditions. The Filipino Agricultural Workers Organizing Committee and the National Farm Workers' Association joined together in the Delano grape strike in 1965 (City of Delano 2022). Today, Delano continues to participate in agricultural activities.

Methods

The cultural resources investigations carried out for the Project included background research conducted at the Southern San Joaquin Valley Information Center (SSJVC) of the California Historical Resources Information System, review of historic maps and historic and ethnographic documents, and an archaeological survey.

GEI cultural staff conducted an archaeological pedestrian survey for the Project areas on September 13 and 14, 2021. The survey was conducted to intensive standards (transects spaced no more than 50 feet apart). A Trimble 7 Series GPS unit capable of sub-meter accuracy was carried to record the location of any identified resources. Hard copy maps and electronic mapping software were used to ensure adequate survey coverage.

Findings

The SSJVIC records search identified one cultural resource: P-15-012162. This resource consists of a heavily modified 1920s vernacular ranch house located on the Guimarra property. During the pedestrian survey of the Guimarra property, however, no evidence of the resource was found; the resource has either been destroyed since first recorded or as been moved to a different property outside of the Project area.

The pedestrian survey did not identify any previously unrecorded resources within the Project. Visibility was good, hampered only by low grasses in the Guimarra property. Visibility in the landfill areas was good. In addition, a geoarchaeological desktop study to determine sensitivity for encountering intact archaeological resources was conducted. The desktop study concluded that while surface soils in the Project area based on age alone have high potential for buried resources, closer examination of historic era maps show no indications of "magnet" resources, i.e., resources that would have attracted humans to the area, or any indication of potential resources in the area, overall sensitivity is low. In addition, depth of disturbance is unlikely to penetrate to underlying Pleistocene alluvium.

3.5.2 Discussion

#5-a. Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?

Under CEQA, public agencies must consider the effects of their actions on "historical resources." The CRHR includes resources listed in or formally determined eligible for listing in the National Register of Historic Places, 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 National Register of Historic Places listing but focus on importance of the resources to California history and heritage.

A cultural resource may be eligible for listing on 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

No historical resources were identified during the records search or pedestrian survey. Further, the geoarchaeological desktop study indicates that the project area has low sensitivity for encountering intact buried resources. However, though unlikely, the possibility remains that a resource meeting CRHR significance criterion for a historical resource may be discovered during project-related ground-disturbing activities. Therefore, this impact would be **potentially significant**. The following mitigation measure has been identified to address this impact:

> **Mitigation Measure CR-1: Address Previously Undiscovered Historic Properties, Archaeological Resources, and Tribal Cultural Resources.**
>
> If buried or previously unidentified historic properties, archaeological resources, or Tribal Cultural Resources are discovered during project activities, all work within a 100-foot radius of the find shall cease. SSJMUD shall retain a professional archaeologist meeting the *Secretary of the Interior's Professional Standards for Archaeologists* to assess the discovery and recommend what, if any, further treatment or investigation is necessary for the find. Interested Native American Tribes will also be contacted. Any necessary treatment/investigation shall be developed with interested Native American Tribes providing recommendations and shall be coordinated with the State Historic Preservation Officer and USFS, if necessary, and shall be completed before project activities continue in the vicinity of the find.
>
> **Timing:** During construction.
> **Responsibility:** SSJMUD.

Implementing Mitigation Measure CR-1 would reduce the potential impact related to discovery of unknown historic 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 Section 106 (CFR 800.13- Post-review discoveries). Therefore, the proposed project would have a **less-than-significant impact with mitigation incorporated.**

#5-b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

The State CEQA Guidelines require consideration of unique archaeological resources (CCR Section 15064.5). As used in California PRC Section 21083.2, the term "unique archaeological resource" refers to an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information
- has a special and particular quality such as being the oldest of its type or the best available example of its type
- or is directly associated with a scientifically recognized important prehistoric or historic event or person

No archaeological resources were identified within the project area during the records search or pedestrian survey. The possibility remains, however, that an archaeological resource may be discovered during project-related ground-disturbing activities, this impact would be potentially significant. The following mitigation measures have been identified to address this impact:

> **Mitigation Measure CR-1: Address Previously Undiscovered Historic Properties, Archaeological Resources, and Tribal Cultural Resources.**
>
> Please refer to Mitigation Measure CR-1 in cultural resources impact a) above for the full text of this mitigation measure.

#5-c. Disturb any human remains, including those interred outside of dedicated cemeteries?

No human remains have been discovered in the project area and it is not anticipated that human remains, including those interred outside of dedicated cemeteries, would be discovered during ground-disturbance activities with the proposed project. There is no indication from the records searches or pedestrian survey that human remains are present within the project site locations. However, 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. The following mitigation measure has been identified to address this impact:

> **Mitigation Measure CR-2: Avoid Potential Effects on Undiscovered Burials.**
>
> SSJMUD shall implement the following measures to reduce or avoid impacts related to undiscovered burials. In accordance with the California Health and Safety

Code, if human remains are uncovered during ground-disturbing activities, all potentially damaging ground-disturbance in the area of the burial and within a 100-foot radius, shall halt and the Kern County Coroner shall be notified immediately. 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 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 Descendent (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]).

California law recognizes the need to protect Native American human burials, skeletal remains, and items associated with Native American burials from vandalism and inadvertent destruction. SSJMUD shall ensure that the procedures for the treatment of Native American human remains contained in California Health and Safety Code Sections 7050.5 and 7052 and Public Resources Code Section 5097 are followed.

Timing: During construction.
Responsibility: SSJMUD.

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 have a **less-than-significant impact with mitigation incorporated.**

3.6 Energy

#6. ENERGY. Would the Project:

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

3.6.1 Environmental Setting

The unincorporated areas of Kern County receive electrical power and natural gas from Pacific Gas and Electric (PG&E), Southern California Edison, and Southern California Gas. The City of Delano receives electrical power from Edison International, and gas from The Gas Company of Southern Edison. The County consumed an average of approximately 15,942 million kilowatts per hour in 2018 (CEC 2018).

3.6.2 Discussion

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

During construction, the project would involve the use of diesel-fueled vehicles and equipment. The use of these vehicles and equipment would be temporary and would only be used as needed to construction the project. During operations, a recovery well located along the northern edge of the Giumarra Recharge Basin, and constructed as part of this project, would be used to recover stored water. Typical energy use associated with groundwater supply and conveyance ranges from 0.225 to 0.585 MWh/AF, as a national average (CEC 2005). The average energy intensity for the proposed project falls within this range and is estimated at 0.315 MWh/AF for recharge activities and recovery activities. According to the CEC, the energy intensity of different groundwater sources varies, depending on both the depth at which groundwater resides and the efficiency of the pumps and motors used to pump it. In addition, in the context of energy intensity and benefits to the state, the primary benefit of groundwater is the ability to offset the high energy intensity of SWP deliveries in summer and fall which require use of large pumping stations. Groundwater

banking and conjunctive use projects promote such strategies by recharging imported water during wet periods for later extraction during dry periods, either summer/fall months or drought periods when surface supplies are low (CEC 2005).

During operation, project-related vehicle use would consume petroleum-based fuels for vehicular travel to and from the project area and off-road equipment activity for weed and pest control and earthwork operations. The vehicle fleet that would be used by project employees would consist primarily of light-duty automobiles and light-duty trucks, which are subject to fuel-efficiency standards. Other trips to the project area would include trips associated with weed and pest control and earthwork operations and would include medium and heavy-duty trucks. Most of these trips would also be subject to fuel-efficiency standards and/or compliance with anti-idling regulations for medium- and heavy-duty vehicles.

The project would not substantially increase SSJMUD's energy consumption compared to existing use, nor would it result in wasteful energy consumption. Therefore, the project would have a **less than significant** impact on energy consumption.

#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. The proposed project would obtain power from sources that have identified plans to comply with the state's Climate Commitment to reduce the reliance on non-renewable energy sources by half by 2030 (CEC 2015). There would be **no impact**.

3.7 Geology and Soils

#7. GEOLOGY AND SOILS. Would the Project:

#7 -a. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? **Yes**.	Have No Impact? No.	Have Beneficial Impact? No.
#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.)	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? **Yes**.	Have No Impact? No.	Have Beneficial Impact? No.
#7 -a. ii. Strong seismic ground shaking?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? **Yes**.	Have No Impact? No.	Have Beneficial Impact? No.
#7 -a. iii. Seismic-related ground failure, including liquefaction?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? **Yes**.	Have No Impact? No.	Have Beneficial Impact? No.
#7 -a. iv. Landslides?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? **Yes**.	Have Beneficial Impact? No.
#7 -b. Result in substantial soil erosion or the loss of topsoil?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation	Have Less-than-Significant Impact? No.	Have No Impact? No.	Have Beneficial Impact? No.

#7. GEOLOGY AND SOILS. Would the Project:					
		Incorporated? **Yes**.			

3.7.1 Environmental Setting

The soil types found at the recharge basin sites consist of Garces silt loam and Wasco sandy loam (NRCS 2021). The Garces silt loam consists of silt and clay loam. The Wasco Sandy Loam consists of coarse sand and silt with low amounts of clay. These soils are described as well drained, very high to very low runoff, and very low to moderately rapid permeability.

The Pond-Poso Creek fault is located approximately 8 miles southwest of the District – City of Delano Recharge Basin and the City of Delano Stormwater and Spreading Basin. An unnamed fault is located approximately 8 miles east from the Giumarra Recharge Basin.

3.7.2 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.)

The project sites are not located within an Alquist-Priolo Earthquake Fault Zone (CGS 2021a). However, the District – City of Delano Recharge Basin and the City of Delano Stormwater and Spreading Basin are located approximately 2.5 miles northeast of an active portion of the Pond fault. Surface fault rupture is most likely to occur on active faults (i.e., faults showing evidence of displacement within the last 11,700 years). Damage from surface fault rupture is generally limited to a linear zone a few yards wide. The Pond fault is classified as a Quaternary fault of undetermined age, however, during an investigation in 1974, evidence of a historic fault rupture (creep) was discovered near the Pond Fault. This evidence consists of down-dropped roadways, ground cracks and saga, and repeated pipeline ruptures (CDMG 1983). Fault creep occurs due to the slow continuous movement of faults due to tectonic deformation.

In the event that ground shaking caused damage to a recharge basin released water would likely infiltrate into the permeable soils that comprise the project area. The recharge basins would be constructed below grade with berms constructed above grade, which, coupled with the relatively flat topography, would hinder movement of water offsite. In addition, the project area and its surroundings are characterized primarily by agricultural land use with few, if any, structures. Therefore, the potential risk of loss, injury, or death from strong seismic shaking is considered low, and impacts would be **less than significant**.

#7-ai. i, iii, iv. Strong seismic ground shaking? Seismic-related ground failure, including liquefaction? Landslides?

Strong earthquakes generally create ground shaking, with reduced effects as distance increases from the earthquake's epicenter. The area affected by ground shaking in any given earthquake will vary depending on the earthquake's intensity, duration, distance from the project site locations, and the underlying material. The project site is located in a seismically active region of California with faults of various ages and activity levels. Throughout the project area, there is the potential for damage resulting from movement along an active fault, seismic shaking, and seismically induced ground failures (e.g., liquefaction). The closest active fault line to the sites is a small section of the Pond Fault, located approximately 2.5 miles southwest of the District – City of Delano Recharge Basin and the City of Delano Stormwater and Spreading Basin. While the proposed project has the potential to be subject to seismic activity, it would not increase the likelihood of seismic ground shaking. Additionally, the project would not involve the construction of enclosed habitable structures. Soil removed during excavation would be positioned around the perimeter of the spreading pond and compacted to form an 8-foot berm which would provide additional protection from seismic activities.

Saturated soils from active recharge can cause soils to be unstable. However, water from the District would only be delivered for recharge during the spring and summer months. Additionally, the soils at the recharge basin sites are not designated as soils with potential for liquefaction (CGS 2020b), and the projects are located in topographically flat areas. Therefore, the proposed projects would not expose people or structures to potential substantial adverse effects from strong seismic ground shaking, liquefaction, or landslides. This impact would be **less than significant**.

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

The projects are located in topographically flat areas; however, grading and other construction activities would result in the temporary and short-term disturbance of soil and could expose disturbed areas to wind or water erosion. Rainfall of sufficient intensity could dislodge soil particles from the soil surface. Once 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 because of wind erosion. Therefore, this impact would be **potentially significant**. The following mitigation measure has been identified to address this impact:

> **Mitigation Measure GEO-1: Prepare and Implement a Storm Water Pollution Prevention Plan and Associated BMPs.**
>
> The District shall prepare and implement the appropriate Stormwater Pollution Prevention Plan (SWPPP), or Stormwater Management Plan (SWMP), as needed, to prevent and control pollution and to minimize and control runoff and erosion in compliance with State and local laws. The SWPPP or SWMP shall 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. Regardless of the need for a SWPPP or

SWMP, construction techniques and Best Management Practices (BMPs) will be identified and implemented, as appropriate to reduce the potential for runoff and exposure to hazardous materials.

Construction techniques will include minimizing site disturbance, controlling water flow over the construction site, stabilizing bare soil, and ensuring proper site cleanup. BMPs that specify erosion and sedimentation control measures to be implemented may include use of a turbidity and sedimentation control device (i.e., turbidity curtain or other similar device), silt fences, staked straw bales/wattles, silt/sediment basins and traps, geofabric, trench plugs, terraces, water bars, soil stabilizers, re-seeding with native species, and mulching to revegetate disturbed areas. If suitable vegetation cannot reasonably be expected to become established, non-erodible material will be used for such stabilization.

The SWPPP or SWMP shall also include a spill prevention, control, and countermeasure plan, and applicable hazardous materials business plans. The SWPPP or SWMP shall identify the types of materials used for equipment operation (including fuel and hydraulic fluids), measures to prevent hazardous material and waste spills, and materials available to clean up hazardous material and waste spills. The SWPPP or SWMP shall also identify emergency procedures for responding to spills. No refueling, storage, servicing, or maintenance of equipment shall take place on land within 100 feet of the ordinary high-water mark of Sutter Slough.

The SWPPP shall also include dust control practices to prevent wind erosion, sediment tracking, and dust generation by construction equipment, including during gravel processing. The BMPs presented in either document shall be clearly identified and maintained in good working condition throughout the construction process. The construction contractor shall retain a copy of the approved SWPPP or SWMP on the construction site and modify it as necessary to suit specific site conditions.

The District and all contractors will abide by regulations governing hazardous materials transport included in CCR Title 22, the California Vehicle Code (CCR Title 13), and the State Fire Marshal Regulations (CCR Title 19). Transport of hazardous materials can only be conducted under a registration issued by the California Department of Toxic Substances Control. Construction contractors shall be required to use, store, and transport hazardous materials in compliance with Federal, State, and local regulations.

Timing: Before and during construction.
Responsibility: The District and Construction Contractor(s).

Implementing Mitigation Measure GEO-1 would reduce the potentially significant impact from construction-related erosion to a less-than-significant level by requiring the preparation and implementation of a SWPPP or SWMP consistent with permit requirements that would prevent and control pollution and minimize and control runoff and erosion. Therefore, the proposed projects would have a **less-than-significant impact with mitigation incorporated.**

#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?

The proposed project is a groundwater banking project that would require water to be recharged prior to extraction. Groundwater banking programs generally benefit water levels in the local aquifer because the amount of water available for recovery is less than the amount recharged; this difference can raise groundwater levels. The proposed project would serve to correct declining groundwater levels, one of the primary causes of compaction and subsidence, and therefore would serve to mitigate against additional subsidence to some degree. The proposed project would provide additional recharge capacity in excess of recovery and as such would not cause subsidence relative to existing conditions**.** Therefore, this impact would be **less than significant.**

#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?

The proposed project would include the placement of water in recharge basins that would infiltrate down into the underlying aquifer. The soils within the recharge basins would undergo alternating wetting and drying cycles which can damage building foundations if any were present. All project components are located on well-drained fan deposits that are not considered expansive soils (DOC 1964). There are no structures planned for development in the recharge areas. Additionally, the recharge basins would be regularly maintained by District staff. There would be **no impact**.

#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 projects would not require the use of septic tanks or alternative wastewater disposal systems. Temporary portable restrooms would likely be provided for construction workers. Therefore, there would be **no impact**.

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

The projects are located on marine and non-marine sedimentary rock from the Pleistocene to Holocene-ages, consisting of fan deposits (DOC 1964 and CGS 2010b). Sediments associated with Holocene-age alluvium are too young to contain paleontologically sensitive resources and the likelihood of finding paleontological resources is low. However, paleontological resources could be found in Pleistocene-aged rock, therefore, there is a chance of discovering unknown paleontological resources within the project area. The following mitigation measure has been identified to address this impact.

Mitigation Measure CR-2: 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 specimens at no cost to the donor. Work may commence upon completion of treatment, as approved by the District.

Implementing Mitigation Measure CR-2 would reduce impacts related to undiscovered paleontological resources due to halting ground disturbing activities if resources area discovered. Therefore, the proposed project would have a **less-than-significant impact with mitigation incorporated.**

3.8 Greenhouse Gas Emissions

#8. GREENHOUSE GAS EMISSIONS. Would the Project:

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

3.8.1 Environmental Setting

Kern County has not adopted a local plan for reducing greenhouse gas (GHG) emissions. The SJVAPCD has adopted the *Guidance for Valley Land-use Agencies Addressing GHG Emissions Impacts for New Projects under CEQA* (SJVAPCD 2009). The guidance addresses stationary source projects and development projects. Projects complying with an approved GHG emission reduction plan or mitigation program would be determined to have a less-than-significant impact to atmospheric GHG levels (SJVAPCD 2009). California has more than 10 Executive Orders directing state agencies to implement programs to reduce GHG emissions to meet 2030 target of 40 percent below 1990 levels (State of California, 2018). The CARB is the primary state agency responsible implementing GHG reduction programs. Such programs include the Advanced Clean Cars program and the Low Carbon Fuel Standard. One of the components of this program is the Low-Emission Vehicle regulations that reduce criteria pollutants and GHG emissions from light- and medium-duty vehicles. The program set requirements for model years 2015 through 2025 to reduce criteria pollutants and GHG emissions (CARB 2017).

3.8.2 Discussion

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

The SJVAPCD has not established CEQA thresholds of significance for GHG emissions. The District Policy establishes an approach to streamline the determination of project GHG emissions significance through the incorporation of Best Performance Standards (BPS). According to the SJVAPCD, BPS are defined as the most effective means of reducing or limiting GHG emissions from a GHG emissions source. According to the SJVAPCD, projects implementing BPS would be

determined to have a less than significant individual and cumulative impact on global climate change and would not require GHG quantification (SJVAPCD 2009).

Temporary GHG emissions would be generated during the construction phase primarily from the use of diesel-powered vehicles and equipment. GHG emissions generated during construction would be minimal given the temporary nature of the proposed project and the limited amount of construction equipment that would be operated at one time. Additionally, Project construction would comply with State measures to reduce the inefficient, wasteful, and unnecessary consumption of energy, such as petroleum-based transportation fuels. Construction of the proposed project would use fuel-efficient equipment consistent with federal and State regulations, such as fuel-efficiency regulations in accordance with CARB's Pavley Phase II standards; the anti-idling regulation in accordance with 13 CCR Section 2485; and fuel requirements for stationary equipment in accordance with 17 CCR Section 93115 (concerning Airborne Toxic Control Measures). While these regulations are intended to reduce construction emissions, compliance with the anti-idling and emissions regulations discussed above would also result in fuel savings from the use of more fuel-efficient engines

Operation of the project would not generate substantial GHG emissions. Water transported to the basins for recharge is taken from the Friant-Kern canal and using gravity flows through district laterals to reach the turnout for distribution at a spreading ground. The primary source of GHG emissions during operation is a result of electricity generation used to power the recovery well. The well would be connected to the existing transmission grid with power provided by Pacific Gas & Electric (PG&E). As of 2018, PG&E generated 39 percent of electricity from renewable sources (PG&E 2018). Under SB 100, PG&E would have to increase its renewable sources for electricity to 50 percent by year 2026, 52 percent by year 2027, 60 percent by year 2030 and 100 percent by year 2045, which would result in declining GHG emissions as PG&E progressively acquires cleaner supplies of electricity in future years. As discussed above, the vast majority of project related GHGs for are associated with electricity use (recovery well) and the electricity provider for the project, PG&E, is covered by cap-and-trade and is already compliant with California's efforts to reduce GHGs. In addition, a number of Scoping Plan Recommended Actions targeted at the transportation sector would be applicable to construction equipment and maintenance vehicles associated with the proposed project. Therefore, this impact 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?

Kern County does not have an adopted local GHG reduction plan; however, the project would not conflict with state emissions reduction plans, policies, or regulations as discussed above in response to checklist question #8-b. Therefore, there would be **no impact**.

3.9 Hazards and Hazardous Materials

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

#9 -a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? **Yes**.	Have Less-than-Significant Impact? No.	Have No Impact? No.	Have Beneficial Impact? No.
#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?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? **Yes**.	Have Less-than-Significant Impact? No.	Have No Impact? No.	Have Beneficial Impact? No.
#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?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? **Yes**.	Have Beneficial Impact? No.
#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?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? **Yes**.	Have Beneficial Impact? No.
#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?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? **Yes**.	Have Beneficial Impact? No.
#9 -f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? **Yes**.	Have Beneficial Impact? No.

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

#9 -g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? **Yes**.	Have Beneficial Impact? No.

3.9.1 Environmental Setting

A database search found there are no active or inactive wells located within ¼ mile radius around each recharge basin (DTSC 2021). The search included all data sources identified in the Cortese List (enumerated in PRC Section 65962.5). These sources include the GeoTracker database, a groundwater information management system that is maintained by the State Water Resources Control Board (SWRCB); the Hazardous Waste and Substances Site List (i.e., the EnviroStor database), maintained by the California Department of Toxic Substances Control (DTSC); and EPA's Superfund Site database (DTSC 2021a and 2021b, SWRCB 2021a and 2021b, CalEPA 2018, EPA 2020, DOC 2000). One hazardous materials site was identified within 0.25 mile of the City of Delano Stormwater and Spreading Basins. The Kern County Dump, located approximately 0.15-mile from the City of Delano Stormwater and Spreading Basin, is a former municipal landfill that is currently vacant. Operation of the landfill ceased in 1992 and construction of the final cover system was completed in 1995. The site was reevaluated in 2016 and the final site status was designated as No Further Remedial Action Planned. The landfill status is Open – Inactive, meaning that a land disposal site has ceases accepting waste but has not been formally closed or is still within the post closure monitoring period.

Advanced Environmental Concepts, Inc. (AEC) performed a Phase I Environmental Site Assessment (ESA) for the Giumarra Basin. AEC observed a 500-gallon diesel aboveground storage tank (AST) that was stilt-mounted on a railroad tie base along the south exterior wall of an onsite barn. Additionally, various areas around the site contained hydrocarbon-impacted soils. On April 21, 2020, approximately 46.06 tons of hydrocarbon-impacted soil was excavated from beneath the former 500-gallon diesel tank and from areas of oil staining within the site. On May 22, 2020, an additional 150 tons of hydrocarbon-impacted soil was removed from the site. The analytical results from the confirmation soil samples were shown to not exceed the comparative regulatory standards for a commercial-use property.

The Kern County Fire Department Emergency Operations Center maintains the Emergency Operations Plan (EOP) for the County (KCFD 2020). The EOP does not identify any specific evacuation areas or routes within the project area.

The Cesar E. Chavez High School is located approximately 0.25 miles from Giumarra Recharge Basin. There are no other schools located within 0.50 miles of the project sites.

3.9.2 Discussion

#9-a and 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?

Project construction 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. Additionally, during operations a small amount of disinfectant would need to be transported to the site periodically to inject into the recovery well. However, since this recovery well will only be used as needed, this would not be considered a significant impact. The project would not require the long-term disposal of hazardous materials.

The project would require the inspection of an onsite agriculture well located at the Giumarra Recharge Basin to evaluate the suitability for recovery of banked water. If the well is deemed unsuitable for water recovery it would be properly abandoned in accordance with the Kern County Water Well Destruction Standards and Municipal Code Section 14.08.360 "Well destruction," and a new well would be constructed (Kern County 2006 and 2022). Additionally, a septic system serving a single-family home is located on the Giumarra Recharge Basin site. The home has been demolished; however, it is uncertain if the septic system was properly abandoned. Therefore, the District would inspect the septic system and if necessary, abandoned it in accordance with the Kern County Standards outlined in Municipal Code Section 8.62.290 "Abandoned onsite wastewater treatment systems" (Kern County 2022).

During operations, the project sites would occasionally be sprayed with pesticides during on-going maintenance activities, however, pesticides would be applied by certified applicators and used as directed. The proposed recovery well could represent a pathway for chemicals and fertilizers to enter groundwater via a direct route since the Giumarra Recharge Basin site is surrounded by farmland. However, the California Department of Pesticide Control (CDPR) has regulations pertaining to wellhead protection and the use of pesticides, as listed in 3 CCR 6609 (CDPR 2021). These measures apply to all wells (irrigation, domestic, municipal, monitoring, abandoned, dry, or drainage wells) where pesticides are mixed, loaded, rinsed, or otherwise used within 100 feet of the well. The District would comply with this regulation. Additionally, during operations a small amount of disinfectant would likely need to be transported to the site periodically to inject into the well.

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

of hazardous materials to occur however, therefore, this impact is considered **potentially significant**. The following mitigation measure has been identified to address this impact.

> **Mitigation Measure GEO-1: Prepare and Implement a Storm Water Pollution Prevention Plan and BMPs.**
>
> Please refer *to* Mitigation Measure GEO-1 in Section 1.7, Geology and Soils, for the full text of this mitigation measure.

Implementation of Mitigation Measure GEO-1 would reduce any potentially impact from accidental spill of or exposure to hazardous materials during routine use, transport, or disposal to the maximum extent possible by preparing and implementation a SWPPP SWMP. The SWPPP or SWMP would include a spill prevention, control, and countermeasure plan, and would identify the types of materials used for equipment operation (including fuel and hydraulic fluids), along with measures to prevent and materials available to clean up hazardous material and waste spills. The SWPPP would also identify emergency procedures for responding to spills. Therefore, impacts from the proposed project would be **less-than-significant with mitigation**.

#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?

See Questions "a and b" above. The Cesar E. Chavez High School is located approximately 0.25 miles from Giumarra Recharge Basin. Project construction 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, as necessary. Construction of the project components would not emit hazardous emissions, however, it would require the handling of small amounts of hazardous materials. During operations, a recovery well located on the Giumarra Recharge Basin site would be used to assist in recovery of groundwater during critical periods of use. A small amount of disinfectant would likely need to be transported to the site periodically to inject into the well. However, since this recovery well will only be used as needed, this would not be considered a significant impact. Therefore, this impact is considered **less than significant**.

#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 are not identified on lists compiled pursuant to Government Code Section 65962.5. A Phase I ESA was conducted for the Guimarra Recharge Basin and stated that approximately 150 tons of hydrocarbon impacted soils was removed from the Giumarra Recharge Basin on April 21 and May 22, 2020. Follow the removal of hydrocarbon-impacted soils, soil samples were taken and analytical results confirmation that soils at the site do not exceed the comparative regulatory standards for a commercial-use property. 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?

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 the County of Kern and affected incorporated cities can address compatibility issues when making planning decisions. The City of Delano Stormwater and Spreading Basin, District – Delano Recharge Basin, and Giumarra Recharge Basin are all within 2 miles of the Delano Municipal Airport. However, these sites are not located within the airport operational areas identified in the ALUCP. Therefore, the projects would not result in a safety hazard or excessive noise for people residing or working in the project area. There would be **no impact**.

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

The projects would not substantially increase in the number of users at the sites in a manner that could impair emergency response or evacuation. Additionally, the short-term, temporary nature of construction and the intermittent nature of material off hauling and drop-off via large trucks at the site would not pose a risk to emergency response or evacuation during an emergency. The Kern County Fire Department Emergency Operations Center maintains the EOP for the County, however, the EOP does not identify any specific evacuation areas or routes within the project area (KCFD 2020; County of Kern 2008). Additionally, the Kern County General Plan does not state specific evacuation routes, however, it does state that the general circulation routes provided throughout the County by federal, State, and County-maintained Road systems are adequate for access and evacuation (Kern County 2009). This impact would be **less than significant**.

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

The projects are not located within a very high fire hazard severity zone or State responsibility area (CALFIRE 2007a and 2007b). The proposed projects would not substantially change operations and maintenance at the project locations, and construction activities would not 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

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

#10 -a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? **Yes**.	Have Less-than-Significant Impact? No.	Have No Impact? No.	Have Beneficial Impact? No.
#10 -b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? No.	Have Beneficial Impact? **Yes**.
#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:	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? **Yes**.	Have Less-than-Significant Impact? No.	Have No Impact? No.	Have Beneficial Impact? No.
#10 -c. i. result in substantial erosion or siltation on- or off-site;	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? **Yes**.	Have Less-than-Significant Impact? No.	Have No Impact? No.	Have Beneficial Impact? No.
#10 -c. ii. substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? **Yes**.	Have Less-than-Significant Impact? No.	Have No Impact? No	Have Beneficial Impact? 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	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? **Yes**.	Have Beneficial Impact? No.

3.10.1 Environmental Setting

Surface Water

The District was formed in 1935 to obtain and deliver surface water supplies for agricultural use within its service area. The District receives surface water from the FKC under a contract with Reclamation. See **Table 2-1** for existing District CVP contract supplies. The City of Delano recharge basins are located in an area designated by FEMA as Zone A – subject to inundation by the 1-percent-annual-chance-flood event, with no base flood elevation (FEMA 2020). The Giumarra recharge basin is designated as Zone X – area of minimal flood hazard (FEMA 2020). The project site is not located within a dam inundation zone (DWR 2021a). Additionally, the project is not located in a coastal area and is outside of a tsunami hazard zone.

Groundwater

The project sites are located within the Kern County Subbasin, South of the Tulare hydrologic region of the San Joaquin Valley Groundwater Basin. The project site locations are in the San Joaquin Hydrologic Basin Planning Area, as designated by the Central Valley RWQCB (RWQCB 2018). The Subbasin covers the western third of Kern County and includes Kern River and Poso Creek. In accordance with Clean Water Act Section 303, water quality standards for this basin are contained in the Water Quality Control Plan for the Tulare Lake Basin. There are no water bodies on or near the project site locations that appear on the 303(d) list as an impaired water (SWRCB 2017). The project site locations are within a Bulletin 118 designated groundwater basin designated as "High Priority" (DWR 2021b). Groundwater levels in the project area have historically been influenced by groundwater extraction and more recently are dominated by recharge and recovery operations. With the onset of increased groundwater banking and recharge operations in the late 1990s, water levels rose above historic levels but are still susceptible to the effects of groundwater pumping.

3.10.2 Discussion

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

Construction of the proposed projects would require site clearing and demolition, excavation, grading, and recontouring of soil at the project site. During these activities, soils could 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. Additionally, the project would disturb more than one acre of land. Therefore, this impact would be potentially significant. The following mitigation measure has been identified to address this impact.

Mitigation Measure GEO-1: Prepare and Implement a Storm Water Pollution Prevention Plan and Associated BMPs.

Please Impact #7-b in Section 3.7 "Geology and Soils," for this full mitigation measure.

Implementation of Mitigation Measure GEO-1 would reduce potentially significant impacts to less-than significant by requiring the District 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 project 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. Additionally, as stated in Section 3.9 "Hazards and Hazardous Materials" the transport, use, and disposal of all hazardous materials would be done in accordance with all applicable regulatory requirements. Furthermore, during construction, the site would employ standard measures to control erosion and sediment and to protect water quality during construction as required by the County's Grading Code, which includes construction standards and BMPs for Erosion and Sediment Control (Kern County 2020). This impact is considered **less-than-significant with mitigation.**

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

Water demand in the District boundary is created by irrigated agriculture and municipal use in the Cities of Delano and McFarland. Both Cities rely exclusively on local groundwater as the District does not make any direct deliveries to these communities. Urban demand projections conducted by GEI on behalf of the District indicate urban demand in the District would rise from 11,366 AFY in 2005 to 13,848 AFY by the year 2030. As both Cities currently have no surface water delivery infrastructure or plans to develop such infrastructure, it is anticipated that the increased water use will be delivered via the local groundwater aquifer. Continued reliance on the goundwater aquifer to meet future demands has the potential to impact the levels/storage capacity of the aquifer and degrade groundwater quality. Loss of groundwater in this area also can result in the compression of soils in the Kern Subbasin, leading to land subsidence.

Agencies within the Kern Subbasin (including SSJMUD) are actively working to develop and implement Groundwater Sustainability Plans (GSPs) to comply with the regulations set forth in the Sustainable Groundwater Management Act (SGMA). The proposed project is intended to enhance groundwater levels by constructing the infrastructure necessary to bank excess water that can be withdrawn in times of need. The proposed project would provide the capacity to recharge up to 10,000 AFY of CVP contracted water via the FKC when excess supply is available. This activity would allow the District to meet their current goals identified in the Kern County Subbasin

GSP and help the Kern County Subbasin reach sustainability by 2040. On average, Recovery would be limited to the amount previously recharged less losses (GEI 2019). Therefore, the project would have a **beneficial impact**.

#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? Impede or redirect flood flows?

Construction of the proposed project would require site preparation and demolition, excavation, grading and recontouring of soils at the project areas. During these activities, soils could become exposed to high winds or heavy precipitation causing erosion. The project would have a potentially significant impact. The following mitigation measure has been identified to address this impact.

Mitigation Measure GEO-1: Prepare and Implement a Storm Water Pollution Prevention Plan and Associated BMPs.

Please Impact #7-b in Section 3.7 "Geology and Soils," for this full mitigation measure.

Implementation of Mitigation Measure GEO-1 would reduce potentially significant impacts to less-than-significant by requiring a 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 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. Additionally, during construction, the site would employ standard measures to control erosion and sediment and to protect water quality during construction as required by the County's Grading Code, which includes construction standards and BMP's for Erosion and Sediment Control (Kern County 2022). With implementation of the SWPPP and standard measure to control erosion and sediment, the project would minimize the potential for erosion or siltation to occur during construction, and the impact would be less than significant.

During operations, storm water runoff would be captured onsite due to the nature of the recharge basins and would not cause or exacerbate potential flooding on-or off-site. The new projects would not create or contribute new sources to runoff. The newly construction Giumarra Recharge Basin would alter the existing drainage system in the immediate vicinity of the site, however, the basin

would not cause substantial erosion or siltation on-or off-site because precipitation would be contained within the basin. This impact would be **less than significant with mitigation**.

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

The City of Delano Stormwater Retention Basin and District - City of Delano Spreading Basin are located in an area subject to inundation by the 1-percent-annual-chance-flood event (FEMA 2021). However, water recharged into the recharge basins would be from current CVP supplies and would not include any new water sources. Therefore, all water stored in these basins would be to applicable standards and regulations. There would not be a risk of release of pollutants due to project inundation if inundation were to occur. There would be **no impact**.

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

Please refer to the discussion above under (a), (b), and (c). The project would not result in other effects that would conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. This impact would be **less than significant**.

3.11 Land Use and Planning

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

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

3.11.1 Environmental Setting

The project sites are located within the District boundary. The City of Delano Stormwater Retention Basin and District - City of Delano Spreading Basin are designated by the City of Delano as Community Facilities and zoned by Kern County as Exclusive Agriculture. The Giumarra Recharge Basin designated by Kern County as Intensive Agriculture and is zoned by Kern County as Exclusive Agriculture (Kern County 1982 and 2021a). The current land use at the City of Delano Stormwater Retention Basin is stormwater retention. The District - City of Delano spreading basin is not currently in use and the land use at the Giumarra recharge basin is agricultural production.

3.11.2 Discussion

#11-a. Physically divide an established community?

The project is located within areas designated as community facilities and agricultural production. Two of the three recharge basins; City of Delano Stormwater Retention Basin and District - City of Delano Spreading Basin are located within the City of Delano. However, these sites are located on the outskirts of the City, outside of any established communities. The Giumarra Recharge Basin is located just outside of the City of Delano in the unincorporated Kern County. Given the distance to the nearest establish community is approximately 0.30 mile for the City of Delano Stormwater Retention Basin and District - City of Delano Spreading Basin, the project would not divide any establish communities. There would be **no impact**.

#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 project sites are on parcels zoned as Exclusive Agriculture and Community Facilities (Kern County 2021a). All land within the project area is zoned by Kern County as Exclusive Agriculture specifically allows for construction and operation of "water storage or groundwater recharge facilities" without the issuance of a conditional use permit (Kern County Zoning Ordinance Section 19.12.020(F)) (Kern County 2021b). The Guimarra Recharge Basin site is currently used for agricultural production and would need to be converted to a recharge basin. For the District Recharge Basins located in the City of Delano, the project would upgrade the existing Delano stormwater retention basin to create a dual use facility that serve as a groundwater recharge basin during dry periods. The basin's primary use as a stormwater retention basin would not be affected by these improvements.

Because the Project would construct and operate uses that are permitted within the Exclusive Agriculture zone, the project would not conflict with land use plans or policies adopted for the purpose of avoiding or mitigating an environmental effect. Therefore, this impact would be **less than significant.**

3.12 Mineral Resources

#12. MINERAL RESOURCES. Would the Project:

#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?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? Yes.	Have Beneficial Impact? No.
#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?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? Yes.	Have Beneficial Impact? No.

3.12.1 Environmental Setting

The Surface Mining and Reclamation Act of 1975 (SMARA) requires the State Geologist to classify land based on known or inferred mineral resource potential of that land. The projects are located in areas designated by SMARA as being part of the Bakersfield Production-Consumption Region where aggregate materials can be found. (DOC 2009). Aggregate material consists of sand, gravel, and crushed stones, all of which are considered construction material. Currently slightly less than 2 square miles of this region are permitted for mining. Most of the Bakersfield Region, including the projects sites are designated as Mineral Resource Zone (MRZ) 3 – areas containing mineral deposits, the significance of which cannot be evaluated from available data. Kern County is known for producing more oil than any other County in California (Kern County 2009). However, there are no oil fields in the vicinity of the project sites. The closest oil fields are North Shafter to the west and Poso Creek to the east.

3.12.2 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 project sites are not located within the vicinity of any permitted mining sites (DOC 1988). Although the project site is designated as MRZ-3 if mineral resources were to be found they would likely consist of aggregate material. Aggregate resources are commonly used as a source of materials for construction of infrastructure, such as bridges, roads, berms, and dams, and they are a key ingredient in concrete. The existing aggregate materials within the project area would be used to construct berms surrounding the recharge basins. This represents an appropriate use of aggregate resources at the project site. All excess material would be off hauled and disposed of at

a nearby landfill, including possible aggregate material. However, given the large amount of aggregate material located within Kern County, disposal of a small amount of aggregate material would not be considered a significant impact. Therefore, 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?

There are no locally designated mineral resources at the projects site locations. There would be **no impact**.

3.13 Noise

#13. NOISE. Would the Project:

#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?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? Yes.	Have No Impact? No.	Have Beneficial Impact? No.
#13 -b. Generation of excessive ground borne vibration or groundborne noise levels?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? Yes.	Have No Impact? No.	Have Beneficial Impact? No.
#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?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? Yes.	Have Beneficial Impact? No.

3.13.1 Environmental Setting

The City of Delano Stormwater and Spreading Basin, and the District – City of Delano Recharge Basin are located within the City of Delano and are designated as Community Facilities. The City of Delano General Plan set 65 dB(A) CNEL for outdoor activity areas of residential uses and 45 dB(A) for interior space. Stationary noise cannot exceed 75 dB(A) during the daytime hours (7 a.m. to 10 p.m.) and 70 dB(A) during nighttime hours (10 p.m. to 7 a.m.). (City of Delano 2005).

The Giumarra Recharge Basin is located in an unincorporated area of Kern County. The Kern County General Plan establish a protection standard of 45 decibels (dB) daynight average sound level (Ldn) or less within interior living spaces or other noise sensitive spaces and 65 dB Ldn or less in outdoor activity areas, respectively, between 6 a.m. and 9 p.m on weekdays and 9 a.m. and 9 p.m. on weekends. (Kern County 2022).

3.13.2 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?

A temporary increase in noise levels would occur during daytime hours when construction activity is occurring at a specific recharge basin. Construction related 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. The project would generate construction noise from equipment operating at the project site locations, from the transport of construction workers, construction materials, and equipment to and from the project site locations.

During each stage of development, there would be a different mix of equipment. As such, construction activity noise levels at or near the project area would fluctuate depending on the particular type, number, and duration of use of the various pieces of construction equipment. The list of equipment that may be used for project construction activities is shown in **Table 3-5**. As shown, noise levels generated at 50 feet from the equipment (reference levels) would range from 75 to 82 dB(A). See Section 3.3, "Air Quality" for information regarding sensitive receptors.

Table 3-5: Construction Equipment and Typical Equipment Noise Levels

Type of Equipment	Typical Noise Levels (dB) L_{max} at 50 Feet
Backhoe	80
Dump Truck	76
Excavator	81
Dozer	82
Compactor	80
Pick-up Truck	75

Notes: dB = decibels; Lmax = maximum instantaneous sound level;
Leq = 1-hour equivalent sound level (the sound energy averaged over a continuous 1-hour period)
Source: Construction equipment list based on Federal Highway Administration 2006, adapted by GEI in 2022

There are no noise sensitive land uses within 50 feet of a proposed recharge basin, and the predicted noise levels in Table 3-5 would diminish notably with distance from the construction site at a rate of 6 dBA per doubling of distance. For example, a noise level of 92 dBA Leq measured at 50 feet from the noise source to the receptor would reduce to 86 dBA Leq at 100 feet from the source to the receptor and reduce by another 6 dBA Leq to 80 dBA Leq at 200 feet from the source to the

receptor. Further, project-related construction would occur during times of the day when receptors are least sensitive to noise exposure as required by standards adopted by Kern County and City of Delano. For these reasons short term construction related noise impacts are considered to be **less than significant**.

Operational activities would be passive and include movement of water through pipes and canals. Potential noise sources during operation may include noise associated with vehicular trips for maintenance and monitoring activities. Maintenance would involve activities such as weed and pest control and earthwork operations. Recharge basin maintenance would require transportation of minimal heavy-duty equipment to the project site (e.g., backhoe and front loader) and a small maintenance crew. However, maintenance and monitoring activities would occur infrequently, and the increase of vehicle trips would be minimal and would not substantially increase traffic volumes or noise levels, on adjacent roadways and highways. Therefore, operational noise impacts would not cause a permanent increase in ambient noise levels, and impacts would be less than significant. For these reasons, noise related impacts associated with construction and operation of the project would be **less than significant**.

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

Ground vibration would only be caused by construction activities and varies based on the equipment used during each phase. **Table 3-6** presents ground vibration levels associated with various construction equipment used during project construction. The project may cause random and/or transient ground borne vibration from construction equipment use. No high-impact activities, such as pile driving or blasting, would be used during project construction. In order to evaluate potential structural damage, the nearest off-site sensitive buildings to the project area were conservatively assumed to be at a distance of 25 feet from construction activity. Based on the vibration levels at 25 feet from the source presented in Table 3-6, the maximum vibration level would be approximately .004 inches per second at 25 feet, which is less than the standard representing the value where the intensity of ground borne vibration can cause damage to a structure. Therefore, this impact would be **less than significant**.

Table 3-6: Representative Vibration Source Levels for Construction Equipment

Type of Equipment	Peak Particle Velocity at 25 feet (in/sec)	Estimated Peak Particle Velocity at Nearest Residential Structure
Large Bulldozer	0.089	0.004
Small Bulldozer	0.003	0.000

Notes: Estimated peak particle velocity (ppv) at the nearest structure calculated using $PPV_{Equipment} = PPV_{Ref} (25/D)^n$ (inches/second), where D is the distance from the equipment to the receiver (in this case, 450 feet), and n is 1.1, a value related to the attenuation rate through ground. (Caltrans 2013 Equation 12)

Source: Federal Transit Administration 1995

#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?

See section 3.9 Hazards and Hazardous Materials, Question "e". There would be **no impact**.

3.14 Population and Housing

#14. POPULATION AND HOUSING. Would the Project:

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

3.14.1 Environmental Setting

The Giumarra Recharge Basin is located in the unincorporated area of Kern County. City of Delano Stormwater and Spreading Basin, and the District – City of Delano Recharge Basin are located within the City of Delano. In 2018, the population was estimated to be 905,801 in Kern County and experienced a 1.1% increase between 2017 and 2018 (DOF 2018). The closest residential neighborhood is approximately 0.3 miles west of the City of Delano Stormwater and Spreading Basin, and the District – City of Delano Recharge Basin.

3.14.2 Discussion

#14-a. Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

The proposed project would develop new long-term water recharge facilities within the NKWSD boundaries. Implementation of the proposed project would not have a direct growth inducement effect, as it does not propose development of new housing that would attract additional population to the area. Further, implementation of the proposed project would not result in substantial permanent employment that could indirectly induce population growth. Although construction activities would create some short-term construction employment opportunities over the duration of construction, the number of opportunities created would not require persons outside of the Kern County workforce. Therefore, the proposed project would have no potential to induce population growth directly or indirectly. There would be **no impact**. #14-b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

The proposed project would not displace any houses or people. The District has acquired agriculture and community facility parcels with no above ground facilities for the development of the recharge basins. There would be **no impact**.

3.15 Public Services

#15. PUBLIC SERVICES. Would the Project:

#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:	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? **Yes**.	Have Beneficial Impact? No.
Fire protection?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? **Yes**.	Have Beneficial Impact? No.
Police protection?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? **Yes**.	Have Beneficial Impact? No.
Schools?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? **Yes**.	Have Beneficial Impact? No.
Parks?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? **Yes**.	Have Beneficial Impact? No.

#15. PUBLIC SERVICES. Would the Project:					
Other public facilities?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? **Yes**.	Have Beneficial Impact? No.

3.15.1 Environmental Setting

The District recharge basins are located in the City of Delano and are serviced by the Delano Police Department, and the Kern County Fire Department. The City operated under a mutual aid agreement with the Tulare and Kern County Sheriff's Departments (City of Delano 2005). The Kern County Sheriff and California Highway Patrol provide law enforcement services for the unincorporated Kern County. The Kern County Fire Department provides fire protection to residents of the unincorporated areas of the County, and the cities of Arvin, Delano, Maricopa, McFarland, Ridgecrest, Shafter, Tehachapi, and Wasco (Kern County 2009). 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. The County also has a mutual aid contract with USFWS and a service agreement with the Bureau of Land Management.

3.15.2 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 public services, including fire protection, police protection, schools, or other public facilities.

The proposed projects involve developing groundwater banking facilities which would not result in new or more intense uses or population at the project site locations and would not increase the demand for public services compared to existing conditions. There would be **no impact**.

3.16 Recreation

#16. RECREATION. Would the Project:

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

3.16.1 Environmental Setting

The areas surrounding the project sites are heavily dominated by agricultural use. Many small public parks are located throughout the City of Delano and McFarland.

3.16.2 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? 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 generate new demand for recreational facilities. The project also would not generate a need for new or expanded recreational facilities due to project implementation since the project is not growth inducing. There would be **no impact**.

3.17 Transportation

#17. TRANSPORTATION. Would the Project:

#17 -a. Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? **Yes**.	Have Beneficial Impact? No.
#17 -b. Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? **Yes**.	Have No Impact? No.	Have Beneficial Impact? No.
#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)?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? **Yes**.	Have Beneficial Impact? No.
#17 -d. Result in inadequate emergency access?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? **Yes**.	Have Beneficial Impact? No.

3.17.1 Environmental Setting

The project sites are located in predominately agricultural lands in Kern County. Kern County serves as a major transportation corridor. Interstate 5 and SR 99 connect Kern County to northern and southern California, east and west traffic is accommodated on SR 58 and SR 46. Access to the project site locations is provided via SR 99, and local roads. In 2017, at Whisler Road in McFarland, the average annual daily traffic was 63,000 vehicles (Caltrans 2017).

3.17.2 Discussion

#17-a and b. Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities? Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?

Construction of the proposed project would temporarily increase vehicle miles traveled on the existing transportation network. Heavy construction vehicles and materials would be dropped off at the site and excess materials and debris would be off hauled to a local landfill, likely the Shafter-Wasco Landfill. Additionally, a local workforce from the surrounding towns and the City of Bakersfield would travel to and from the site during the construction phase. Approximately 250 truck trips would be required to haul materials to a recharge basin under construction. Assuming the materials are stockpiled at the District offices approximately 9 miles away from an active construction site, delivery to the active construction site would generate approximately 2,250 VMT (250 trips x 9 miles/trip). An additional 70 truck trips could be required for transportation of construction debris from the project site to the landfill for disposal resulting in 1,400 VMT (20 miles x 70 trips). Trips associated with workers commuting to and from the construction site contribute approximately 1,200VMT. (20 trips x 60 miles) Therefore, total VMT associated with construction of the recharge basins would be up to 4,850 miles traveled. Construction of an individual recharge basin is anticipated to be completed within 60 working days at which time construction related VMT would cease. On average, construction of a single recharge basins would generate an additional 80 VMT per day over the 60 working days. The total VMT for the 3 recharge basins combined is estimated to be 240 VMT per day for 60 days. All construction related trips would stop once the basins have been constructed. The temporary increase in VMT would not represent a substantially change from existing conditions.

During operation, maintenance activities would involve periodic earthwork to maintain levees, enhance soil permeability, and remove vegetative growth. Recharge basins would be subject to periodic disking or scraping to remove the top layer (e.g., one inch) of sediment, approximately once every three years. Weed and pest control would occur as needed, and other scheduled activities would occur annually. Maintenance activities would require a backhoe, a tractor, a water truck and a spray rig for each occurrence. The additional vehicle trips associated with maintenance activity is approximately 8 trips per year, resulting in approximately 72 VMT (8 trips x 9 miles each direction) for each basin assuming the vehicles originate from the District's maintenance yard. The project would not conflict with a program, ordinances, or polices addressing circulations, nor would it be inconsistent with the with CEQA Guidelines Section 15064.3, subdivision (b) because the majority of VMT generated from the project would be temporary with minimal increase in VMT during operations. Truck trips for operations and maintenance would not significantly change from existing conditions. Therefore, this impact is considered **less than significant**.

#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 project would not introduce incompatible uses on any roadways as roadway construction is not included as part of this project. There would be **no impact**.

#17-d. Result in inadequate emergency access?

There would be an increase in the number of construction-related trucks traveling to and from the project site locations during construction activities, however, this increase would be temporary and would not require a large number of trucks traveling along local roadways at one time. The project would not require any road closures or result in inadequate emergency access. There would be **no impact**.

3.18 Tribal Cultural Resources

#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:

#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	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? **Yes.**	Have Less-than-Significant Impact? No.	Have No Impact? No.	Have Beneficial Impact? No.
#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 (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.	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? **Yes.**	Have Less-than-Significant Impact? No.	Have No Impact? No.	Have Beneficial Impact? No.

3.18.1 Environmental Setting

The Southern Valley Yokuts territory included Tulare, Buena Vista, and Kern lakes and the lower portions of the Kings, Kaweah, Tule, and Kern rivers. Yokuts were organized into distinct groups each of which had their own name, dialect, and territory. Each group averaged about 350 persons (Wallace 1978a). Yokuts were uniquely egalitarian in their political organization. Local groups were self-governing, and all members received equal ownership and access to most resources (Arkush 1993). The Southern Valley Yokuts established permanent settlements on high ground near larger bodies of water, above flood levels. Housing consisted of small round or oval-shaped structures framed by light wooden poles tied together and topped with tule mats. Southern Valley Yokuts relied heavily on tule reeds for basketry and making floor mats. Basketry tools, such as awls, were manufactured primarily from large mammal bones. Cordage was constructed from milkweed. Stone was less abundant in the Southern Valley Yokuts territory than in the Northern Valley Yokuts territory and lithic material and milling implements were generally obtained through trade. Other items acquired through trade with neighboring groups include Olivella and abalone shells, as well as clam disk monetary beads (Wallace 1978a). The Southern Valley Yokuts used tule to construct watercraft.

Methods and Findings

The cultural resources investigations carried out for the Project included background research conducted at the Southern San Joaquin Valley Information Center (SSJVC) of the California Historical Resources Information System, review of historic maps and historic and ethnographic documents, and an archaeological survey. No Tribal Cultural Resources are known to be present within the project area based on the negative results of the Sacred Lands File database search; the lack of previously identified Tribal Cultural Resources in the project area; and the absence of Native American archaeological sites, human remains, or other Native American cultural resources revealed during the background investigation or pedestrian survey.

No California Native American tribes have requested notification of projects under the jurisdiction of SSJMUD, as required by Public Resources Code Section 21080.3.1(b).2 Thus, the District was not required to provide any formal notification pursuant to AB 52.

3.18.2 Discussion

#18-a. Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resource Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)?

Tribal Cultural Resources are either (1) sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American Tribe that is either in or eligible for inclusion in the CRHR or a local historic register; or (2) a resource that the lead agency, at its discretion and supported by substantial evidence, chooses to treat as a Tribal Cultural Resource. In addition, a cultural landscape may also qualify as a Tribal Cultural Resource if it meets the criteria to be eligible for inclusion in the CRHR and is geographically defined in terms of the size and scope of the landscape. Other historical resources (as described in California PRC 21084.1), a unique archaeological resource (as defined in California PRC 21083.2[g]), or non-unique archaeological resources (as described in California PRC 21083.2[h]), may also be a Tribal Cultural Resource if it conforms to the criteria to be eligible for inclusion in the CRHR.

No Tribal Cultural Resources are known to be present within the project area. Though very unlikely, the possibility remains that a Tribal Cultural Resource may be revealed during project-related ground-disturbing activities or through further consultation with culturally affiliated Tribes. If this were to occur, then it would be a **potentially significant impact**. Implementation of Mitigation Measure CR-1 would address this impact:

Mitigation Measure CR-1: Address Previously Undiscovered Historic Properties, Archaeological Resources, and Tribal Cultural Resources.

Please refer to Mitigation Measure CR-1 in cultural resources impact a) above for the full text of this mitigation measure.

Implementing Mitigation Measure CR-1 would reduce the potential impact related to discovery of unknown Tribal Cultural Resources to a less-than-significant level because the find would be assessed by Culturally affiliated Tribes and the identification and implementation of avoidance or minimization measures would be conducted in consultation with the Tribes. Therefore, the proposed project would have a **less-than-significant impact with mitigation incorporated.**

3.19 Utilities and Service Systems

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

#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?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? No.	Have Beneficial Impact? **Yes**.
#19 -b. Have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry, and multiple dry years?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? **Yes**.	Have Beneficial Impact? No.
#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?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? **Yes**.	Have Beneficial Impact? No.
#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?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? **Yes**.	Have Beneficial Impact? No.
#19 -e. Comply with Federal, State, and local management and reduction statutes and regulations related to solid waste?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? **Yes**.	Have No Impact? No.	Have Beneficial Impact? No.

3.18.3 Environmental Setting

The project sites located in the unincorporated area of Kern County are served by PG&E, Southern California Edison, and Southern California Gas for electrical power and natural gas (Kern County 2009). The project sites located in the City of Delano receive electricity from Edison International

and natural gas from The Gas Company of Southern California (City of Delano 2005). Water is supplied to Kern County from the Kern River District, CVP Friant-Kern District, CVP Central Valley Canal District, and Kern County Water Agency State Water Project Member Unit.

3.18.4 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 projects would not generate any new water or wastewater demand requiring expanded facilities. The project would not require new electrical power, natural gas, or stormwater drainage. 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 projects would not require a water supply. The projects would provide reliable and local long-term water supplies for the District by constructing recharge basins resulting in a **beneficial impact**. No new or expanded entitlements are needed to serve the project.

#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 does not include habitable structures and would not generate wastewater. 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 Federal, state, and local management and reduction statutes and regulations related to solid waste?

The proposed project would generate demolition debris during the construction phase. Approximately 2000 cy of debris would be disposed of in compliance with Federal, State, and local regulations related to solid waste. The most likely site for disposal of construction debris is the Shafter-Wasco Landfill, approximately 17.50 miles southwest of the City of Delano Stormwater Retention Basin and District - City of Delano Spreading Basin. The Shafter-Wasco Landfill is currently permitted to receive up to 1,500 tons per day (CalRecycle 2020) and has adequate capacity to meet the project's disposal needs. This impact would be **less than significant**.

3.20 Wildfire

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

#20 -a. Substantially impair an adopted emergency response plan or emergency evacuation plan?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? **Yes**.	Have Beneficial Impact? No.
#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?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? **Yes**.	Have Beneficial Impact? No.
#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?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? **Yes**.	Have Beneficial Impact? No.
#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?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? **Yes**.	Have Beneficial Impact? No.

3.18.5 Environmental Setting

The project sites are not located within a very high fire hazard severity zone or State responsibility area (CALFIRE 2007a and 2007b). The Kern County Fire Department provides fire protection to residents of the unincorporated areas of the County, and the cities of Arvin, Delano, Maricopa, McFarland, Ridgecrest, Shafter, Tehachapi, and Wasco (Kern County 2004b). 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. The County also has a mutual aid contract with USFWS and a service agreement with the Bureau of Land Management.

3.18.6 Discussion

#20-a,b,c and d. Substantially impair an adopted emergency response plan or emergency evacuation plan? 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? 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? 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?

The project site is not located within a very high fire hazard severity zone or State responsibility area. There would be no increase in the number of users at the site that could impair emergency response or evacuation. Additionally, the short-term, temporary nature of construction and the intermittent nature of material off hauling and drop-off via large trucks at the project site locations would not pose a long term risk to emergency response or evacuation during an emergency. The project would not require any infrastructure that would exacerbate fire risk or the risk of flooding, slope instability, or drainage changes. There would be **no impact**.

3.21 Mandatory Findings of Significance

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

#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?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? **Yes**.	Have Less-than-Significant Impact? No.	Have No Impact? No.	Have Beneficial Impact? No.
#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)?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? **Yes**.	Have Less-than-Significant Impact? No.	Have No Impact? No.	Have Beneficial Impact? No.
#21 -c. Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? **Yes**.	Have No Impact? No.	Have Beneficial Impact? No.

3.18.7 Environmental Setting

3.18.8 Discussion

#21-a. Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, 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 concludes that implementing the proposed project would not have a significant impact on the environment. As evaluated in Section 3.4, Biological Resources, impacts on biological resources would be less than significant or less than significant with mitigation incorporated. 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. As discussed in Section 3.5, Cultural Resources, the proposed project would not eliminate important examples of the major periods of California history or prehistory. This impact would be **less-than-significant with mitigation incorporated**.

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

As discussed in this IS, the proposed project would result in less than significant impacts with mitigation incorporated, less-than-significant impacts, or no impacts on aesthetics, agricultural and forestry, air quality, biological resources, cultural resources, geology and soils, GHG emissions, hazards and hazardous materials, hydrology and water quality, land use and planning, mineral resources, noise, population and housing, public services, recreation, transportation, tribal cultural resources, utilities and service systems, and wildlife.

Two upcoming projects, the Vineyard at Delano project and the Delano West Pavilion project could be completed concurrently with the proposed project. These projects are proposed to be constructed between 2020 and 2030, within the City of Delano. The Vineyard at Delano project consists of a 33-acre facility containing 432 multi-family low-rise apartment units and has an estimated water demand of 271 AFY. The Delano West Pavilion project will include 440 apartment units as well as retail and restaurant space and has a water demand of 368 AFY. The project would allow SSJMUD to recharge 10,000 AFY of water and would allow more water to be available to the District for irrigational uses.

The temporary nature of the proposed project's construction impacts (up to 205 days cumulatively), and the minor, negligible changes to long-term operations and maintenance at the project site locations would result in no impacts or less-than-significant environmental impacts on the physical environment. None of the proposed project's impacts make cumulatively considerable, incremental contributions to significant cumulative impacts with incorporation of mitigation presented in this IS. This impact would be **less-than-significant with mitigation incorporated**.

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

The proposed project would result in less-than-significant impacts and would not cause substantial adverse effects on human beings, either directly or indirectly. The impact would be **less than significant**.

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3.21 Mandatory Findings of Significance

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Appendix A. Air Quality Screening Calculations

SSJMUD In District Groundwate Recharge

Equipment Type	Units	Estimated Hours of Use per Day for Phase	Horsepower	Working Days Per Activity	Total Equipment Hours	hp-hr	hp-hr/ construction day
Construction							
Excavator	3	9	268	120	1080	289,440	2,412
Dozer	3	9	140	45	405	56,700	1,260
Scraper	3	9	500	45	405	202,500	4,500
Backhoe	3	9	97	120	1080	104,760	873
Dump Truck	3	9	402	30	270	108,540	3,618
Water Truck	3	9	172	120	1080	185,760	1,548
Service Truck	3	9	172	120	1080	185,760	1,548
Compactor	3	9	8	45	405	3,240	72
							15,831
							TOTAL

18,278 hp-hr threshold (SJVAPCD)

Notes:

1. Horsepower was taken from CalEEMod or was provided by

2. Estimated hours of use per day were calculate by multiplying the usage factor (taken from the FHWA RCNM) by the estimate hours of construction activities per day.

3. Op

Appendix B. Biological Resources Data Base Results

CALIFORNIA DEPARTMENT OF FISH and WILDLIFE **RareFind**

Query Summary:
Quad IS (Richgrove (3511971) OR Delano East (3511972) OR Delano West (3511973) OR Deepwell Ranch (3511961) OR McFarland (3511962) OR Pond (3511963) OR North of Oildale (3511951) OR Famoso (3511952) OR Wasco (3511953))
AND Federal Listing Status IS (Endangered OR Threatened) OR State Listing Status IS (Endangered OR Threatened OR Rare OR Candidate Endangered OR Candidate Threatened)

Print Close

CNDDB Element Query Results

Scientific Name	Common Name	Taxonomic Group	Element Code	Total Occs	Returned Occs	Federal Status	State Status	Global Rank	State Rank	CA Rare Plant Rank	Other Status	Habitats
Agelaius tricolor	tricolored blackbird	Birds	ABPBXB0020	955	1	None	Threatened	G1G2	S1S2	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_EN-Endangered, NABCI_RWL-Red Watch List, USFWS_BCC-Birds of Conservation Concern	Freshwater marsh, Marsh & swamp, Swamp, Wetland
Buteo swainsoni	Swainson's hawk	Birds	ABNKC19070	2541	1	None	Threatened	G5	S3	null	BLM_S-Sensitive, IUCN_LC-Least Concern, USFWS_BCC-Birds of Conservation Concern	Great Basin grassland, Riparian forest, Riparian woodland, Valley & foothill grassland
Caulanthus californicus	California jewelflower	Dicots	PDBRA31010	67	4	Endangered	Endangered	G1	S1	1B.1	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden, SB_SBBG-Santa Barbara Botanic Garden, SB_UCBG-UC Botanical Garden at Berkeley	Chenopod scrub, Pinon & juniper woodlands, Valley & foothill grassland
Dipodomys nitratoides nitratoides	Tipton kangaroo rat	Mammals	AMAFD03152	81	9	Endangered	Endangered	G3T1T2	S1S2	null	IUCN_VU-Vulnerable	Chenopod scrub
Eremalche parryi ssp. kernensis	Kern mallow	Dicots	PDMAL0C031	202	5	Endangered	None	G3G4T3	S3	1B.2	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden, SB_SBBG-Santa Barbara Botanic Garden	Chenopod scrub, Pinon & juniper woodlands, Valley & foothill grassland
Gambelia sila	blunt-nosed leopard lizard	Reptiles	ARACF07010	418	17	Endangered	Endangered	G1	S1	null	CDFW_FP-Fully Protected, IUCN_EN-Endangered	Chenopod scrub
Monolopia congdonii	San Joaquin woollythreads	Dicots	PDASTA8010	111	1	Endangered	None	G2	S2	1B.2	SB_UCBG-UC Botanical Garden at Berkeley	Chenopod scrub, Valley & foothill grassland
Opuntia basilaris var. treleasei	Bakersfield cactus	Dicots	PDCAC0D055	62	1	Endangered	Endangered	G5T1	S1	1B.1	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	Chenopod scrub, Cismontane woodland, Valley & foothill grassland
Pseudobahia peirsonii	San Joaquin adobe sunburst	Dicots	PDAST7P030	51	3	Threatened	Endangered	G1	S1	1B.1	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	Cismontane woodland, Valley & foothill grassland
Vulpes macrotis	San Joaquin kit fox	Mammals	AMAJA03041	1020	60	Endangered	Threatened	G4T2	S2	null	null	Chenopod scrub,

mutica												Valley & foothill grassland

CALIFORNIA DEPARTMENT OF FISH and WILDLIFE **RareFind**

Query Summary:
Quad IS (Richgrove (3511971) OR Delano East (3511972) OR Delano West (3511973) OR Deepwell Ranch (3511961) OR McFarland (3511962) OR Pond (3511963) OR Famoso (3511952) OR Wasco (3511953) OR Wasco SW (3511954) OR Wasco NW (3511964) OR Allensworth (3511974) OR Pixley (3511983) OR Sausalito School (3511982) OR Ducor (3511981))
AND CA Rare Plant Rank IS (1B OR 1B.1 OR 1B.2 OR 1B.3 OR 2A OR 2B OR 2B.1 OR 2B.2 OR 2B.3)

Print Close

CNDDB Element Query Results

Scientific Name	Common Name	Taxonomic Group	Element Code	Total Occs	Returned Occs	Federal Status	State Status	Global Rank	State Rank	CA Rare Plant Rank	Other Status	Habitats
Astragalus hornii var. hornii	Horn's milk-vetch	Dicots	PDFAB0F421	28	1	None	None	GUT1	S1	1B.1	BLM_S-Sensitive	Alkali playa, Meadow & seep, Wetland
Atriplex cordulata var. erecticaulis	Earlimart orache	Dicots	PDCHE042V0	23	13	None	None	G3T1	S1	1B.2	null	Valley & foothill grassland
Atriplex coronata var. vallicola	Lost Hills crownscale	Dicots	PDCHE04371	75	2	None	None	G4T3	S3	1B.2	BLM_S-Sensitive	Chenopod scrub, Valley & foothill grassland, Vernal pool
Atriplex depressa	brittlescale	Dicots	PDCHE042L0	60	2	None	None	G2	S2	1B.2	null	Alkali playa, Chenopod scrub, Meadow & seep, Valley & foothill grassland, Vernal pool, Wetland
Atriplex minuscula	lesser saltscale	Dicots	PDCHE042M0	52	3	None	None	G2	S2	1B.1	null	Alkali playa, Chenopod scrub, Valley & foothill grassland
Atriplex persistens	vernal pool smallscale	Dicots	PDCHE042P0	41	1	None	None	G2	S2	1B.2	null	Vernal pool, Wetland
Atriplex subtilis	subtle orache	Dicots	PDCHE042T0	24	7	None	None	G1	S1	1B.2	null	Valley & foothill grassland
Calochortus striatus	alkali mariposa-lily	Monocots	PMLIL0D190	113	1	None	None	G3?	S2S3	1B.2	BLM_S-Sensitive, SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden, USFS_S-Sensitive	Chaparral, Chenopod scrub, Meadow & seep, Mojavean desert scrub, Wetland
Caulanthus californicus	California jewelflower	Dicots	PDBRA31010	67	5	Endangered	Endangered	G1	S1	1B.1	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden, SB_SBBG-Santa Barbara Botanic Garden, SB_UCBG-UC Botanical Garden at Berkeley	Chenopod scrub, Pinon & juniper woodlands, Valley & foothill grassland
Cirsium crassicaule	slough thistle	Dicots	PDAST2E0U0	18	1	None	None	G1	S1	1B.1	null	Chenopod scrub, Freshwater marsh, Marsh & swamp, Riparian scrub, Wetland
Delphinium recurvatum	recurved larkspur	Dicots	PDRAN0B1J0	119	17	None	None	G2?	S2?	1B.2	BLM_S-Sensitive, SB_SBBG-Santa	Chenopod scrub, Cismontane

											Barbara Botanic Garden	woodland, Valley & foothill grassland
Eremalche parryi ssp. kernensis	Kern mallow	Dicots	PDMAL0C031	202	8	Endangered	None	G3G4T3	S3	1B.2	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden, SB_SBBG-Santa Barbara Botanic Garden	Chenopod scrub, Pinon & juniper woodlands, Valley & foothill grassland
Eryngium spinosepalum	spiny-sepaled button-celery	Dicots	PDAPI0Z0Y0	108	1	None	None	G2	S2	1B.2	BLM_S-Sensitive	Valley & foothill grassland, Vernal pool, Wetland
Lasthenia chrysantha	alkali-sink goldfields	Dicots	PDAST5L030	55	11	None	None	G2	S2	1B.1	null	Vernal pool
Lasthenia glabrata ssp. coulteri	Coulter's goldfields	Dicots	PDAST5L0A1	111	1	None	None	G4T2	S2	1B.1	BLM_S-Sensitive, SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden, SB_SBBG-Santa Barbara Botanic Garden	Alkali playa, Marsh & swamp, Salt marsh, Vernal pool, Wetland
Layia munzii	Munz's tidy-tips	Dicots	PDAST5N0B0	68	1	None	None	G2	S2	1B.2	BLM_S-Sensitive	Chenopod scrub, Valley & foothill grassland
Monolopia congdonii	San Joaquin woollythreads	Dicots	PDASTA8010	111	2	Endangered	None	G2	S2	1B.2	SB_UCBG-UC Botanical Garden at Berkeley	Chenopod scrub, Valley & foothill grassland
Pseudobahia peirsonii	San Joaquin adobe sunburst	Dicots	PDAST7P030	51	5	Threatened	Endangered	G1	S1	1B.1	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	Cismontane woodland, Valley & foothill grassland

CALIFORNIA DEPARTMENT OF FISH and WILDLIFE **RareFind**

Query Summary:
Quad IS (Richgrove (3511971) OR Delano East (3511972) OR Delano West (3511973) OR Deepwell Ranch (3511961) OR McFarland (3511962) OR Pond (3511963) OR Famoso (3511952) OR Wasco (3511953) OR Wasco SW (3511954) OR Wasco NW (3511964) OR Allensworth (3511974) OR Pixley (3511983) OR Sausalito School (3511982) OR Ducor (3511981))
AND Federal Listing Status IS (Endangered OR Threatened) OR State Listing Status IS (Endangered OR Threatened OR Rare OR Candidate Endangered OR Candidate Threatened)

Print Close

CNDDB Element Query Results

Scientific Name	Common Name	Taxonomic Group	Element Code	Total Occs	Returned Occs	Federal Status	State Status	Global Rank	State Rank	CA Rare Plant Rank	Other Status	Habitats
Agelaius tricolor	tricolored blackbird	Birds	ABPBXB0020	955	10	None	Threatened	G1G2	S1S2	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_EN-Endangered, NABCI_RWL-Red Watch List, USFWS_BCC-Birds of Conservation Concern	Freshwater marsh, Marsh & swamp, Swamp, Wetland
Ammospermophilus nelsoni	Nelson's (=San Joaquin) antelope squirrel	Mammals	AMAFB04040	287	5	None	Threatened	G2G3	S2S3	null	BLM_S-Sensitive, IUCN_EN-Endangered	Chenopod scrub
Branchinecta lynchi	vernal pool fairy shrimp	Crustaceans	ICBRA03030	795	6	Threatened	None	G3	S3	null	IUCN_VU-Vulnerable	Valley & foothill grassland, Vernal pool, Wetland
Buteo swainsoni	Swainson's hawk	Birds	ABNKC19070	2541	5	None	Threatened	G5	S3	null	BLM_S-Sensitive, IUCN_LC-Least Concern, USFWS_BCC-Birds of Conservation Concern	Great Basin grassland, Riparian forest, Riparian woodland, Valley & foothill grassland
Caulanthus californicus	California jewelflower	Dicots	PDBRA31010	67	5	Endangered	Endangered	G1	S1	1B.1	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden, SB_SBBG-Santa Barbara Botanic Garden, SB_UCBG-UC Botanical Garden at Berkeley	Chenopod scrub, Pinon & juniper woodlands, Valley & foothill grassland
Dipodomys nitratoides nitratoides	Tipton kangaroo rat	Mammals	AMAFD03152	81	19	Endangered	Endangered	G3T1T2	S1S2	null	IUCN_VU-Vulnerable	Chenopod scrub
Eremalche parryi ssp. kernensis	Kern mallow	Dicots	PDMAL0C031	202	8	Endangered	None	G3G4T3	S3	1B.2	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden, SB_SBBG-Santa Barbara Botanic Garden	Chenopod scrub, Pinon & juniper woodlands, Valley & foothill grassland
Gambelia sila	blunt-nosed leopard lizard	Reptiles	ARACF07010	418	33	Endangered	Endangered	G1	S1	null	CDFW_FP-Fully Protected, IUCN_EN-Endangered	Chenopod scrub
Monolopia congdonii	San Joaquin woollythreads	Dicots	PDASTA8010	111	2	Endangered	None	G2	S2	1B.2	SB_UCBG-UC Botanical Garden at Berkeley	Chenopod scrub, Valley & foothill grassland
Pseudobahia peirsonii	San Joaquin adobe sunburst	Dicots	PDAST7P030	51	5	Threatened	Endangered	G1	S1	1B.1	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	Cismontane woodland, Valley & foothill grassland
Vulpes macrotis	San Joaquin	Mammals	AMAJA03041	1020	88	Endangered	Threatened	G4T2	S2	null	null	Chenopod

mutica	kit fox											scrub, Valley & foothill grassland

CALIFORNIA DEPARTMENT OF FISH and WILDLIFE **RareFind**

Query Summary:
Quad IS (Richgrove (3511971) OR Delano East (3511972) OR Delano West (3511973) OR Deepwell Ranch (3511961) OR McFarland (3511962) OR Pond (3511963) OR Famoso (3511952) OR Wasco (3511953) OR Wasco SW (3511954) OR Wasco NW (3511964) OR Allensworth (3511974) OR Pixley (3511983) OR Sausalito School (3511982) OR Ducor (3511981))
AND Other Status CONTAINS (CDFW_FP-Fully Protected OR CDFW_SSC-Species of Special Concern)

Print Close

CNDDB Element Query Results

Scientific Name	Common Name	Taxonomic Group	Element Code	Total Occs	Returned Occs	Federal Status	State Status	Global Rank	State Rank	CA Rare Plant Rank	Other Status	Habitats
Agelaius tricolor	tricolored blackbird	Birds	ABPBXB0020	955	10	None	Threatened	G1G2	S1S2	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_EN-Endangered, NABCI_RWL-Red Watch List, USFWS_BCC-Birds of Conservation Concern	Freshwater marsh, Marsh & swamp, Swamp, Wetland
Anniella grinnelli	Bakersfield legless lizard	Reptiles	ARACC01050	28	1	None	None	G2G3	S2S3	null	CDFW_SSC-Species of Special Concern	null
Arizona elegans occidentalis	California glossy snake	Reptiles	ARADB01017	260	3	None	None	G5T2	S2	null	CDFW_SSC-Species of Special Concern	null
Athene cunicularia	burrowing owl	Birds	ABNSB10010	2011	30	None	None	G4	S3	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern, USFWS_BCC-Birds of Conservation Concern	Coastal prairie, Coastal scrub, Great Basin grassland, Great Basin scrub, Mojavean desert scrub, Sonoran desert scrub, Valley & foothill grassland
Gambelia sila	blunt-nosed leopard lizard	Reptiles	ARACF07010	418	33	Endangered	Endangered	G1	S1	null	CDFW_FP-Fully Protected, IUCN_EN-Endangered	Chenopod scrub
Lampetra hubbsi	Kern brook lamprey	Fish	AFBAA02040	2	1	None	None	G1G2	S1S2	null	AFS_TH-Threatened, CDFW_SSC-Species of Special Concern, IUCN_NT-Near Threatened, USFS_S-Sensitive	Aquatic, Sacramento/San Joaquin flowing waters
Masticophis flagellum ruddocki	San Joaquin coachwhip	Reptiles	ARADB21021	96	3	None	None	G5T2T3	S2?	null	CDFW_SSC-Species of Special Concern	Chenopod scrub, Valley & foothill grassland
Phrynosoma blainvillii	coast horned lizard	Reptiles	ARACF12100	784	7	None	None	G3G4	S3S4	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern,	Chaparral, Cismontane woodland, Coastal bluff scrub, Coastal scrub, Desert wash, Pinon & juniper

											IUCN_LC-Least Concern	woodlands, Riparian scrub, Riparian woodland, Valley & foothill grassland
Spea hammondii	western spadefoot	Amphibians	AAABF02020	1422	22	None	None	G2G3	S3	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_NT-Near Threatened	Cismontane woodland, Coastal scrub, Valley & foothill grassland, Vernal pool, Wetland
Taxidea taxus	American badger	Mammals	AMAJF04010	594	3	None	None	G5	S3	null	CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern	Alkali marsh, Alkali playa, Alpine, Alpine dwarf scrub, Bog & fen, Brackish marsh, Broadleaved upland forest, Chaparral, Chenopod scrub, Cismontane woodland, Closed-cone coniferous forest, Coastal bluff scrub, Coastal dunes, Coastal prairie, Coastal scrub, Desert dunes, Desert wash, Freshwater marsh, Great Basin grassland, Great Basin scrub, Interior dunes, Ione formation, Joshua tree woodland, Limestone, Lower montane coniferous forest, Marsh & swamp, Meadow & seep, Mojavean desert scrub, Montane dwarf scrub, North coast coniferous forest, Oldgrowth, Pavement plain, Redwood, Riparian forest, Riparian scrub, Riparian woodland, Salt marsh, Sonoran desert scrub, Sonoran thorn woodland, Ultramafic, Upper montane coniferous forest, Upper Sonoran scrub, Valley & foothill grassland
Toxostoma lecontei	Le Conte's thrasher	Birds	ABPBK06100	238	1	None	None	G4	S3	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern, NABCI_RWL-Red Watch List, USFWS_BCC-Birds of Conservation Concern	Desert wash, Mojavean desert scrub, Sonoran desert scrub

IPaC **U.S. Fish & Wildlife Service**

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Kern County, California

Local office

Sacramento Fish And Wildlife Office

(916) 414-6600
(916) 414-6713

Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

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1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).
2. 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.

The following species are potentially affected by activities in this location:

Mammals

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

Reptiles

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

Amphibians

NAME	STATUS
California Red-legged Frog Rana draytonii Wherever found There is **final** critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/2891	Threatened

Fishes

NAME	STATUS
Delta Smelt Hypomesus transpacificus Wherever found There is **final** critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/321	Threatened

Insects

NAME	STATUS

Monarch Butterfly Danaus plexippus Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9743	Candidate

Crustaceans

NAME	STATUS
Vernal Pool Fairy Shrimp Branchinecta lynchi Wherever found There is **final** critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/498	Threatened

Critical habitats

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

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)
Common Yellowthroat Geothlypis trichas sinuosa This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/2084	Breeds May 20 to Jul 31

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be

used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (▪)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

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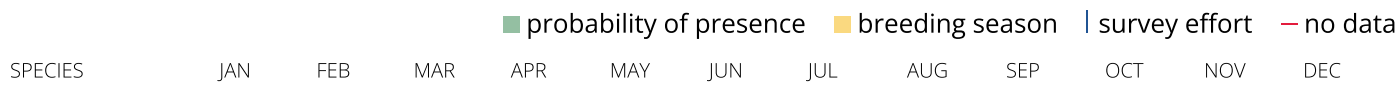

Common Yellowthroat BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)

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THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

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Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

WETLAND INFORMATION IS NOT AVAILABLE AT THIS TIME

This can happen when the National Wetlands Inventory (NWI) map service is unavailable, or for very large projects that intersect many wetland areas. Try again, or visit the NWI map to view wetlands at this location.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

IPaC **U.S. Fish & Wildlife Service**

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Kern County, California

Local office

Sacramento Fish And Wildlife Office

(916) 414-6600
(916) 414-6713

Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

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1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).
2. 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.

The following species are potentially affected by activities in this location:

Mammals

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

Reptiles

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

Amphibians

NAME	STATUS
California Red-legged Frog Rana draytonii Wherever found There is **final** critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/2891	Threatened

Fishes

NAME	STATUS
Delta Smelt Hypomesus transpacificus Wherever found There is **final** critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/321	Threatened

Insects

NAME	STATUS

Monarch Butterfly Danaus plexippus Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9743	Candidate

Crustaceans

NAME	STATUS
Vernal Pool Fairy Shrimp Branchinecta lynchi Wherever found There is **final** critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/498	Threatened

Critical habitats

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

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)
Black Tern *Chlidonias niger* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3093	Breeds May 15 to Aug 20
Clark's Grebe *Aechmophorus clarkii* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Jun 1 to Aug 31
Common Yellowthroat *Geothlypis trichas sinuosa* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/2084	Breeds May 20 to Jul 31

Lawrence's Goldfinch Carduelis lawrencei — Breeds Mar 20 to Sep 20
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9464

Olive-sided Flycatcher Contopus cooperi — Breeds May 20 to Aug 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/3914

Short-billed Dowitcher Limnodromus griseus — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9480

Tricolored Blackbird Agelaius tricolor — Breeds Mar 15 to Aug 10
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/3910

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.

3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

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Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

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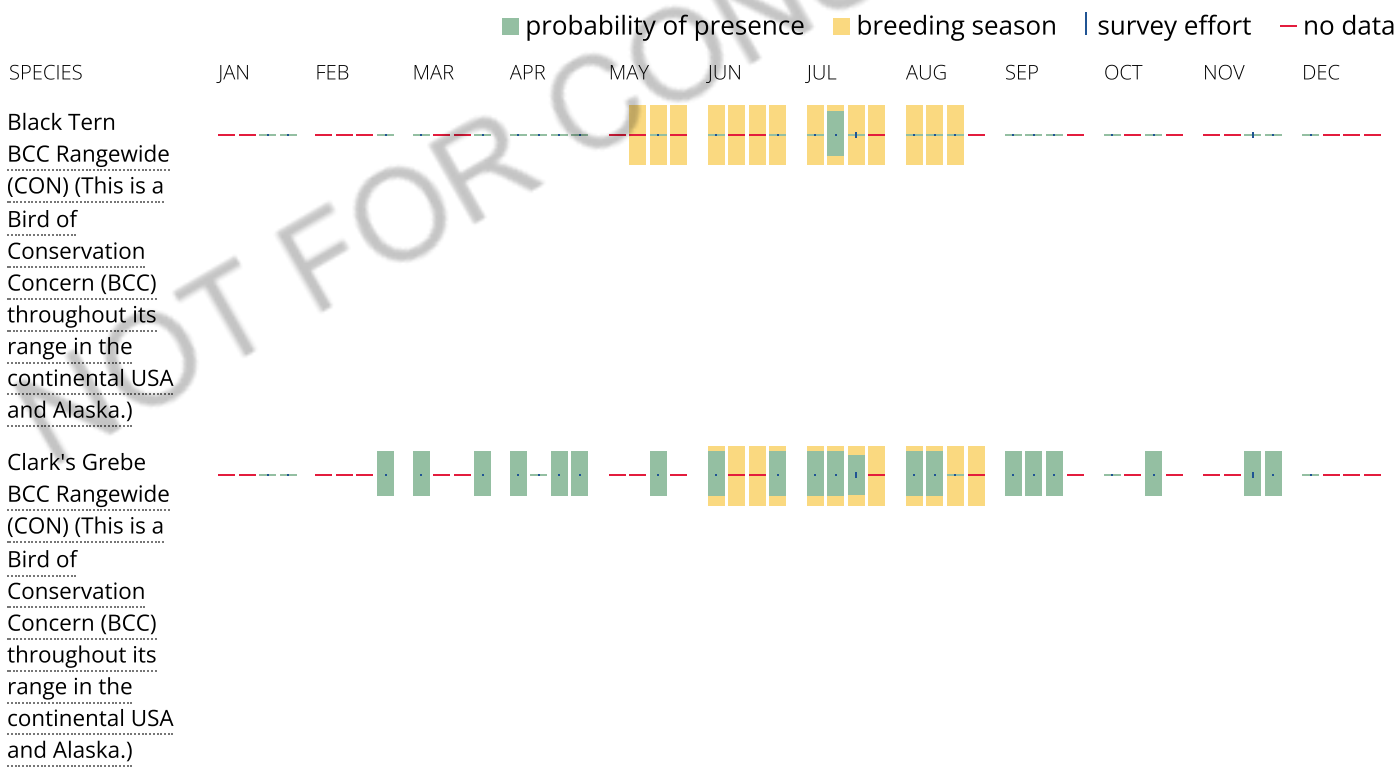

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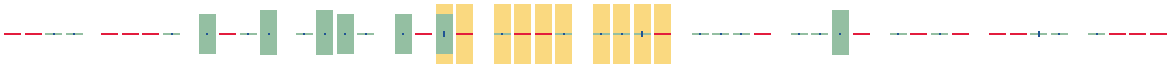

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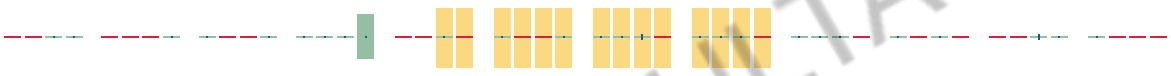

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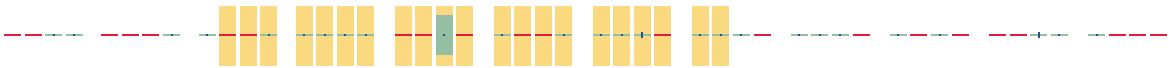

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THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

WETLAND INFORMATION IS NOT AVAILABLE AT THIS TIME

This can happen when the National Wetlands Inventory (NWI) map service is unavailable, or for very large projects that intersect many wetland areas. Try again, or visit the NWI map to view wetlands at this location.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters.

Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.