CAWELO COLLECTION BASIN AND PIPELINE PROJECT

Initial Study and Mitigated Negative Declaration

Prepared for
Cawelo Water District

September 2024

ESA

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SECTION 1
Introduction and Project Background

1.1 Introduction

The Cawelo Water District (CWD or District) as the lead agency has prepared this Initial Study (IS) and Mitigated Negative Declaration (MND) for the Cawelo Collection Basin and Pipeline Project (proposed Project) to comply with the California Environmental Quality Act (CEQA). The proposed Project includes construction of a 13 acre-foot (AF) reservoir and a two-mile pipeline to convey treated produced water from the Trio Petroleum LLC (Trio) facility to the Famoso Basin for groundwater recharge or, depending on surface water supplies, delivered through the District's existing distribution system for direct application to irrigated crops.

1.2 Project Background, Purpose and Need

The District is located in the San Joaquin Valley, approximately 6 miles northwest of Bakersfield, California in Kern County (**Figure 1-1**). The District provides irrigation water to approximately 34,000 acres of almond, citrus, pistachio, and grape crops through CWD's distribution system, consisting of 6.5 miles of lined canals and approximately 55-miles of main and lateral pipelines (CWD 2021a, 2021b). The District owns five reservoirs used for short term storage and groundwater recharge, including the Famoso Basins. A majority of the water used for irrigation is imported and the District's infrastructure provides conveyance across the region to support conjunctive use management. Imported water sources include the State Water Project, Central Valley Project, the Kern River, and Poso Creek (CWD 2020).

In addition, CWD receives treated oilfield produced water through agreements with Chevron USA, Inc. and California Resources Corporation in compliance with the standards set by the Central Valley Region Water Quality Control Board (Central Valley Water Board) waste discharge requirements (WDRs). "Produced water" under the proposed Project refers to treated oil production wastewater. Oil field produced water is a byproduct of oil production. Production fluid, extracted from the ground via oil wells, generally consists of oil and water. The water fraction is called "produced water."

The produced water is separated from the crude oil using oil-water separators, and then filtered and treated by the oil extraction companies prior to being pumped to the irrigation water collection basin, as discussed in the *Irrigation Water Quality Evaluation* report, which was prepared to evaluate the water quality (Enviro-Tox 2016). The treatment is conducted in compliance with Central Valley Water Board WDRs (Order R5-2012-0058, as amended by R5-2019-0025; RWQCB 2012, 2019), which require the produced water be treated to achieve water quality goals for agricultural use. Although the irrigation water is not used as drinking water, which has lower regulatory standards, drinking water standards were used, if established, to ensure the highest and strictest (safest) water quality standards.

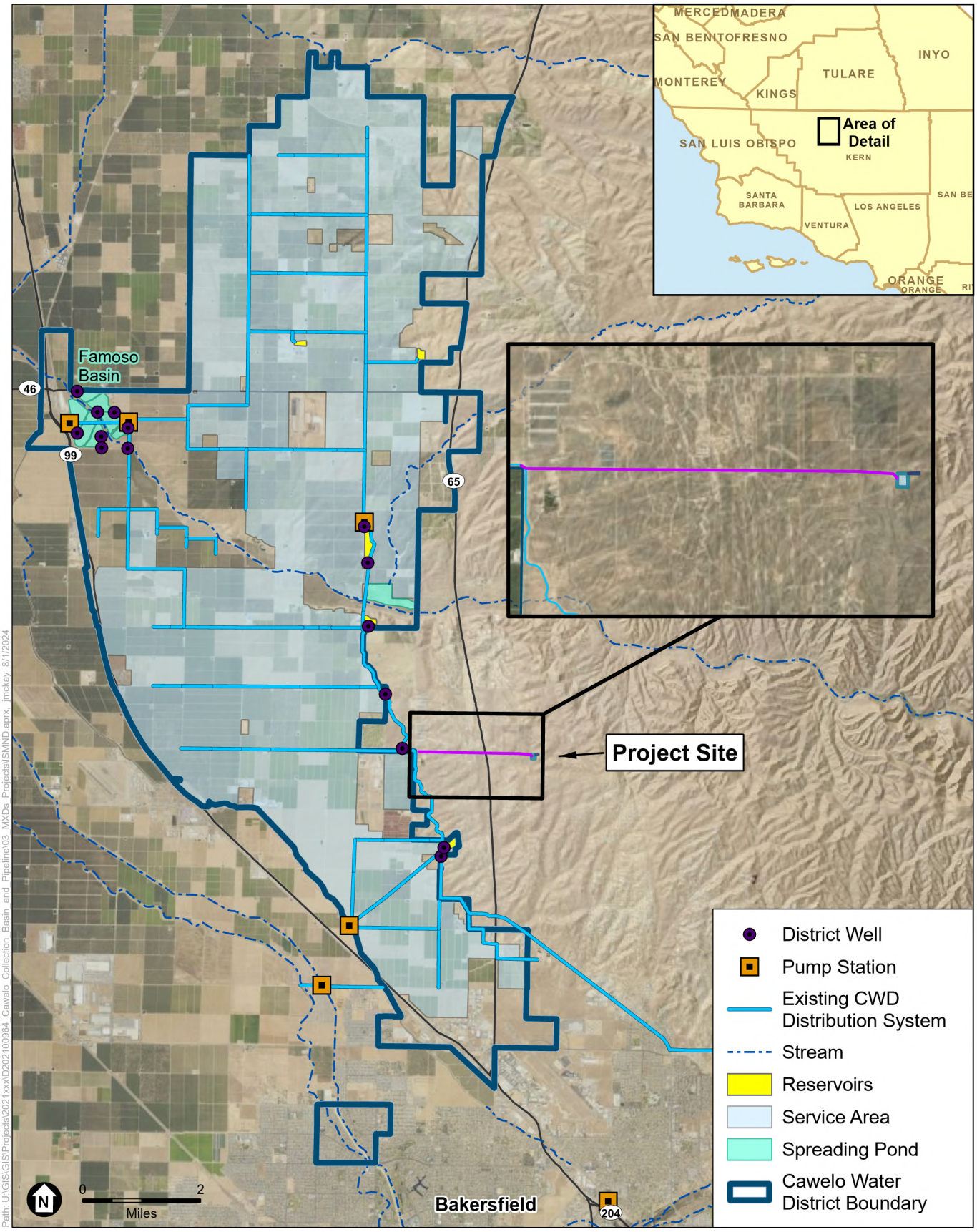
The cited evaluation report reviewed the analytical testing methods, the chemical results, and the required regulatory standards. The review of the data indicated that the irrigation water provided by the CWD contained traces of organic chemicals at concentrations at or below drinking water quality standards, does not pose a health threat to fruit trees or consumers of agricultural products, and is safe for irrigation of fruit trees. In summary, the analytical results show that the irrigation water does not contain concentrations of chemicals known to cause harm to humans or the environment.

The only petroleum-derived chemicals detected in the irrigation water are long-chain hydrocarbons (i.e., in the range of oil and grease). The potential presence of petroleum hydrocarbon residue in the produced water has been monitored on a monthly basis since 2002. Analysis of the historical oil and grease data indicated that the maximum recorded concentration of oil and grease in the irrigation water was 29 milligrams per liter (mg/L), which is below the WDRs regulatory standard of 35 mg/L. Regarding long-chain hydrocarbons, toxicity studies have demonstrated that long-chain petroleum hydrocarbons are essentially not toxic to plants. The same plant toxicity studies have demonstrated that even high levels of long-chain hydrocarbons in irrigation water or soil do not pose a threat to plants or to the human food chain.

Long-chain petroleum hydrocarbons are non-toxic to plants and actually have beneficial uses in agriculture. Petroleum-derived oils are intentionally applied to fruit trees as horticultural oils; horticultural oils may contain up to 92 percent hydrocarbons. The hydrocarbon concentration detected at the CWD water reservoir outflow is 11.5-million times lower than the hydrocarbon concentration of horticultural oils. Long-chain hydrocarbons (1) have a low toxicity potential; (2) are easily broken down and degraded by soil microorganisms; (3) are essentially not absorbed by plants into their stems, fruits or leaves; and (4) were detected in the irrigation water at concentrations that are below regulatory limits set by the U.S. Environmental Protection Agency and the Central Valley Water Board.

Upon receiving treated produced water, the water is blended with surface water and/or groundwater prior to delivering the water for irrigation. Deliveries to CWD of treated oilfield produced water average approximately 30,000 AFY (CWD 2021a). Further, approximately 95,000 acres of farm lands in east Kern County are irrigated with produced water (Central Valley Water Board and Stringfellow 2021a). The produced water under the proposed Project augments the District's water supply 940 AFY and is identified as an important water supply in CWD's Agricultural Water Management Plan (2020).

The District currently has agreements with local oil well operators including Chevron USA Inc. and California Resources Corporation to receive treated oilfield produced water in compliance with the standards set by the Central Valley Water Board WDRs (Central Valley RWQCB 2012, 2019). Deliveries of existing treated produced water supplies have totaled approximately 30,000 AFY in recent years (CWD 2021a). In response to dry conditions caused by ongoing drought, the District's response has been to increase the use of treated oilfield produced water to offset groundwater pumping (CWD 2021b).



SOURCE: ESRI, 2022; CWD, 2021; ESA, 2022

Cawelo Collection Basin and Pipeline

Figure 1-1
Cawelo Water District Service Area and Facilities

ESA

1.3 References

Central Valley Regional Water Quality Control Board (RWQCB), 2012. *Order R5-2012-0058, Waste Discharge Requirements for Chevron USA, Inc., and Cawelo Water District, Produced Water Reclamation Project, Kern River Area Station 36, Kern River Oil Field, Kern County*. June 8.

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CWD, 2021b. *WaterSMART Drought Response Program: Drought Resiliency Projects Fiscal Year 2022. Notice of Funding Opportunity R22AS00020. Reuse of Produced Water Project*. 2021.

CWD, 2024. *Recycled Produced Water.* Available online at *https://www.cawelowd.org/recycled-produced-water/.* Accessed August 2024.

Enviro-Tox, 2016. *Irrigation Water Quality Evaluation, Cawelo Water District, Bakersfield, California*. April 7.

SECTION 2
Project Description

2.1 Project Location

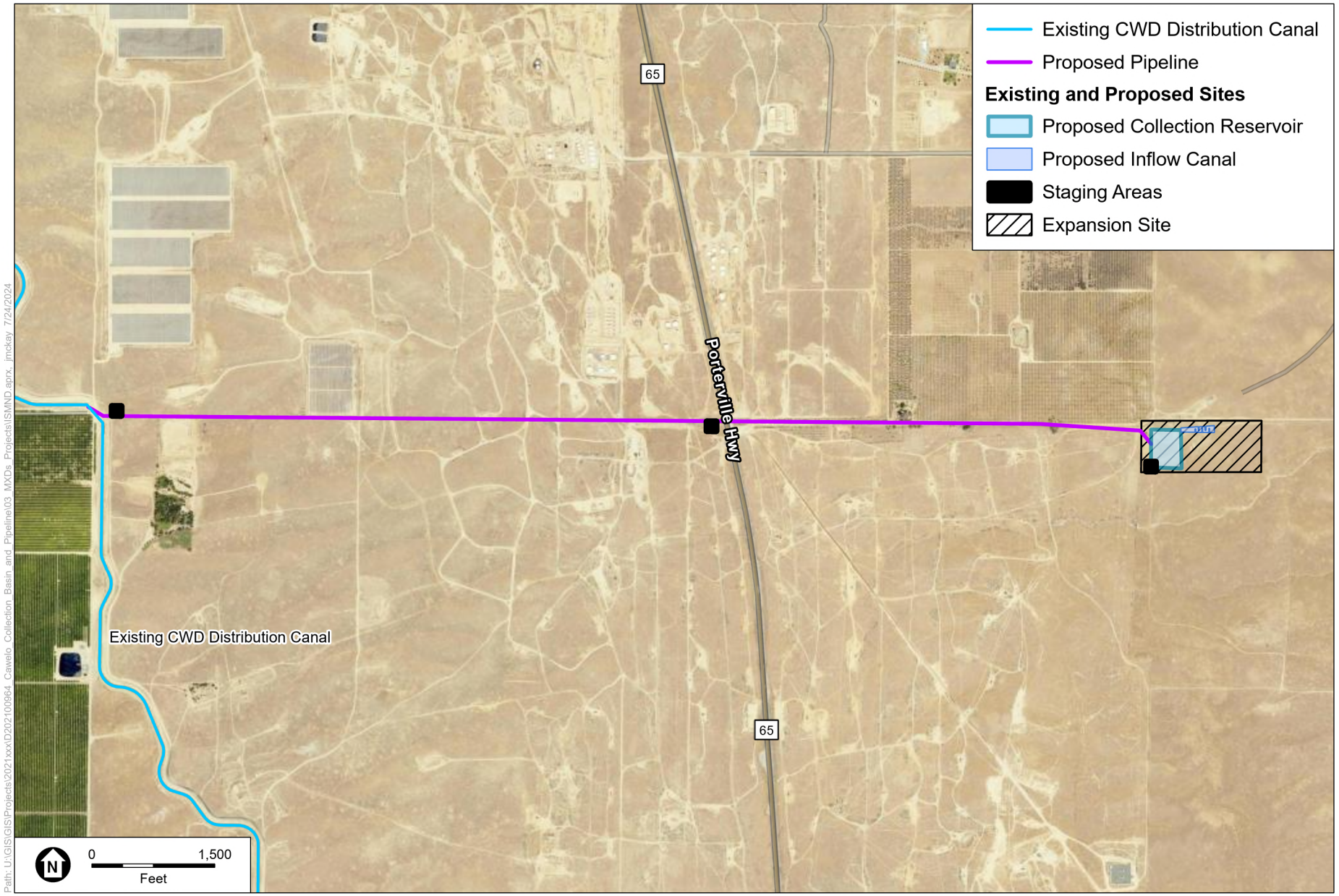
The proposed Project is located in Kern County within the southern San Joaquin Valley. The southeast corner of the proposed pipeline would start at the new 13-AF collection basin, and continue westerly for two miles, crossing under Highway 65 using a 36-inch diameter cased boring, and end at CWD's Distribution Canal (**Figure 2-1**).

2.2 Project Objectives

The proposed Project would recycle oil produced water supplied by Trio. The primary objective of the proposed Project is to increase the District's water supplies for irrigation and improve water management through groundwater recharge in the Famoso Basin.

2.3 Project Description

Under the proposed Project, CWD would receive oil produced water that has been treated and filtered by Trio. To convey the treated water to CWD's distribution system, the proposed Project includes construction of an inflow canal, 13-AF collection basin, and a two-mile long 18-inch diameter pipeline. Trio would deliver treated oil produced water to the new inflow canal and collection reservoir, where it would be retained for approximately 48-hours before conveyance through the new 2- mile gravity-fed pipeline to CWD's Distribution Canal. The new collection basin would be located on District-owned property that is currently undeveloped. The District has obtained an easement for the 2-mile pipeline. The pipeline would traverse a heavily disturbed oilfield. The collection basin would be constructed with earthen berms with a 4:1 exterior slope, 2:1 interior side slopes with a total depth of 8 feet, including 2 feet of freeboard. The collection basin would be lined with a geo-membrane liner.



SOURCE: USDA, 2019; CWD, 2021; ESA, 2024.

Cawelo Collection Basin and Pipeline Project

Figure 2-1

Proposed Project

ESA

2.3.1 Project Construction

Construction would consist of activities consistent with digging, trenching, and excavation of soil to install the new pipeline and reservoir. The new 13-AF collection basin site would occupy approximately 14 acres however the collection basin itself would be approximately 250 feet by 250 feet in area and 8 feet deep. Construction equipment would consist of one excavator, a loader and back hoe, two water trucks, two dump trucks and a crane. The trench for the 18-inch conveyance pipeline would be approximately 6 feet wide and 6 feet deep, traversing heavily disturbed oilfield lands, and existing dirt roads, disturbing no more than 35 feet on either side. Excavated soils would be utilized on site. CWD's contractor would bore underneath State Highway 65 approximately 10 feet deep and the remainder of pipe would be installed approximately 4 feet underground. Boring entry and exit pits would be no more than 12 by 30 feet. Staging for the proposed Project would occur adjacent to the pipeline route and at three designated areas identified on Figure 2-1. Access to the proposed Project site would be via existing roads, landowner easements and highway. Each staging area is estimated to be approximately 100 by 100 feet. Approximately 15 workers would be required for up to six months to implement the proposed Project.

The collection basin would be excavated on site using excavators and bulldozers. Excavated soils would be used to form the reservoir berms. The facility would be compacted and graders would groom the bottom and sides. A geo-membrane liner would be installed to minimize infiltration from the proposed reservoir. The liner would be delivered to the site and stored at a staging area prior to being installed.

The construction corridor would traverse State Highway 65 using jack and bore methods. If construction requires temporary closure of traffic lanes, traffic control would be installed, complying with County requirements. Once the pipeline is installed, the surface would be returned to its pre-Project condition.

2.3.2 Schedule

Following the completion of successful permitting process, construction of the proposed Project is expected to begin in late 2024 with an anticipated completion date of May 2025.

2.4 Operation and Maintenance Activities

Once installed, the pipeline would require minimal maintenance. The collection basin would receive periodic maintenance including vegetation removal and visual inspection. The Facility would be unmanned, but visited routinely by existing staff to monitor the inflow canal and collection basin for proper operations.

Once operational, the treated produced water would be blended with supplies within CWD's Distribution Canal for application on agricultural fields. CWD has a long history of complying with the water quality standards and testing/monitoring protocols established by the Central Valley RWQCB, as discussed in Section 1.2, *Project Background, Purpose and Need*. Similar to CWD's existing use of oil produced water within the District, detected organic compounds are expected to be well within safe drinking water standards making the produced water safe for agricultural use (Enviro-Tox 2016; CWD 2024). Further, water quality laboratory analysis found that levels of acetone in CWD's produced water were 280 times below the maximum concentration considered safe for drinking water, and the level of petroleum

hydrocarbons in CWD's produced water were 750 times below the maximum concentration considered safe for drinking water (CWD 2024). Additionally, preliminary crop testing found that crops irrigated with Cawelo's produced water had the same chemical composition as crops irrigated with other water supplies (Enviro-Tox 2016; CWD 2024).

2.5 Project Approvals

This IS-MND has been prepared to meet the substantive and procedural requirements of CEQA. **Table 2-1** summarizes the proposed Project permit requirements from their respective agencies. This IS-MND may be used for future proposed Project approvals from other agencies.

TABLE 2-1
DISCRETIONARY PERMITS POTENTIALLY REQUIRED

Agency	Permits and Authorizations Potentially Required
Central Valley Regional Water Quality Control Board (CVRWQCB)	Waste Discharge Requirement (WDR)
California Department of Fish and Wildlife	Streambed Alteration Agreement.
Caltrans	Encroachment Permit
Kern County	Encroachment Permit Excavation Permit

2.6 References

CWD, 2024. *Recycled Produced Water.* Available online at *https://www.cawelowd.org/recycled-produced-water/.* Accessed August 2024.

Enviro-Tox, 2016. *Irrigation Water Quality Evaluation, Cawelo Water District, Bakersfield, California*. April 7.

SECTION 3
Initial Study Checklist

3.1 Background

1. **Project Title:** Cawelo Water District Collection Basin and Pipeline Project

2. **Lead Agency Name and Address:** Cawelo Water District
17207 Industrial Farm Rd
Bakersfield, CA 93308

3. **Contact Person and Phone Number:** David Ansolabehere
General Manager
(661) 393-6072

4. **Project Location:** The Project latitude is {35° 31' 02" N} and longitude is {119° 04' 33" W}. The site is located to the east of Highway 65 in Kern County, CA

5. **Project Sponsor's Name and Address:** Same as Lead Agency

6. **General Plan Designation(s):** Mineral and Petroleum (Min. 5 Acres)

7. **Zoning:** Limited Agriculture and Exclusive Agriculture

8. **Description of Project:**

   The proposed Project includes construction of a 13-AF collection basin and a two-mile long, 18-inch diameter pipeline that would deliver oil produced water to CWD's existing Distribution Canal.

9. **Surrounding Land Uses and Setting:**

   The proposed Project area is located within a very rural area consisting of agricultural land, sparse residents, local roadways and Highway 65.

10. **Other public agencies whose approval is required (e.g., permits):**

    See Section 2.5, *Project Approvals*

3.2 Environmental Factors Potentially Affected

The environmental factors checked below include impacts that are "Less Than Significant with Mitigation Incorporated." There are no environmental factors that have an impact that is identified as a "Potentially Significant Impact" because all potential significant impacts can be reduced to less than significant with the incorporation of mitigation measures.

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

DETERMINATION:

On the basis of this IS:

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

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

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

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

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

Signature — Date: Sept. 20, 2024

David Ansolabehere — Printed Name

Cawelo Water District — For

SECTION 4
Environmental Analysis

Sections 4.1 through 4.21 analyze the potential environmental impacts associated with the proposed Project. The environmental issue areas that are evaluated are:

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

The environmental analysis in the following sections is patterned after the CEQA Guidelines Appendix G, Environmental Checklist, which was revised by the which was revised by the California Office of Planning and Research on December 28, 2018, and used by CWD in its environmental review process. The Environmental Checklist will identify and briefly explain the environmental effects of the proposed Project. For any effects that are determined to be potentially significant, the Environmental Checklist will identify and evaluate feasible measures that may be incorporated into the project to avoid or mitigate any adverse impacts.

Under CEQA, there are four possible determinations of significance:

- **No Impact.** The Project will not have any measurable environmental impact on the environment.
- **Less than Significant Impact.** The Project will have the potential for impacting the environment, although this impact will be below established thresholds that are considered to be significant.
- **Less than Significant with Mitigation Incorporated.** The Project will have the potential to generate impacts, which may be considered as a significant effect on the environment, although mitigation measures or changes to the development's physical or operational characteristics can reduce these impacts to levels that are less than significant.

- **Potentially Significant Impact.** The Project could have impacts, which may be considered significant, and therefore additional analysis is required to identify mitigation measures that could reduce potentially significant impacts to less than significant levels.

The following is a discussion of potential Project impacts as identified in the Environmental Checklist. Explanations are provided for each item.

4.1 Aesthetics

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

Discussion

a) Scenic vistas are defined as expansive views of distant landforms and aesthetic features from public vantage points, including areas designated as official scenic vistas along roadway corridors or otherwise designated by local jurisdictions. The proposed Project area would be located within unincorporated Kern County within an agricultural area largely undeveloped and rural in nature. The Kern County General Plan does not identify any aesthetic resources in the Project vicinity (County of Kern 2009). The proposed Project area is not located in the vicinity of an officially designated scenic vista or Scenic Highway Corridor by Kern County (County of Kern 2009). The proposed Project area is very remote and consists of both undeveloped agricultural land and rural areas lightly developed with oil and water supply/storage facilities, along with local access roads and Highway 65.

Activities associated with implementation of the proposed Project would include site preparation/staging and construction of the proposed inflow canal, collection basin, and pipeline. Although very unlikely due to the largely rural nature of the Project area, construction equipment could temporarily be visible from public vantage points near the proposed Project area including local paved and dirt roadways. However, once constructed, the equipment would be removed and no impact to scenic vistas would occur.

Once constructed, the proposed pipeline would be located entirely underground and would have no permanent effect on a scenic vista. The proposed inflow canal and collection basin would not have the scale or massing to obstruct any views of vistas that may be considered scenic such as hillsides and mountains. Therefore, impacts during operation to scenic vistas would be less than significant.

b) A scenic highway is officially designated as a State Scenic Highway when a local jurisdiction adopts a scenic corridor protection program, applies to Caltrans for scenic highway approval, and receives notification from Caltrans that the highway has been designated as an official Scenic Highway. Scenic corridors consist of lands that are visible from the right of way of a State Scenic Highway and are comprised primarily of scenic and natural features. Based on a review of the Kern County General Plan and Caltrans List of Scenic Highways, the proposed Project area is not located along a State Scenic Highway (County of Kern 2009; Caltrans 2022). Therefore, the Proposed Project would not impact scenic resources, which include rock outcroppings, trees, or historic buildings within a designated State Scenic Highway corridor and no impact would occur.

c) The proposed Project would occur in an area dominated by agricultural and oil land uses. The proposed Project vicinity currently contains oil facilities, agricultural facilities, reservoirs, canals, and pipelines similar to the proposed Project facilities. Public views of the area are provided very briefly to motorists traveling along local roadways.

Construction activities associated with the proposed Project would result in short-term impacts to the visual character and quality of the proposed Project area. Construction activities would require the use of construction equipment and storage of materials within the proposed Project area for Project components. Excavated areas, stockpiled soils and other materials generated during construction could present negative aesthetic elements to the existing visual landscape. However, these effects would be temporary and would not permanently affect the existing visual character and quality of the surrounding area. Further, the presence of construction equipment would not be substantially different from large pieces of agricultural and oil equipment present in the Project area and on surrounding lands.

Once constructed, the proposed pipeline would be located underground and the proposed inflow canal and collection basin would appear similar to existing reservoir and canal areas located within the proposed Project vicinity. In most cases, the proposed Project facilities would only be visible for short periods of time, therefore, implementation of the proposed facilities would not degrade the visual character or quality of the proposed Project area. Impacts would be considered less than significant.

d) Construction of the proposed Project facilities would not require lighting for night-time construction activities, therefore construction activities would not introduce new sources of substantial light or glare in the proposed Project area.

None of the proposed Project facilities would include lighting; however, after construction, when the proposed collection basin water level is at its peak in the winter and spring months, the collection basin could create new sources of glare from an increased water surface area. However, the proposed collection basin would be surrounded by a berm of 2 feet in height. The earthen berm would block any potential glare from the collection basin. Further, the proposed collection basin, along with the proposed inflow canal would only noticeable to motorists travelling along local roadways for brief periods of time (several seconds). As a result, impacts of lighting and daytime glare would be less than significant.

References

Caltrans, 2022. California State Scenic Highway System Map. Available online at: https://caltrans.maps.arcgis.com/apps/webappviewer/index.html?id=465dfd3d807c46cc8e8057116f1aacaa. Accessed July 2024.

County of Kern, 2009. Land Use, Open Space, and Conservation Element. Chapter 1. Available online at: https://psbweb.co.kern.ca.us/planning/pdfs/kcgp/KCGPChp1LandUse.pdf. Accessed July 2024.

4.2 Agriculture and Forestry Resources

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

Discussion

a) The proposed inflow canal, collection basin and pipeline would be implemented throughout California Department of Conservation (DOC) land use designations that are categorized as Vacant or Disturbed Land and Grazing Land (DOC 2016). Therefore, the proposed Project facilities would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use. No impact would occur.

b) The proposed inflow canal and collection basin would be implemented within land owned by the District. Further, the District has obtained an easement for the area where the proposed pipeline would be implemented, which is a disturbed oilfield. Both areas are not currently enrolled in a Williamson Act Contract (County of Kern 2022a). The area is zoned for Exclusive Agriculture (A) and Limited Agriculture (A-1) (County of Kern 2022). Per Government Code Section 53091(e), zoning ordinances of a county or city shall not apply to the location or construction of facilities for the production, generation, storage, treatment, or transmission of water. As this proposed Project's objective is water conveyance and storage, the zoning ordinances of the Kern County do not apply to the proposed Project. Therefore, implementation of the proposed Project facilities would not conflict with zoning for agricultural use or a Williamson Act Contract. Impacts would be less than significant.

c) No land designated as forest land or timberland is located within the proposed Project area (County of Kern 2022b). As a result, no impact would occur.

d) The proposed Project area is not located within land designated as forest land. Therefore, there is no potential for the implementation of the proposed Project to result in the loss of forest land or conversion of forest land to non-forest use. No impact would occur.

e) As described in Section 2.3, *Project Description* and above under the analysis for Section 4.2a, the proposed Project facilities would be implemented within land zoned for limited and exclusive agriculture, but designated by the DOC as Vacant or Disturbed Land and Grazing Land. The collection basin would remove approximately 20 acres of land currently used for cattle grazing. Implementation of the proposed Project would not interfere with local agricultural production areas within the vicinity of the proposed Project or convert any active farmland to non-agricultural use. No impact would occur.

Additionally, there is no land designated as forest land or timberland is located within the proposed Project area, therefore, the proposed Project would not convert forest land to non-forest use. No impact would occur.

References

California Department of Conservation (DOC), 2016. California Important Farmland Finder. Available online at: https://maps.conservation.ca.gov/DLRP/CIFF/. Accessed July 2024.

County of Kern, 2022a. Kern County GIS. Available online at: https://maps.kerncounty.com/H5/index.html?viewer=KCPublic/ Accessed July 2024.

County of Kern, 2022b. Kern County GIS. Available online at: https://maps.kerncounty.com/H5/index.html?viewer=KCPublic. Accessed July 2024.

4.3 Air Quality

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

Discussion

a-c) The proposed Project site is located in Kern County within the San Joaquin Valley Air Basin (SJVAB), which is under the jurisdiction of the San Joaquin Valley Air Pollution Control District (SJVAPCD). The SJVAB is designated as nonattainment for the federal and state ozone standards, federal and state fine particulate matter (PM2.5) standards and for the state respirable particulate matter standard (PM10) (SJVAPCD 2024a). The SJVAPCD is responsible for implementing programs and regulations required by the CAA and the California Clean Air Act within the air basin. In this capacity, SJVAPCD has prepared plans to attain federal and state ambient air quality standards for which it has been designated as non-attainment. The air quality plans include emissions inventories that identify sources of air pollutants, evaluations for feasibility of implementing potential opportunities to reduce emissions, sophisticated computer modeling to estimate future levels of pollution, and a strategy for how air pollution would be further reduced. The Project would comply with applicable SJVAPCD regulations and rules for controlling emissions including fugitive PM10 emissions pursuant to Regulation VIII (SJVAPCD 2024b). Further, the SJVAPCD's attainment plans demonstrate that Project-specific emissions below the offset thresholds would have a less-than-significant impact on air quality (SJVAPCD 2015). Therefore, projects with emissions below SJVAPCD thresholds of significance for criteria pollutants would be determined to not conflict or obstruct implementation of the SIP or the SJVAPCD's air quality plans.

The proposed Project would generate short-term air pollutant emissions due to equipment operation and vehicle travel during construction. In the interest of streamlining CEQA requirements, projects that fit in the Small Project Analysis Levels (SPAL) are deemed to have a less than significant impact on air quality and as such are excluded from quantifying criteria pollutant emissions for CEQA purposes (SJVAPCD 2020). The proposed project would be exempt from quantifying criteria pollutant air quality emissions through the SJVAPCD's small project analysis levels because proposed Project dimensions are less than 280,000 square feet and result in fewer than 550 daily one-way trips (SJVAPCD 2020).

Overall, construction associated with the proposed project is expected to last approximately six months. Construction would require minimal equipment consisting of one excavator, a loader and back hoe, two water trucks, two dump trucks and a crane. Excavated soils would be utilized on site, thus, eliminating the need for off-site haul trucks. Construction would also require a minimal number of workers (approximately 15 workers), which would generate negligible commuting trips and associated emissions. Therefore, the proposed project construction would not conflict or obstruct implementation of the SIP or the SJVAPCD's air quality plans and impacts would be less than significant.

Once installed, the pipeline would require minimal maintenance. The collection basin would receive periodic maintenance including vegetation removal and visual inspection of the reservoir. The facilities would be unmanned, but visited periodically to monitor the inflow canal and collection basin for proper operations. Therefore, no new on-going daily emissions would be generated as a result of proposed project operation. Proposed project operation would not conflict with or obstruct implementation of the regional air quality plan. Therefore, impacts would be less than significant.

CEQA defines cumulative impacts as two or more individual impacts which, when considered together, are either significant or "cumulatively considerable," meaning they add considerably to a significant environmental impact. An adequate cumulative impact analysis considers a project over time and in conjunction with other past, present, and reasonably foreseeable future projects whose impacts might compound those of the project being assessed. By its very nature, air pollution is largely a cumulative impact. A project's emissions may be individually limited, but cumulatively considerable when taken in combination with past, present, and future development within the SJVAB. The non-attainment status of the SJVAB with respect to regional pollutants (ozone and particulate matter) is a result of past and present development. Future attainment of state and federal ambient air quality standards is a function of successful implementation of SJVAPCD's attainment plans. Consequently, the SJVAPCD's application of thresholds of significance for criteria pollutants is a relevant way to determine whether a project's individual emissions would have a cumulatively significant impact on air quality.

Per CEQA Guidelines Section 15064(h)(3), a Lead Agency may determine that a project's incremental contribution to a cumulative effect is not cumulatively considerable if the project will comply with the requirements in a previously approved plan or mitigation program, including, but not limited to an air quality attainment or maintenance plan that provides specific requirements that will avoid or substantially lessen the cumulative problem within the geographic area in which the project is located (SJVAPCD 2015). The SJVAPCD has established thresholds of significance for criteria pollutant emissions, thus, projects with emissions below the thresholds of significance for criteria pollutants would be determined to comply with the SJVAPCD's air quality plans and would not contribute a cumulatively considerable increase for these criteria pollutants (SJVAPCD 2015). As discussed above, the proposed project meets the definition of a SPAL, which is deemed to have a less than significant impact on air quality due to minimal emissions (SJVAPCD 2020), and would comply with applicable SJVAPCD regulations and rules to control emissions, such as Regulation VIII. Thus, the project would not 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 and impacts would be less than significant.

Sensitive receptors are defined as facilities and land uses that include members of the population that are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. Examples include schools, hospitals, and daycare centers. Residential areas are also considered sensitive to poor air quality because people usually stay home for extended periods of time, which results in greater exposure to ambient air quality.

The proposed pipeline and collection basin site would be built on District-owned property or District-acquired easements. The area is rural and predominately uninhabited, and there are no sensitive receptors within 1,000 feet of any of the proposed project sites. Additionally, the proposed project's construction is linear in nature and is not anticipated to occur at any one site for an extended period of time. Operation of the proposed project would not result in any new emissions. The proposed project would not expose sensitive receptors to substantial criteria pollutants due to the lack of receptors near the proposed project site and the short-term nature of construction activity. Therefore, impacts would be less than significant.

d) Operation of the reservoir and pipeline would not introduce any new sources that would generate odorous emissions. Diesel-powered construction equipment can generate short-term, non-persistent odors due to engine exhaust, but these dissipate quickly and would likely not be noticeable beyond the work site. Additionally, as discussed above, the area surrounding the proposed project site is rural and uninhabited. Therefore, the proposed project would not create odors that could impact a substantial number of people, and no impact would occur**.**

References

San Joaquin Valley Air Pollution Control District (SJVAPCD). 2015. Final Draft Guidance for Assessing and Mitigating Air Quality Impacts. Available online at: https://www.valleyair.org/transportation/GAMAQI-2015/FINAL-DRAFT-GAMAQI.PDF. Last updated: February 19, 2015. Accessed July 2024.

SJVAPCD. 2020. Small Project Level Analysis. Available online at: https://www.valleyair.org/transportation/CEQA%20Rules/GAMAQI-SPAL.PDF. Last updated: November 13, 2020. Accessed July 2024.

SJVAPCD 2024a. Ambient Air Quality Standards & Valley Attainment Status. Available online at: https://www.valleyair.org/aqinfo/attainment.htm. Accessed July 2024.

SJVAPCD 2024b. Regulation VIII – Fugitive PM10 Prohibitions. Available online at: https://ww2.valleyair.org/rules-and-planning/current-district-rules-and-regulations/. Accessed July 2024

4.4 Biological Resources

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

Discussion

ESA prepared a Biological Technical Report (BTR) support of the Project (**Appendix A**). The purpose of the BTR is to provide an inventory of biological resources occurring or potentially occurring within the Project area and to evaluate the relationship of those biological resources to the Project's construction and operational activities. This BTR encompasses an approximately 313-acre biological study area (BSA) that includes the proposed approximately 27-acre Project footprint plus a 500-foot perimeter buffer around the Project footprint. The BTR includes a review of existing literature and a field reconnaissance survey focusing on areas within the BSA with the highest likelihood of supporting biological resources. The literature and database review was originally conducted prior to the field reconnaissance survey in 2021 and updated in 2024. The biological resources reconnaissance field survey was conducted by ESA biologists on November 29 and 30, 2021. The survey effort involved pedestrian access over the entire site. All species of plant and animals observed, including sign (e.g., presence of scat) as well as any audible detections, were noted during the site visit. Wildlife observations and other features were mapped utilizing Collector for ArcGIS and representative photographs were taken. Vegetation mapping was conducted during the reconnaissance field survey; notes were taken of vegetation communities observed. Vegetation communities noted were generally classified using the systems provided in the Preliminary Descriptions of the Terrestrial Communities of California (Holland 1986), and modified using A Manual of California Vegetation, Second Edition (MCV) (Sawyer et al. 2009) as necessary to reflect the existing site conditions.

The primary land cover of the BSA is grazed grassland, oil extraction operations, and agriculture consisting of citrus and olive orchards with little native habitat values. However, some areas within the BSA contain native vegetation communities that provide suitable habitat for flora and fauna, including special-status plant and wildlife species or support jurisdictional aquatic features. These undeveloped areas contain both native and naturalized habitats including: allscale scrub and non-native grasslands (see **Figure 4-1**). Native shrubs commonly detected in these habitats primarily consist of bracted alkali goldenbush (*Isocoma acradenia* var. *bracteosa*), Stanislaus milkvetch (*Astragalus oxyphysus*), and allscale saltbush (*Atriplex polycarpa*). General wildlife observed or detected during the habitat assessment primarily includes species that are adapted to agricultural or urbanized environments.

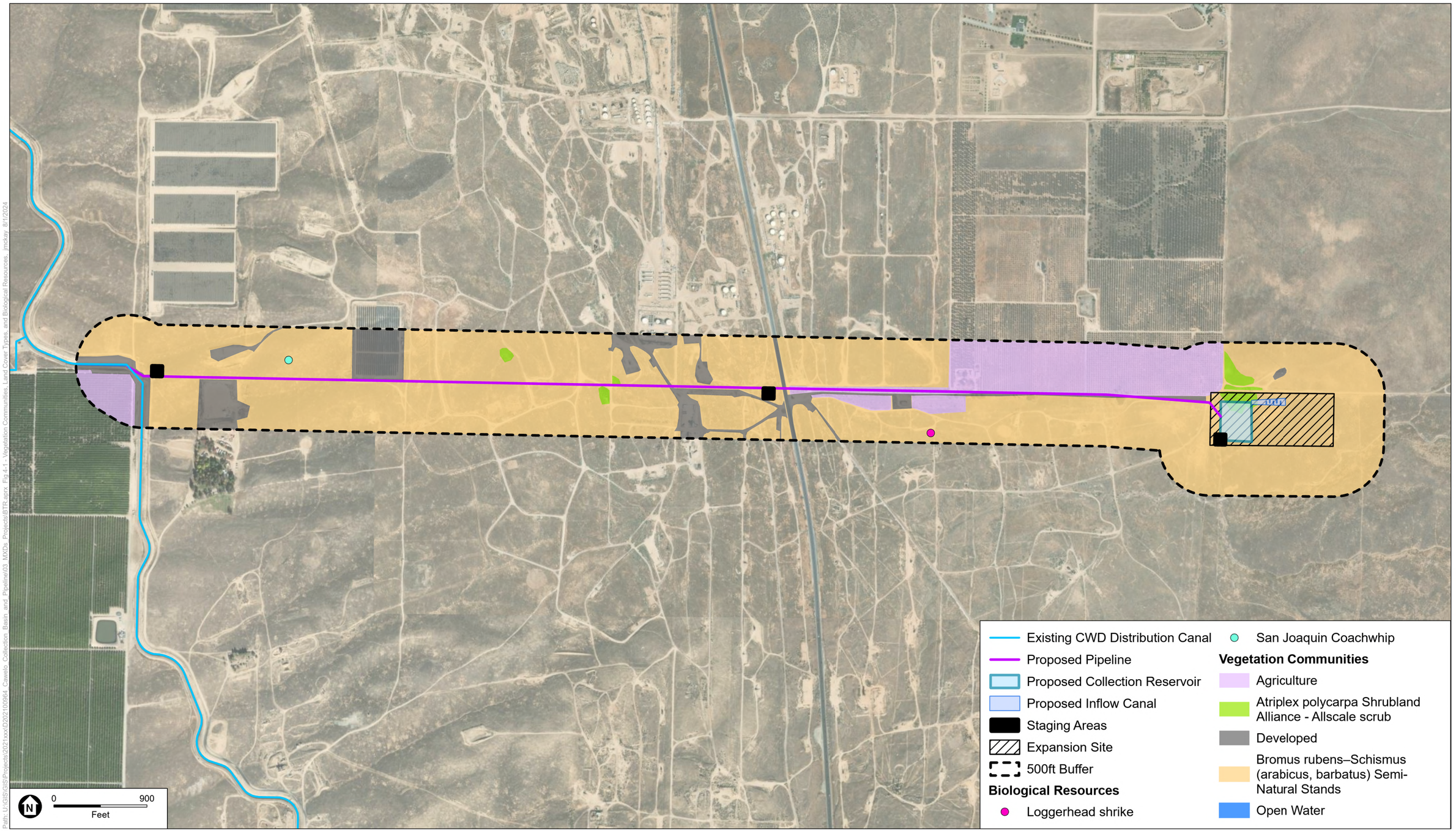
Table 4-1 below indicates the acreages of the plant communities and land cover types observed within the BSA.

TABLE 4-1
NATURAL COMMUNITIES AND LAND COVER TYPES WITHIN THE BIOLOGICAL STUDY AREA

Natural Community/Land Cover Type	Project Site (acres)	500-foot Buffer (acres)	Total (acres)
Aquatic/Riparian			
Open Water	X	0.44	0.44
Terrestrial			
Atriplex polycarpa Shrubland Alliance - Allscale scrub	2.49	6.63	9.12
Bromus rubens–Schismus (arabicus, barbatus) Semi-Natural Stands	20.02	237.78	257.8
Developed/Disturbed Land Cover Types			
Agriculture	3.06	40.71	43.77
Developed	1.84	27.76	29.6
TOTAL	**27.41**	**313.32**	**340.73**

SOURCE: ESA, 2021

A total of 15 special-status wildlife species were assessed for potential to occur within the BSA. Special-status plants were determined to have no potential to occur within the BSA. This determination was made due to the limited native habitat and highly disturbed nature of the vegetation present. Of the 15 wildlife species assessed, two species were detected within the BSA: loggerhead shrike (*Lanius ludovicianus*) and San Joaquin coachwhip (*Masticophis flagellum ruddocki*). Additionally, four species have a moderate potential to occur within the BSA including: burrowing owl (*Athene cunicularia*), California horned lark (*Eremophila alpestris actia*), San Joaquin pocket mouse (*Perognathus inornatus*), and San Joaquin kit fox (*Vulpes macrotis mutica*). The remaining eight species were determined to have a low potential to occur within the BSA including: northwestern pond turtle (*Actinemys marmorata*), Nelson'santelope squirrel (*Ammospermophilus nelson*), Bakersfield legless lizard (Anniella *grinnelli*), Crotch bumble bee (*Bombus crotchii*), Swainson's hawk (*Buteo swainsoni*), Tipton kangaroo rat (*Dipodomys nitratoides nitratoides*), western mastiff bat (*Eumops perotis californicus*), blunt-nosed leopard lizard (*Gambelia sila*), and Tulare grasshopper mouse (*Onychomys torridus tularensis*). No critical habitat for plant or wildlife species is present within the BSA. Additionally, there are no "sensitive" natural communities located within the BSA.



SOURCE: ESRI, 2021; ESA, 2024.

Cawelo Collection Basin and Pipeline

Figure 4-1
Vegetation Communities, Land Cover Types, and Biological Resources

ESA

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No focused surveys for special-status species were conducted during these field surveys. The potential for special-status species and other sensitive biological resources to occur was based on assessment of habitat suitability, such as soil type, vegetation, slope, aspect, hydrology, and the presence of any disturbances within or adjacent to the area. Areas where foot access was restricted were surveyed with the use of binoculars.

Additionally, consideration was given to the federal, state, and local regulatory framework overlapping or adjacent to the BSA. Local regulatory framework included a review of county policies. Additionally, regional habitat conservation plans in the BSA vicinity were considered.

The determination of the potential for special-status plant and wildlife species to occur within the BSA was based on observations of vegetation and habitat quality, topography, elevation, soils, surrounding land uses, habitat preferences, geographic ranges and a review of the biological databases such as the California Natural Diversity Database (CNDDB).

A formal jurisdictional delineation to locate potential natural drainage features and water bodies that may be under the jurisdiction of United States Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB) and/or California Department of Fish and Wildlife (CDFW) was performed concurrently with this biological assessment task and the results are summarized in this BTR. The full jurisdictional delineation is presented under a standalone aquatic resources delineation report (ARDR; **Appendix A, Sub-appendix B**).

a) Special-status plants and wildlife species are discussed below:

Special-Status Plants

No special-status plant species were observed within the BSA. A total of 19 special-status plants were determined to have no potential to occur within the BSA. This determination was made due to the lack of native habitat and highly disturbed nature of the vegetation present. No focused rare plant surveys were conducted during the field assessment. Focused rare plant surveys are not recommended to confirm presence or absence of these species within the BSA.

Special-Status Wildlife

Two special-status wildlife species (loggerhead shrike and San Joaquin coachwhip) are confirmed to be present within the BSA. Additionally, based on the presence of suitable habitat, four wildlife special-status species have a moderate potential to occur within the BSA. These four species include burrowing owl, California horned lark, San Joaquin pocket mouse, and San Joaquin kit fox. Habitat for these species occurs primarily within the grassland habitat throughout the BSA. Loggerhead shrike and California horned lark may forage and nest within 500 feet of the Project Site. Additionally, burrowing owl, San Joaquin coachwhip, San Joaquin kit fox, and San Joaquin pocket mouse may forage and use burrows within 500 feet of the Project Site.

Potential direct and indirect impacts may occur to these species as a result of Project construction. Direct impacts may occur as a result of direct mortality of individuals, loss or degradation of habitat (short- or long-term), and introduction or increase in noise during the breeding season. Construction activities will result in permanent impacts to approximately 10.19 acres and

temporary impacts to approximately 11.49 acres of grassland habitat suitable for all six special-status wildlife species. Additionally, construction activities will result in permanent impacts to approximately 0.70 acre and temporary impacts to approximately 0.11 acre of allscale scrub habitat suitable habitat for burrowing owl, loggerhead shrike, San Joaquin coachwhip, San Joaquin kit fox, and San Joaquin pocket mouse. Indirect impacts may occur from adjacent nighttime lighting that may introduce predation, habitat fragmentation/edge effects, introduction of non-native species/predators, and increased human disturbance.

Construction of the proposed Project has the potential to result in a significant impact to special-status wildlife species occurring within the BSA. Implementation of Mitigation Measure BIO-1 through BIO-10 would minimize impacts to these resources. With implementation of these measures, impacts would be reduced to less than significant.

Mitigation Measures

BIO-1 Retention of Biological Monitors: Prior to the issuance of grading permit or ground disturbing activities, the project operator shall retain a Lead Biologist who meets the qualifications of a Monitoring Biologist acceptable to wildlife agencies to oversee compliance with protection measures for all listed and other special-status species including: loggerhead shrike, San Joaquin coachwhip, burrowing owl, California horned lark, San Joaquin pocket mouse, and San Joaquin kit fox. The Lead Biologist would have the right to halt all activities that are in violation of the special-status species protection measures. Work would proceed only after hazards to special-status species are removed and the species is no longer at risk. The Lead Biologist would have in their possession a copy of all the compliance measures while work is being conducted onsite.

BIO-2 Worker Environmental Awareness Program: Prior to the issuance of grading or building permits, the Project operator would provide a Construction Worker Environmental Awareness Program (WEAP), developed by the Lead Biologist.

The WEAP would include information on special-status wildlife, natural communities, and plant species present or with at least a moderate likelihood of presence, their legal protections, the definition of "take" under the federal and state Endangered Species Acts, reporting requirements, specific measures that each worker shall employ to avoid take of special-status wildlife species, and penalties for violation of the Acts.

BIO-3 Burrowing Owl Protection: No more than 30 days and no fewer than 14 days prior to initial ground disturbance for construction and decommissioning, protocol surveys for burrowing owl would be conducted by a qualified biologist in suitable habitat within the area to be disturbed and a 500-foot buffer if access has been granted by landowners. The survey methodology would be consistent with the methods outlined in the California Department of Fish and Game Staff Report (CDFG 2012) including any Project-specific adjustments to methodology agreed to by CDFW and would consist of walking parallel transects 7 to 20 meters apart, adjusting for vegetation height and density as needed, and noting any potential burrows with fresh burrowing owl sign or presence of burrowing owls. Surveys need not be conducted for the entire Project at one time; they may be phased so that surveys target the specific area to be disturbed. A copy of the survey results would be submitted to the Kern County Planning and Community Development Department.

If no burrowing owls are detected, no further mitigation is necessary. If burrowing owls are detected, no ground-disturbing activities would be permitted within 656 to 1,640 feet, depending

on the level of disturbance, of an active burrow during the breeding season (February 1 to August 31), unless otherwise authorized by CDFW. Occupied burrows would not be disturbed during the nesting season unless a qualified biologist approved by CDFW, verifies through noninvasive methods that either: (1) the birds have not begun egg-laying and incubation; or (2) juveniles from the occupied burrows are foraging independently and are capable of independent survival. Burrowing owls would not be moved or excluded from burrows during the breeding season.

During the nonbreeding (winter) season (September 1 to January 31), ground-disturbing work can proceed no closer than a minimum of 160 feet from the burrow. A smaller buffer may only be established at the discretion of the qualified biological monitor and with the implementation of additional protective measures (if necessary). Additional protective measures could include sound walls to reduce noise levels and dust accumulation.

If active winter burrows cannot be avoided, owls can be displaced from winter burrows according to recommendations made in the Burrowing Owl Mitigation Staff Report (CDFG 2012). Burrowing owls would not be excluded from burrows until a Burrowing Owl Exclusion Plan is developed and approved by CDFW and submitted to the Kern County Planning and Community Development Department.

BIO-4 Burrowing Owl Mitigation: If relocation of burrowing owl is required pursuant to BIO-3, compensatory mitigation for lost breeding habitat would be implemented onsite or offsite in accordance with Burrowing Owl Mitigation Staff Report (CDFG 2012) and in Consultation with CDFW. At a minimum, the following recommendations would be implemented:

i. Temporarily disturbed habitat would be restored, if feasible, to pre-Project conditions, including decompacting and revegetating soil.

ii. Permanent impacts to nesting, occupied and satellite burrows would be mitigated such that the habitat acreage and number of burrows impacted are replaced based on a site-specific analysis and would include permanent conservation of similar vegetation communities (grassland, scrublands, desert, urban, and agriculture) to provide for burrowing owl nesting, foraging, wintering, and dispersal (i.e., during breeding and non-breeding seasons) comparable to or better than that of the impact area, and with sufficiently large acreage and presence of fossorial mammals.

iii. Permanently protect mitigation land through a conservation easement deeded to a nonprofit conservation organization or public agency with a conservation mission. If the Project is located within the service area of a CDFW-approved burrowing owl conservation bank, the Project operator may purchase available burrowing owl conservation bank credits.

BIO-5 San Joaquin Kit Fox Surveys: No more than 30 days and no less than 14 days prior to initial ground disturbance, pre-construction surveys would be conducted in areas of suitable habitat for San Joaquin kit fox. Surveys need not be conducted for the entire project at one time; they may be phased so that surveys target the specific area to be disturbed. If no potential San Joaquin kit fox dens are present, no further mitigation is required.

If potential dens are observed, and the qualified biologist determines they are inactive, they would be avoided in accordance with measure BIO-8. Alternatively, potential dens could be hand-excavated following USFWS standardized recommendations for the protection of the San Joaquin kit fox prior to or during ground disturbance (USFWS 2011) to prevent foxes from re-use during construction.

If San Joaquin kit fox activity is observed at a den, the den status would change to "known" per USFWS guidelines (2011), and the buffer distance would be increased in accordance with measure BIO-8.

No excavation of known San Joaquin kit fox dens or pupping dens would occur without prior consultation and authorization from the USFWS and CDFW.

BIO-6 Small Mammal Burrows: Prior to and during construction, to protect San Joaquin pocket mouse and other special-status small mammals, a biologist would inspect areas with a potential for special-status small mammal burrows within 14 days prior to ground disturbance. If potential burrows are found in construction areas, an avoidance buffer of a minimum 50 feet would be established, marked with protective fencing, and maintained during construction. Where the avoidance buffer cannot be maintained, trapping would be conducted for a minimum of three nights with at least one trap per active burrow. If special-status small mammals are captured, they would be relocated to suitable habitat a minimum of 500 feet outside the construction area within 24 hours of capture, and the former burrows would be excavated by a qualified biologist.

BIO-7 Avian Nest Surveys: Prior to initial ground disturbance for construction and decommissioning, pre-construction avian nesting surveys would be implemented as follows:

i. If construction begins during the breeding season (February 1 to August 1), not more than 14 days prior to site clearing and/or ground disturbance, a qualified biologist would conduct a preconstruction avian nesting survey. Copies of the completed surveys would be submitted to Kern County Planning and Community Development Department.

ii. Surveys need not be conducted for the entire project at one time; they may be phased so that surveys target the specific area to be disturbed. The surveying biologist must be qualified to determine the species, status, and nesting stage without causing intrusive disturbance. The survey would cover all reasonably potential nesting locations (including ground nesting species) on and within 300 feet of the disturbance area if access is permitted by adjacent landowners.

iii. If construction is scheduled to occur during the non-nesting season (August 2 to January 31), no preconstruction surveys or additional measures are required.

iv. If construction begins in the non-breeding season and proceeds continuously into the breeding season, no surveys are required. However, if there is a break of 14 days or more in construction activities during the breeding season, a new nesting bird survey would be conducted before construction begins again.

v. If active nests are found, the no-disturbance buffers outlined in measure BIO-8 would be implemented until a qualified wildlife biologist has determined that the birds have fledged or will not be disturbed by construction activities.

BIO-8 Avoidance Buffers: If surveyors identify any evidence of occupation by listed or other special-status species, the following no-disturbance buffer distances would be implemented unless different buffers are approved by the appropriate wildlife agency:

i. San Joaquin kit fox potential den: 50 feet.

ii. San Joaquin kit fox known den: 100 feet.

iii. San Joaquin kit fox pupping den: 500 feet.

iv. Other protected active raptor nests during the breeding season: 300 feet or as otherwise determined by a qualified biologist.

v. Other protected active migratory bird nests during the breeding season: 50 feet or as otherwise determined by a qualified biologist.

vi. Other special-status wildlife species, including small mammal burrow buffers, are to be established as recommended by a qualified biologist.

BIO-9 Listed Species Avoidance and Take Authorization: No take of species listed on the FESA and/or CESA would occur unless prior authorization was received from CDFW and/or USFWS. If the resource agencies determine that incidental take authorization is not required, the project operator shall provide a letter summarizing the consultation process and wildlife agency determinations, indicating that such authorization is not required. The letter shall also identify the agency points of contact and contact information.

BIO-10: **Construction Protection Measures:** During construction, the Project operator would implement the following general avoidance and protective measures:

- Prior to construction, the proposed disturbance limits in the final Project design including staging areas, equipment access, and disposal or temporary placement of spoils would be delineated with stakes and flagging to avoid natural resources. Any disturbance areas would be fenced with a temporary exclusion fence (aboveground and/or belowground according to protocols associated with species present) to keep special-status species that may be using habitat adjacent to the area from entering. The fencing would be inspected weekly during construction activities to ensure fence integrity. Any needed repairs to the fence would be performed on the day of their discovery. Fencing would be installed and maintained during all phases of construction and decommissioning but is only required where construction will occur within 200 feet of adjacent habitat suitable for supporting special-status reptiles, rodents, and mammals. Exclusion fencing would be removed once active construction and decommissioning disturbance activities are complete.
- If any special-status species are found on the site, construction would cease in the vicinity of the animal and the animal would be allowed to leave the site on its own or relocated offsite pursuant to relocation plans approved by the agency having jurisdiction over the species. If the individual were observed within exclusion fencing, its point of entry would be determined if possible and fence repaired as needed. For species listed under the FESA and/or CESA USFWS and/or CDFW would be consulted regarding any additional avoidance, minimization, or mitigation measures that may be necessary. Once the animal is observed leaving the exclusion area, work in the area can resume. A report would be prepared by the Lead Biologist or their designee to document the activities of the animal within the site and all fence construction, modification, and repair efforts. This report would be submitted to the Kern County Planning and Community Development Department.
- The Lead Biologist or their designee will monitor any initial ground-disturbance activities within 50 feet of native habitats to ensure that no special-status animals are present. Work would only occur during daylight hours.
- To prevent inadvertent entrapment of animals during construction, all excavated, steep-walled holes or trenches more than two feet deep would be covered with plywood or similar materials at the close of each working day or provided with one or more escape ramps constructed of earth fill or wooden planks. Before such holes or trenches are filled, they would be thoroughly inspected for trapped animals. If trapped animals are observed, escape ramps or structures would be installed immediately to allow escape. If listed species are trapped, the USFWS and CDFW would be contacted, as appropriate.

- All construction pipes, culverts, or similar structures with a diameter of four inches or more that are stored at a construction site for one or more overnight periods would be thoroughly inspected for special-status wildlife before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If a special-status animal is discovered inside a pipe, that section of pipe would not be moved until the appropriate resource agency has been consulted. If necessary, under the direct supervision of a biologist, the pipe may be moved once to remove it from the path of construction activity until the animal has escaped.
- No parked vehicle or equipment would be moved prior to inspecting the ground beneath the vehicle or equipment for the presence of wildlife. If present, the animal would be allowed to move out of harm's way on its own.
- Vehicular traffic to and from construction areas would use new and existing routes of travel wherever possible. Cross country vehicle and equipment use outside designated work areas would be continually monitored by the Lead Biologist or their designee. Vehicle speeds would not exceed 15 miles per hour once they are off public roads.
- Trash and food items would be contained in closed containers and removed daily to reduce the attractiveness to opportunistic predators such as common ravens, coyotes, and feral dogs.

b) No sensitive natural communities occur within the BSA. Implementation of the proposed Project would not be expected to interfere with sensitive natural communities; thus, no impact would occur.

c) Potential state protected non-wetland waters of the State were determined to occur within the BSA. In total, 0.3 acres of potential other (non-wetland) waters that are under CDFW and RWQCB jurisdiction were identified and delineated. No waters of the U.S. were identified during the aquatic resources delineation. Potential direct and indirect impacts to non-wetland waters of the state would be considered significant. A Project-specific Stormwater Pollution Prevention Plan (SWPPP) would be prepared in compliance with the Construction General Permit. The SWPPP would identify erosion control and sediment control best management practices (BMPs) that would be implemented to minimize the occurrence of soil erosion or loss of topsoil. Implementation of Mitigation Measure BIO-11 would be required to acquire permits for any planned impacts to potential jurisdictional waters of the state. With implementation of SWPPP BMPs and Mitigation Measure BIO-11, impacts would be mitigated to a less than significant level.

Mitigation Measures

BIO-11 Jurisdictional Waters Permitting. If it is determined during the final design phase that jurisdictional aquatic features cannot be avoided, the Project operator would be subject to provisions as identified below:

a. Prior to ground-disturbing activities that could impact these aquatic features, the Project operator would file a complete Report of Waste Discharge with the RWQCB to obtain Waste Discharge Requirements and consult CDFW on the need for a streambed alteration agreement. Correspondence and copies of reports would be submitted to the Kern County Planning and Natural Resources Department.

b. Based on consultation with the RWQCB and CDFW, if permits are required for the Project, appropriate permits would be obtained prior to disturbance of jurisdictional resources.

c. Compensatory mitigation for impacts to jurisdictional aquatic features would be identified and secured as required by the RWQCB or CDFW either through onsite or offsite mitigation, or purchasing credits from an approved mitigation bank. Compensatory mitigation for aquatic features would occur at a minimum of 1:1 ratio (at least one acre protected for each acre disturbed).

d. The Project operator would provide copies of permits obtained from RWQCB and/or CDFW to the Kern County Planning and Natural Resources Department, prior to disturbance of jurisdictional aquatic features.

d) The BSA is primarily located within the Central Valley that is surrounded by agriculture, oil extraction fields, and large fragmented undeveloped areas. The subject parcels are located east of major agricultural areas and otherwise surround by mostly undeveloped land with sparse oil extraction facilities thus allowing for the local movement of wildlife species. These undeveloped areas are contiguous south, east, and north of the Project. The northeastern boundary of the Project contains an orchard that does not function as the sole regional corridor between the two larger stands of habitat. Overall, the areas surrounding the Project create a large open corridor for wildlife movement with the exception of the agricultural fields to the west.

The proposed Project would be constructed within the existing disturbed oil extraction fields primarily vegetated with the non-native grassland community *Bromus rubens–Schismus* (*arabicus*, *barbatus*) Semi-Natural Stands. Additionally, the reservoir would be constructed within the noted non-native grasslands community and *Atriplex polycarpa* Shrubland Alliance – Allscale scrub. Additionally, the BSA contains an orchard along the northeast extent. These habitats can provide suitable nesting habitat for birds protected under the MBTA and CFG Code Section 3500. Potential Project impacts to nesting birds may occur particularly during the general avian nesting season of February through August during construction. If ground disturbance, shrub and tree removals are needed, nesting birds could be impacted. Additionally, indirect impacts to active nests may occur due to construction noise and vibration.

With implementation of Mitigation Measures BIO-1 through -10, the Project would not be expected to interfere with wildlife movement or any migratory corridor/linkage, and would not be constructed within a native wildlife nursery site, thus no significant impacts would occur.

Mitigation Measures

Implementation of Mitigation Measures BIO-1 through -10.

e) The BSA is located within the Kern County General Plan (Plan) area. The Plan contains goals and policies to protect sensitive biological resources. The Plan requires discretionary projects to consider effects to biological resources as required by the CEQA (Kern County 2004).

Overall, construction of the proposed Project could potentially result in impacts to sensitive biological resources, which would be considered significant. Implementation of Mitigation Measures BIO-1 through BIO-11 would mitigate impacts to sensitive biological resources. With implementation of these measures, impacts would be less than significant.

Mitigation Measures

Implementation of Mitigation Measures BIO-1 through BIO-11.

f) The project and BSA is not located within an adopted federal or state habitat conservation habitat conservation plan area. While the Project is located within the Kern County draft Valley Floor Habitat Conservation Plan (VFHCP) (Kern 2006), the plan has not been adopted. Nevertheless, it provides a general indicator of potential biological resource use within the Project area. The VFHCP designates three separate habitat zone categories based on habitat value. The white zones consist primarily of intensive agricultural areas that are typically highly disturbed and not considered valuable habitat. The green zones contain some disturbance but are important for movement of covered species among the core red zones. Green zones are located in areas that—because of terrain, lack of infrastructure, and their non-intensive resource use—are not expected to develop with intensive resource uses. The pipeline alignment is within the white zone and the collection basin is within the green zone. Because the VFHCP has not been adopted, the project would not conflict with any adopted HCPs, NCCPs, or other approved local, regional, or state HCPs. Nevertheless, implementation of Mitigation Measures BIO-1 through -11 would mitigate any potential indirect impacts to sensitive biological resources. With implementation of these measures, impacts would be less than significant.

Mitigation Measures

Implementation of Mitigation Measures BIO-1 through BIO-11.

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4.5 Cultural Resources

Issues (and Supporting Information Sources):		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
V.	**CULTURAL RESOURCES —** Would the project:				
a)	Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	☐	☐	☒	☐
b)	Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☒	☐	☐
c)	Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☒	☐	☐

Discussion

The following evaluation is based on the findings provided in a confidential Cultural Resources Assessment Report prepared by ESA in April 2022 (Bocchieriyan 2022).

a) Three historic-period built environment resources were identified as being within or adjacent to the Proposed Project. The Poso Creek or Premier Oil Field (ESA-Cawelo2022-Built-002H) and the Kern Front Oil Field (ESA-Cawelo2022-Built-003H) were identified as having boundaries within the proposed Project and one single-family residence (ESA-Cawelo2022-Built-001H) was identified as being adjacent to (within 100 feet of) the proposed Project. None of the three resources have been previously evaluated for the National Register of Historic Properties (NRHP) or the California Register of Historical Resources (CRHR). However, both the Poso Creek or Premier Oil Field (ESA-Cawelo2022-Built-002H) and the Kern Front Oil Field (ESA-Cawelo2022-Built-003H) are presumed eligible for the purposes of this Project. No surface manifestations of these resources are anticipated to incur impact as a result of the Proposed Project, and therefore impacts are less than significant.

b) No archaeological resources have been identified within or immediately adjacent to the proposed Project area; this may be the product of a dearth of previous surveys in the Project's immediate vicinity. However, a Sacred Lands File (SLF) search conducted by the California Native American Heritage Commission (NAHC) indicates that there are no known Native American resources in the area. A subsurface sensitivity assessment found that the Project area has low sensitivity for the presence of subsurface prehistoric archaeological resources because Early and Mid-Pleistocene, Pliocene, and Miocene deposits are mapped at surface within the Project area, all of which predate human habitation within the San Joaquin Valley, and are not of suitable age to preserve subsurface archaeological deposits. In addition, soil types identified within the Project area do not appear to contain a stable subsurface horizon that would have supported the accumulation of archaeological materials in the past. However, it is unknown if any historic-period subsurface manifestations of both oil field resources may exist within the Project area. Thus, although the Project area has a low archaeological sensitivity, there remains a potential that archaeological resources could be encountered. As such, implementation of the proposed Project could cause a substantial adverse change in the significance of an archaeological resource. With

the incorporation of **Mitigation Measures CUL-1** and **CUL-2**, impacts to archaeological resources would be reduced to a less than significant level.

Mitigation Measures

Mitigation Measure CUL-1: Prior to start of ground-disturbing activities, the Cawelo Water District shall retain an archaeologist who meets the Secretary of the Interior's Professional Qualifications Standards for Archaeology (Qualified Archaeologist) to prepare a cultural resources worker sensitivity training and to be on-call for the duration of ground-disturbance. The Qualified Archaeologist or their designee shall conduct cultural resources sensitivity training for all onsite construction personnel. Construction personnel shall be informed of the regulations protecting archaeological resources and human remains, the types of archaeological resources that may be encountered and the proper procedures to be enacted in the event of an inadvertent discovery of archaeological resources or human remains. The District shall ensure that construction personnel are made available for and attend the training and shall retain documentation demonstrating attendance.

Mitigation Measure CUL-2: In the event of the unanticipated discovery of archaeological materials, the Cawelo Water District or its contactor shall immediately cease all work activities in the area (within approximately 100 feet) of the discovery until it can be evaluated by the Qualified Archaeologist. Construction shall not resume until the Qualified Archaeologist has conferred with the District on the significance of the resource. If it is determined that the discovered archaeological resource constitutes a historical resource or unique archaeological resource pursuant to CEQA, avoidance and preservation in place shall be the preferred manner of mitigation. Preservation in place maintains the important relationship between artifacts and their archaeological context and also serves to avoid conflict with traditional and religious values of groups who may ascribe meaning to the resource. Preservation in place may be accomplished by, but is not limited to, avoidance, incorporating the resource into open space, capping, or deeding the site into a permanent conservation easement. In the event that preservation in place is determined to be infeasible and data recovery through excavation is the only feasible mitigation available, an Archaeological Resources Data Recovery and Treatment Plan shall be prepared and implemented by the Qualified Archaeologist that provides for the adequate recovery of the scientifically consequential information contained in the archaeological resource. The District shall consult with appropriate Native American tribal representatives in determining treatment for prehistoric or Native American resources to ensure cultural values ascribed to the resources, beyond those that are scientifically important, are considered. The plan shall include provisions for the final disposition of the recovered resources, which may include onsite reburial, curation at a public, non-profit institution, or donation to a local Native American Tribe, school, or historical society.

c) There is no indication that the Proposed Project area has been used for human burial purposes in the recent or distant past; and a lack of known prehistoric activity in the area suggests that there is a very low possibility of uncovering human remains during Project implementation. However, this may be the product of a lack of studies in the area and there remains a possibility of uncovering human remains during Project implementation. In the event that human remains are discovered during Project construction, including those interred outside of formal cemeteries, the human remains could be inadvertently disturbed, which could be a significant impact. With the incorporation of **Mitigation Measures CUL-3**, impacts to human remains would be reduced to a less than significant level.

Mitigation Measures

Mitigation Measure CUL-3: If human remains are encountered, the Cawelo Water District or its contractor shall halt work in the vicinity (within 100 feet) of the discovery and contact the Kern County Coroner in accordance with Public Resources Code Section 5097.98 and Health and Safety Code Section 7050.5, which requires that no further disturbance shall occur until the County Coroner has made the necessary findings as to origin and disposition pursuant to Public Resources Code Section 5097.98. If the remains are determined to be of Native American descent, the coroner has 24 hours to notify the Native American Heritage Commission (NAHC). The NAHC shall then identify the person(s) thought to be the Most Likely Descendent (MLD). The MLD may, with the permission of the landowner, or his or her authorized representative, inspect the site of the discovery of the Native American remains and may recommend to the owner or the person responsible for the excavation work means for treating or disposing, with appropriate dignity, the human remains and any associated grave goods. The MLD shall complete their inspection and make their recommendation within 48 hours of being granted access by the landowner to inspect the discovery. The recommendation may include the scientific removal and nondestructive analysis of human remains and items associated with Native American burials. Upon the discovery of the Native American remains, the landowner shall ensure that the immediate vicinity, according to generally accepted cultural or archaeological standards or practices, where the Native American human remains are located, is not damaged or disturbed by further development activity until the landowner has discussed and conferred, as prescribed in this mitigation measure, with the MLD regarding their recommendations, if applicable, taking into account the possibility of multiple human remains. The landowner shall discuss and confer with the MLD on all reasonable options regarding their preferences for treatment.

If the NAHC is unable to identify an MLD, or the MLD identified fails to make a recommendation, or the landowner rejects the recommendation of the MLD and the mediation provided for in Subdivision (k) of Section 5097.94, if invoked, fails to provide measures acceptable to the landowner, the landowner or his or her authorized representative shall inter the human remains and items associated with Native American human remains with appropriate dignity on the facility property in a location not subject to further and future subsurface disturbance.

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4.6 Energy

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VI. ENERGY — Would the project:				
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☒	☐

Discussion

a-b) Kern County does not implement an energy action plan, though the San Joaquin Valley Air Pollution Control District Staff Report Addressing Greenhouse Gas Impacts Under the California Environmental Quality Act includes the best management practices to reduce energy usage and related emissions from the California Energy Commission (SJVAPCD 2009). Additionally, the proposed Project would be compliant with CARB Airborne Toxic Control Measures (ATCMs) regarding heavy-duty truck idling limits of five minutes at a location (California Code of Regulations, Title 13, Section 2485) and the phase-in of off-road emission standards that result in an increase in energy savings in the form of reduced fuel consumption and more fuel-efficient engines (California Code of Regulations, Title 17, Section 93115). Although these regulations are intended to improve air quality through the reduction of criteria pollutant emissions, compliance with these regulations would also result in the efficient use of construction-related energy.

There would be an increase in fuel demand (gasoline and diesel) that would result from the use of construction tools and equipment, truck trips to haul materials and equipment to and from the site, and vehicle trips generated from construction workers commuting to and from the site. Electricity use from construction would be short-term, limited to working hours, and only used for necessary construction-related activities. In particular, the vehicles and equipment that will require energy are one excavator, a loader and back hoe, two water trucks, two dump trucks and a crane. However, the project would be compliant with the State's Commercial Motor Vehicle Idling Regulation and Off-Road Regulations. When not in use, electric equipment would be powered off so as to avoid unnecessary energy consumption. Therefore, impacts from construction electrical demand would be less than significant and would not result in the wasteful, inefficient, and unnecessary consumption of energy. Further, given the small project size and compliance with best practices as recommended by the California Energy Commission, impacts would be less than significant on local energy efficiency plans.

Once construction is completed, operations are not expected to have a great energy demand. The proposed project would not result in an increased energy demand because water would be conveyed by gravity from the collection basin through the pipeline. In addition, no emergency generators nor natural gas fueled sources are included in the proposed project. Operations will also consist of occasional maintenance, which will necessitate the use of gasoline to travel to the Project site. Overall, the operation of the pipeline and collection basin will have a less than significant impact on both energy usage and state and local plans for energy efficiency.

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4.7 Geology and Soils

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
VII. GEOLOGY AND SOILS — Would the project:				
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☐	☒
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☐	☐	☒	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	☒	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐

Discussion

a.i) The Alquist-Priolo Earthquake Fault Zoning Act requires the delineation of zones along active faults in California. The nearest active fault mapped in accordance with the Alquist-Priolo Earthquake Fault Zoning Act is the Premier Fault Zone located approximately 0.4 miles to the east of the Project facilities (DOC 2015a; USGS 2022). Therefore, the Project facilities are not located on an active fault and there would be no impact.

a.ii) The proposed Project area lies within a region that is seismically active. In the event of an earthquake in Southern California, some seismic ground shaking would likely be experienced in the Project area sometime during the operational life of the proposed Project. Even though the proposed Project facilities would be non-habitable, ground shaking could result in structural damage to the proposed Project facilities. The proposed Project facilities would undergo appropriate design-level geotechnical evaluations prior to final design and construction as required to comply the California Building Code (CBC). The geotechnical engineer, as a registered professional with the State of

California, is required to comply with the CBC and local codes while applying standard engineering practice and the appropriate standard of care required for projects in the Kern County area. The California Professional Engineers Act (Building and Professions Code Sections 6700-6799), and the Codes of Professional Conduct, as administered by the California Board of Professional Engineers and Land Surveyors, provides the basis for regulating and enforcing engineering practice in California. Adherence to the CBC standards would ensure the strongest structure feasible at the proposed locations, with no increased risk to human life. Impacts related to the risk of loss, injury, or death involving fault rupture would be reduced to less than significant.

a.iii) Liquefaction is a phenomenon where unconsolidated and/or near saturated soils loses cohesion and are converted to a fluid state as a result of severe vibratory motion. The relatively rapid loss of soil cohesion during strong earthquake shaking results in the temporary fluid-like behavior of the soil. Liquefaction occurs primarily in saturated, loose, fine- to medium-grained soils in areas where the groundwater table is within approximately 50 feet of the surface. According to the DOC, California Geologic Survey Information Warehouse, the proposed Project area is not located within an area expected to experience liquefaction (DOC 2015b). Further, as discussed above, the proposed Project components would undergo geotechnical investigation and be designed to resist damage from seismic hazards, including seismically induced liquefaction/land subsidence events. Therefore, potential impacts associated with liquefaction would be considered less than significant.

a.iv) The proposed Project area is relatively flat and would not generally be susceptible to landslides. Further, the DOC's California Geologic Survey Information Warehouse shows that the proposed Project area is not located within an area likely to experience landslides (DOC 2015b). Additionally, as discussed above, the proposed Project components would undergo geotechnical investigation and be designed to resist damage from seismic hazards, including seismically induced landslide events. Therefore, potential impacts associated with landslides would be considered less than significant.

b) Construction of the proposed Project facilities would require ground-disturbing activities such as grading and excavation, which would expose and disturb surface soils. Soil exposed by construction activities could be subject to erosion if exposed to heavy rain, winds, or other storm events. The proposed Project would require a National Pollution Discharge Elimination System (NPDES) Construction General Permit because the Project would disturb at least one acre of soil. A Project-specific SWPPP would be prepared in compliance with the Construction General Permit. The SWPPP would identify erosion control and sediment control best management practices (BMPs) that would be implemented to minimize the occurrence of soil erosion or loss of topsoil. Therefore, impacts associated with erosion of soils would be considered less than significant.

c) Landslide impacts were addressed in Section 4.7a.iv, above. Lateral spreading impacts is directly related to liquefaction and were addressed in Section 4.7b. Expansive soil impacts are addressed in Section 4.7d, below. The following analysis addresses impacts related to soil instability that results in subsidence or collapse.

The proposed Project facilities would be situated within an area of documented subsidence (USGS 2018). Subsidence could occur naturally based on geological movement of the Premier Fault Zone, and/or become exacerbated by the extraction of groundwater in and around the proposed Project area. Impacts of subsidence could include damage to new facilities and infrastructure, which would inhibit operation. However, the proposed Project facilities would not include activities that would contribute to or exacerbate subsidence in the proposed Project area. Further, the proposed Project would be subject to the CBC which controls the design and location of facilities in order to safeguard the public and reduce potential unstable soils impacts. The proposed Project would incorporate engineering design features to remediate potential significant impacts associated with liquefaction, collapsible soils, and lateral spreading.

Additionally, CWD and its contractors would be required to adhere to all California Division of Occupational Safety and Health (CalOSHA) requirements for working within active work sites that would ensure the safety of all workers onsite. Therefore, relative to existing conditions, the proposed Project would not expose people or structures to new potential substantial adverse effects related to unstable soils. Potential impacts regarding unstable soils would be considered less than significant.

d) Expansive soils are predominantly comprised of clays, which expand in volume when water is absorbed and shrink when the soil dries. Expansion is measured by shrink-swell potential, which is the volume change in soil with a gain in moisture. Soils with a moderate to high shrink-swell potential can cause damage to roads, buildings, and infrastructure. Soils within the proposed Project area consist of variations of alluvium and sandy loams which are not typically expansive (USDA 2022). Nonetheless, the geotechnical investigation would provide corrective actions for potential expansive soils. The proposed Project facilities would be subject to the CBC which controls the design and location of facilities in order to safeguard the public and reduce potential impacts related to expansive soils to less than significant levels.

e) The proposed Project facilities would not include the construction or operation of any septic tanks or alternative water disposal system. No impact would occur.

f) The geological surface deposits in the Project area are depicted by Bartow and Doukas (1978) as primarily the Kern River Formation. The Kern River Formation records the onset of erosion of the uplifted Tehachapi Mountains as a series of alluvial fans filling the San Joaquin Basin (Saleeby et al., 2016). The age of the Kern River Formation was once thought to range from the Miocene to the Pleistocene, hence the designation as “Quaternary to Tertiary” or QTkr. More recent work has shown the age to be confined to the Miocene to Pliocene (Baron et al., 2008; Gallagher et al., 2016). Overlying the QTkr in the Project footprint are remnants of older alluvial fans (Qoa1-3).

A paleontological resources database search was conducted through the Natural History Museum of Los Angeles County (LACM) and University of California Museum of Paleontology (UCMP) in December, 2021. The search entailed an examination of current geologic maps and known fossil localities within the proposed Project and vicinity. The LACM database search results indicate that no fossil localities have been recorded within the proposed Project area. However, because of the potential of impacting older alluvial fans, the museum provided 6 records of fossils

recorded within approximately 60 miles of the Project area. The online records of the UCMP recovered 301 individual records, spanning 18 different localities. The fossils are diverse and include members of horses, fish, mammoth, pronghorn, squirrels, packrats, mice, and moles.

While there are no known fossil localities in the Project area according to LACM and UCMP records, a large number of vertebrate fossils have been previously recorded in relatively close proximity to the proposed Project from the same sedimentary deposits that occur in the Project area. Many of these were encountered at shallow depths close to the ground surface. The Kern River Formation, in particular, is known to contain diverse Miocene vertebrates, particularly in the lower, less coarse sediments. Based on standard geological principles and similar encounters elsewhere in Kern County, there is a high potential to encounter fossils at depth. Therefore, **Mitigation Measures PALEO-1 through PALEO-4** are required to reduce impacts to paleontological resources to less than significant.

Mitigation Measures

PALEO-1 Prior to the start of construction activities, the CWD shall retain a Qualified Paleontologist that meets the standards of the Society for Vertebrate Paleontology (2010) to carry out all mitigation measures related to paleontological resources.

PALEO- 2 Prior to start of any ground disturbing activities, the Qualified Paleontologist shall conduct pre-construction worker paleontological resources sensitivity training. The Qualified Paleontologist shall contribute to any construction worker cultural resources sensitivity training either in person or via a training module. The training shall include information on what types of paleontological resources could be encountered during excavations, what to do in case an unanticipated discovery is made by a worker, and laws protecting paleontological resources. All construction personnel shall be informed of the possibility of encountering fossils and instructed to immediately inform the construction foreman or supervisor if any bones or other potential fossils are unexpectedly unearthed in an area where a paleontological monitor is not present. The Applicant shall ensure that construction personnel are made available for and attend the training and retain documentation demonstrating attendance. This training is considered very critical for this Project as crew observations will help inform the amount of monitoring required.

PALEO-3 The Qualified Paleontologist shall supervise a paleontological monitor meeting the Society for Vertebrate Paleontology standards (2010) who shall be present during all excavations that encounter the older, Pleistocene alluvium or Kern River Formation. Monitoring shall consist of visually inspecting fresh exposures of rock for larger fossil remains and, where appropriate, collecting wet or dry screened standard sediment samples (up to 4.0 cubic yards) of promising horizons for smaller fossil remains (SVP, 2010). If the onsite paleontological monitor assesses the unit to be unlikely to contain significant fossils due to the coarseness of sediments (gravel and cobble conglomerate) or high oxidation, monitoring may be reduced to weekly or bi-weekly spot-checks, or ceased entirely, if determined adequate by the Qualified Paleontologist. The Qualified Paleontologist shall spot check the excavation on an intermittent basis and recommend whether the depth of required monitoring should be revised based on his/her observations. Monitoring activities shall be documented in a Paleontological Resources Monitoring Report to be prepared by the Qualified Paleontologist at the completion of construction and shall be provided to CWD within six (6) months of Project completion. If fossil resources are identified during monitoring, the report will also be filed with the Natural History Museum of Los Angeles County.

PALEO-4 If a paleontological resource is discovered during construction, the paleontological monitor shall be empowered to temporarily divert or redirect grading and excavation activities in the area of the exposed resource to facilitate evaluation of the discovery. An appropriate buffer area shall be established by the Qualified Paleontologist around the find where construction activities shall not be allowed to continue, typically 25 feet around the discovery. Work shall be allowed to continue outside of the buffer area. At the Qualified Paleontologist's discretion and to reduce any construction delay, the grading and excavation contractor shall assist in removing rock samples for initial processing and evaluation of the find. All significant fossils shall be collected by the paleontological monitor and/or the Qualified Paleontologist. Collected fossils shall be prepared to the point of identification and catalogued before they are submitted to their final repository. Any fossils collected shall be curated at a public, non-profit institution with a research interest in the materials, such as the Natural History Museum of Los Angeles County, if such an institution agrees to accept the fossils. If no institution accepts the fossil collection, they shall be donated to a local school in the area for educational purposes. Accompanying notes, maps, photographs, and a technical report shall also be filed at the repository and/or school.

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4.8 Greenhouse Gas Emissions

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
VIII. GREENHOUSE GAS EMISSIONS — Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

Discussion

a) GHG emissions worldwide cumulatively contribute to the significant adverse environmental impacts of global climate change. No single Project could generate sufficient GHG emissions on its own to noticeably change the global average temperature. The combination of GHG emissions from past, present, and future Projects in the San Joaquin Valley; the entire state of California; across the nation; and around the world contribute cumulatively to the phenomenon of global climate change and its associated environmental impacts.

The SJVAPCD has established greenhouse gas (GHG) thresholds for projects subject to CEQA. For projects implementing the SJVAPCD's Best Performance Standards (BPS), quantification of project-specific GHGs is not required (SJVAPCD 2009a, 2009b). The SJVAPCD's BPS apply to projects with stationary industrial emission sources. The Project's emissions would be generated from stationary industrial emissions sources related to water facilities, thus, the SJVAPCD's BPS would normally apply. However, once installed and operational, the pipeline would require minimal maintenance. The collection basin would receive periodic maintenance including vegetation removal and visual inspection of the reservoir. The facilities would be unmanned, but visited periodically to monitor the inflow canal and collection basin for proper operations. No new stationary sources of emissions would be installed. Therefore, no new on-going daily emissions would be generated as a result of proposed project operation. Additionally, the proposed Project is exempt from quantifying criteria pollutant air quality emissions through the SJVAPCD's small project analysis levels because proposed Project dimensions are less than 280,000 square feet and result in fewer than 550 daily one-way trips (SJVAPCD 2020). As a result, GHG emission impacts would be less than significant.

b) There are numerous statewide regulations and initiatives related to overall GHG reductions. The proposed Project would be compliant with CARB Airborne Toxic Control Measures (ATCMs) regarding heavy-duty truck idling limits of five minutes at a location (California Code of Regulations, Title 13, Section 2485) and the phase-in of off-road emission standards that result in an increase in energy savings in the form of reduced fuel consumption and more fuel-efficient engines (California Code of Regulations, Title 17, Section 93115), which would reduce GHG emissions from unnecessary fuel combustion. Based on the type and size of proposed Project, the Project would not have the potential to generate GHG emissions that could influence climate change. The Project would not conflict with applicable State and local plans, policies, or

regulations adopted to reduce GHG emissions in the Project vicinity. Therefore, impacts on GHG plans, policies, or regulations would be less than significant.

References

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4.9 Hazards and Hazardous Materials

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

Discussion

a) Construction activities for the proposed Project facilities would involve trenching, excavation, grading, and other ground-disturbing activities at the proposed Project site and staging areas identified on Figure 2-1. These construction activities would require small amounts of routinely-used hazardous materials including but not limited to petroleum products (i.e. oil, gasoline, and diesel fuels), automotive fluids (i.e. antifreeze and hydraulic fluids), and other chemicals (i.e. adhesives, solvents, paints, thinners, and other chemicals). Routine transport, use, or disposal of these materials could potentially create a significant hazard to the environment. CWD and its construction contractors would be required to comply with all applicable federal, State and local regulations pertaining to hazardous material use, handling, storage, and disposal. Construction specifications prepared for the proposed Project would identify BMPs to ensure the lawful transport, use, and disposal of hazardous materials. Therefore, by complying with all applicable regulations potential Project construction impacts related to hazardous materials would be reduced to less than significant levels.

Operation of the proposed Project would consist of facilities that collect and convey produced water, which would not involve the use of chemicals. Therefore, no impact to the environment

or public health and safety due to routine use of hazardous materials during Project operation would occur.

Water quality impacts related to the use of produced water are analyzed below in Hydrology and Water Quality.

b) As described above in the analysis for Section 4.9a, proposed Project construction activities would require the transport, use, and disposal of small amounts of hazardous materials at the proposed Project site and staging areas. No acutely hazardous materials would be used onsite during construction of the proposed Project. If not properly handled, accidental release of these substances could degrade soils or become entrained in stormwater runoff, resulting in adverse effects on the public or the environment. However, CWD is required to comply with all applicable federal, State and local laws and regulations that pertain to avoiding and, if necessary, mitigating the accidental release of hazardous materials during construction of proposed facilities. For example, Cal/OSHA would require CWD or its contractors to prepare and implement a Construction Safety Plan, which would include such items as construction worker training, availability of safety equipment, an accident prevention program, and hazardous substance exposure warning protocols. CCR Section 5194 requires a hazards communication program that clearly identifies hazardous materials onsite, thereby increasing employee education and awareness of hazardous materials onsite and reducing the potential for a spill. CFR Section 1910.120 details requirements for emergency response to releases or substantial threats of releases of hazardous substances. In addition, BMPs shall be included in the SWPPP that would be required for the proposed Project (see Section 4.7, *Geology and Soils* and Section 4.10, *Hydrology and Water Quality*), to prevent accidental release of hazardous materials into the environment that could affect soils or contaminate groundwater. Implementation of these BMPs would further reduce potentially significant impacts associated with hazardous substance spills during construction to less than significant levels.

Operation of the proposed Project would consist of facilities that collect and convey produced water, which would not involve the use of chemicals. Therefore, no impact to the environment or public health and safety due to hazardous substance spills would occur.

Water quality impacts related to the use of produced water are analyzed below in Hydrology and Water Quality.

c) The nearest school to the proposed Project area is the Sillect Community School located 8.5 miles southeast of the Project area; therefore, the proposed Project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. No impact would occur.

d) The proposed Project facilities would not be located on a site that is included on a list of hazards materials sites compiled pursuant to Government Code Section 65962.5 (DTSC 2022; SWRCB 2022). Therefore, the proposed Project would not create a significant hazard to the public or the environment. No impact would occur.

e) The nearest airport to the proposed Project area is the Meadows Field Airport located approximately 5.5 miles southeast of the Project area.; therefore, the proposed Project would not result in a safety hazard or excessive noise for people residing or working in the Project area. No impact would occur.

f) The staging and construction areas for the proposed inflow canal, collection basin and pipeline would be implemented on land either owned or acquired by easement of the District and would not be located within a public right-of-way. Further, according to the Kern County General Plan, the proposed Project facilities would not be implemented within an area designated as emergency evacuation route (County of Kern 2009). Therefore, the proposed Project would not physically interfere with an adopted emergency response plan or emergency evacuation plan. No impact would occur.

g) According to the California Department of Forestry and Fire Protection (CAL FIRE), the proposed Project area is located within both a Local Responsibility Area (LRA) and State Responsibility Area (SRA). The portion of the proposed Project that would be located within SRA is considered to be an area with moderate wildfire potential (CAL FIRE 2024). Proposed Project work occur within disturbed or undeveloped areas and the surrounding vegetation and active and idle agricultural and oil field land use types have a low potential for wildland fires. In addition, as a standard safety practice, all vehicles and equipment would have fire prevention equipment on-site, including fire extinguishers and shovels. Because the proposed Project is not located within a very high fire hazard zone and not within or adjacent to uses prone to wildfires, the potential for wildfire impacts on people or structures due to Project implementation would be less than significant.

References

California Department of Forestry and Fire Protection (CAL FIRE), 2024.Fire Hazard Severity Zone Viewer. Available online at: https://calfire-forestry.maps.arcgis.com/apps/webappviewer/index.html?id=988d431a42b242b29d89597ab693d008. Accessed July 2024.

California Department of Toxic Substances Control (DTSC), 2024. EnviroStor. Available online at: https://www.envirostor.dtsc.ca.gov/public/. Accessed July 2024.

County of Kern, 2009. Safety Element. Available online at: https://psbweb.co.kern.ca.us/planning/pdfs/kcgp/KCGPChp4Safety.pdf. Accessed July 2024.

State Water Resources Control Board (SWRCB), 2022. GeoTracker. Available online at: https://geotracker.waterboards.ca.gov/. Accessed July 2024.

4.10 Hydrology and Water Quality

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
X. HYDROLOGY AND WATER QUALITY — Would the project:				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	☒	☐
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
i) result in substantial erosion or siltation on- or off-site;	☐	☐	☒	☐
ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	☐	☐	☒	☐
iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☐	☒
iv) impede or redirect flood flows?	☐	☐	☐	☒
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☐	☒
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☒	☐

Discussion

a) Construction of the proposed Project would involve excavation, trenching, and grading at the proposed Project site. Sediment associated with earthmoving activities and exposed soil would have the potential to erode and be transported to down gradient areas, potentially resulting in water quality standard violations. In the event of heavy rain, erosion of the soil stockpiles may occur resulting in scouring and sedimentation of local drainages. Additionally, stormwater passing through the construction and staging area sites has the potential to pick up construction-related chemicals (such as fuels or oils from construction equipment), which may pass into the local waterways, impacting water quality. However, because the proposed Project would disturb more than one acre, construction would be subject to the NPDES General Permit for Discharges of Storm Water Runoff Associated with Construction and Land Disturbance Activities (Construction General Permit). As part of this process, CWD would file a Notice of Intent with the State Water Resources Control Board (SWRCB), in compliance with the statewide NPDES Construction General Permit. CWD would be required to prepare and submit a SWPPP that would identify pollutant sources that may affect the quality of stormwater discharge and identify BMPs, such as erosion control and pollution prevention measures, to be used throughout the

course of construction. As a result, construction of the proposed Project would not result in violation of water quality standards, waste discharge requirements, or otherwise degrade water quality. Impacts would be less than significant.

Operation and maintenance of the proposed Project would not adversely impact water quality. Once constructed, the proposed pipeline would be installed underground and these areas would be returned to pre-Project conditions once construction is complete. The water quality of the oil produced water that would be conveyed through the proposed basin and pipeline meets the regulatory standards required in the WDRs for the use of produced water for irrigation purposes. The treatment process by which the oil produced water is delivered to the proposed Project facilities is conducted in compliance with Central Valley Water Board WDRs (Order R5-2012-0058, as amended by R5-2019-0025; RWQCB 2012, 2019), which require the produced water be treated to achieve water quality goals for agricultural use. Although the irrigation water is not used as drinking water, which has lower regulatory standards, drinking water standards were used to ensure the highest and strictest (safest) water quality standards.

CWD has evaluated the analytical testing methods, the chemical results, and the required regulatory standards of oil produced water use within its service area. Results have indicated traces of organic chemicals at concentrations at or below drinking water quality standards, which do not pose a health threat to fruit trees or consumers of agricultural products. In summary, the analytical results show that the irrigation water does not contain concentrations of chemicals known to cause harm to humans or the environment. The only petroleum-derived chemicals detected in the irrigation water are long-chain hydrocarbons (i.e., in the range of oil and grease). The potential presence of petroleum hydrocarbon residue in the produced water has been monitored on a monthly basis since 2002. Analysis of the historical oil and grease data indicated that the maximum recorded concentration of oil and grease in the irrigation water was 29 milligrams per liter (mg/L), which is below the WDRs regulatory standard of 35 mg/L. Regarding long-chain hydrocarbons, toxicity studies have demonstrated that long-chain petroleum hydrocarbons are essentially not toxic to plants. The same plant toxicity studies have demonstrated that even high levels of long-chain hydrocarbons in irrigation water or soil do not pose a threat to plants or to the human food chain. Long-chain petroleum hydrocarbons are non-toxic to plants and actually have beneficial uses in agriculture. Petroleum-derived oils are intentionally applied to fruit trees as horticultural oils; horticultural oils may contain up to 92 percent hydrocarbons. The hydrocarbon concentration detected at the CWD water reservoir outflow is 11.5-million times lower than the hydrocarbon concentration of horticultural oils. Long-chain hydrocarbons (1) have a low toxicity potential; (2) are easily broken down and degraded by soil microorganisms; (3) are essentially not absorbed by plants into their stems, fruits or leaves; and (4) were detected in the irrigation water at concentrations that are below regulatory limits set by the U.S. Environmental Protection Agency and the Central Valley Water Board. As a result, the proposed Project would not result in a violation of water quality standards or WDRs. Therefore, operation of these proposed facilities would not conflict with any water quality standards or waste discharge requirements, or otherwise substantially degrade water quality, and impacts would be less than significant.

b) The implementation of the proposed Project would not involve the extraction of any groundwater and would not substantively interfere with groundwater recharge. Although not anticipated, construction of the proposed Project facilities may require dewatering of perched groundwater depending on the facility installation location. Water collected from dewatering would be reused for dust control purposes during construction, as needed. Any excess water not able to be used for dust control may require a dewatering permit from the Central Valley RWQCB. Compliance with this dewatering permit includes designation of a discharge disposal site and implementation of BMPs to control discharge. Dewatering activities would not interfere with groundwater recharge in any way that would result in a net deficit in aquifer volume or lowering of the groundwater table. As such, impacts to groundwater supplies and recharge during construction would be less than significant.

Once operational, the Proposed Project would not involve any activity that would decrease groundwater supplies or impede with sustainable management of the groundwater basin. In fact, the proposed Project would convey additional water to be spread within the Famoso Basin, which would aid in groundwater recharge. Impacts would be less than significant.

c.i) Construction activities would require earthwork activities that would temporarily alter drainage patterns and expose soils to potential erosion or siltation. However, all construction activities would be required to adhere to the NPDES Construction General Permit and CWD and its contractor(s) would be required to implement BMPs in accordance with a SWPPP, which would include erosion control measures. With implementation of erosion control BMPs, impacts would be reduced to a less than significant level.

Once constructed, the proposed pipeline area would be returned to existing conditions (i.e. bare ground would be repurposed as bare ground) such that there would be no changes to drainage patterns and erosion potential. The proposed inflow canal and collection basin would be 250 feet by 250 feet in area and 8 feet deep, and would generate a negligible increase in runoff directed to the collection basin itself, which would not increase erosion onsite. Operation and maintenance of the proposed Project would not result in substantial erosion or siltation onsite or offsite. As such, impacts would be less than significant.

c.ii) Construction of the proposed Project would not result in a large exposed area that could be susceptible to flooding. BMPs implemented as part of the SWPPP that include erosion control measures would prevent widespread flooding on and adjacent to the proposed Project site. Impacts would be less than significant during construction.

The proposed pipeline would operate below ground and would be restored to pre-construction conditions. The proposed inflow canal and collection basin would not introduce impervious surfaces to the proposed Project area. All runoff from the site would be directed toward the proposed collection basin. Implementation of the proposed Project would not substantially increase the rate of surface water runoff in a manner that would result in flooding onsite or offsite. Impacts would be less than significant during operation.

c.iii) Construction of the proposed Project facilities would require minimal amounts of water, mainly for dust suppression. Therefore, the proposed Project would not generate a large amount of runoff

onsite during construction compared to existing stormwater runoff conditions that would exceed the capacity of existing or planned stormwater drainage systems.

During operation, the proposed Project facilities would collect and convey produced water to CWD's existing distribution canal. These proposed facilities would not introduce impervious surfaces such that excessive runoff would be generated. Therefore, no impacts related to the generation of runoff that would exceed the capacity of existing or planned stormwater drainage systems would occur.

c.iv) The proposed Project facilities are located outside of any FEMA flood zone (FEMA 2022). Additionally, the proposed Project facilities would have relatively minor above ground surface profiles (earthen berm around the proposed collection basin) and would be entirely unoccupied other than sporadic maintenance activities. As a result, the proposed Project facilities would not impede or redirect flood flows. No impact would occur.

d) The proposed Project is not located in a flood zone and would therefore not risk release of pollutants from the Project site due to inundation. No impact would occur.

A tsunami is a sea wave of local or distant origin that results from large-scale seafloor displacements associated with earthquakes, major submarine slides or exploding volcanic islands (USGS 2024a). An event such as an earthquake creates a large displacement of water resulting in a rise or mounding at the ocean surface that moves away from this center as a sea wave. The proposed Project is more than 100 miles away from the Pacific Ocean. Therefore, the proposed Project would not be subject to tsunamis and would not risk release of pollutants due to Project inundation from a tsunami. No impacts would occur.

A seiche is the sloshing of a closed body of water from earthquake shaking (USGS 2024b). There are no closed bodies of water near the proposed Project area Therefore, the proposed Project would not be subject to seiches and would not risk release of pollutants due to Project inundation from a seiche. No impacts would occur.

e) As discussed in Section 2, *Project Description*, the purpose of the proposed Project is to increase the District's water supplies for irrigation and improve water management through groundwater recharge in the Famoso Basin. By storing additional water underground in Kern County, the proposed Project would generally benefit groundwater levels and storage and help support groundwater sustainability efforts required by the Sustainable Groundwater Management Act (SGMA). Additional details regarding impacts to water quality and water supplies are analyzed above in Section 4.10a and Section 4.10b, respectively. Therefore, the proposed Project would have a less than significant impact to the water quality control plan (basin plan) and the sustainable groundwater management plan.

References

Central Valley Regional Water Quality Control Board (RWQCB), 2012. *Order R5-2012-0058, Waste Discharge Requirements for Chevron USA, Inc., and Cawelo Water District, Produced Water Reclamation Project, Kern River Area Station 36, Kern River Oil Field, Kern County*. June 8.

Central Valley RWQCB, 2019. *Order R5-2019-0025, Amending Waste Discharge Requirements for Oil Field Produced Water Reclamation Projects*. April 5.

Enviro-Tox, 2016. *Irrigation Water Quality Evaluation, Cawelo Water District, Bakersfield, California*. April 7.

Federal Emergency Management Agency (FEMA), 2022. FEMA Flood Map Service Center. Available online at: https://msc.fema.gov/portal/home. Accessed July 2024.

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4.11 Land Use and Planning

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
XI. LAND USE AND PLANNING — Would the project:				
a) Physically divide an established community?	☐	☐	☐	☒
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐

Discussion

a) The physical division of an established community generally refers to the construction of a feature such as an interstate highway or railroad tracks, or removal of a means of access, such as a local road or bridge that would impact mobility within an existing community or between a community and outlying area. The proposed pipeline would be implemented underground within lands under a District easement. The proposed inflow canal and collection basin would be 250 feet by 250 feet and 8 feet deep on land owned by the District. The proposed facilities would not create a barrier or physically divide an established community. As such, no impact would occur.

b) The proposed Project facilities would be constructed in unincorporated Kern County on land designated for oil and agricultural production and zoned for Exclusive Agriculture (A) and Limited Agriculture (A-1) (County of Kern 2022). The proposed pipeline would be located underground and would not result in any land use inconsistencies. The proposed inflow canal and collection basin would be considered public facilities and/or utilities and the local vicinity currently contains similar facilities. Per Government Code Section 53091(d), building ordinances of local cities or counties do not apply to the location or construction of facilities for the projection, generation, storage, treatment, or transmission of water or wastewater. As this proposed Project's objective is water conveyance and storage, the building ordinances of the Kern County do not apply to the proposed Project. As such, the proposed Project facilities would not conflict with existing land use designations or be incompatible with surrounding land uses. Therefore, impacts would be less than significant.

References

County of Kern, 2022. Kern County GIS. Available online at: https://maps.kerncounty.com/H5/index.html?viewer=KCPublic. Accessed July 2024.

4.12 Mineral Resources

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
XII. MINERAL RESOURCES — Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☐	☒

Discussion

a) The CGS classifies the regional significance of the State's mineral resources in accordance with the Surface Mining and Reclamation Act of 1975 to indicate the significance of mineral deposits based on geologic appraisal of the mineral resource potential of the land. The proposed Project area is classified by the CGS as a Mineral Resource Zone 3, which is a rural area of known or inferred mineral occurrences of undetermined mineral resource significance (CGS 2008). The proposed Project does not include the extraction of mineral resources. As such, no impact to the availability of known mineral resources would occur.

b) CGS identifies the proposed Project area as a Mineral Resource Zone 3, which is a rural area of known or inferred mineral occurrences of undetermined mineral resource significance (CGS 2008). The proposed Project area is not currently being mined or used for production of mineral resources of value to the region or residents of California (County of Kern 2021). The mineral resources available are not of value to the region or residence of the State and the proposed Project will not be mining or using mineral resources for production regardless. The proposed Project does not include the extraction of mineral resources. No impact to the availability of locally-important mineral resources from a local general plan, specific plan, or other land use plan would occur.

References

California Geological Survey (CGS), 2008. *Updated Mineral Land Classification Map for Portland Cement Concrete-Grade Aggregate in the Bakersfield Production-Consumption Region, Kern County, California*. 2008.

County of Kern, 2021. General Plan: Interactive Maps. Available online at: https://maps.kerncounty.com/H5/index.html?viewer=KCPublic. Accessed July 2024.

4.13 Noise

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
XIII. NOISE — Would the project result in:				
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b) Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

Discussion

Sound is mechanical energy transmitted by pressure waves through a medium such as air. Noise is defined as unwanted sound. Sound is characterized by various parameters that include the rate of oscillation of sound waves (frequency), the speed of propagation, and the pressure level or energy content (amplitude). Sound pressure level is measured in decibels (dB), with zero dB corresponding roughly to the threshold of human hearing, and 120 to 140 dB corresponding to the threshold of pain.

Vibration can be interpreted as energy transmitted in waves through the ground or man-made structures, which generally dissipate with distance from the vibration source. Because energy is lost during the transfer of energy from one particle to another, vibration becomes less perceptible with increasing distance from the source.

Kern County General Plan

County policies for noise are included in the Noise Element of the Kern County General Plan (Kern County Planning Department 2010). The purpose of the Noise Element is to: (1) establish reasonable standards for maximum desired noise levels in Kern County, and; (2) develop an implementation program which could effectively deal with the noise problem. The County noise goals, policies, and standards are based on standards suggested by the U.S. Environmental Protection Agency (EPA) and the California Department of Health. The Kern County General Plan does not contain any goals are policies that are applicable to the proposed Project because the Project area is not considered a sensitive land use, nor is the Project area located near sensitive land uses.

Kern County Noise Ordinance

Chapter 8.36 of the *Kern County Code* addresses noise issues. These include acceptable hours of construction and limitations on construction related noise impacts on adjacent sensitive receptors. Noise producing construction activities that are audible to a person with average hearing ability at a distance of 150 feet from the construction site, or within 1,000 feet of an occupied residential dwelling are prohibited

between the hours of 9:00 p.m. to 6:00 a.m. on weekdays, and 9:00 p.m. to 8:00 a.m. on weekends. However, the following exceptions are permitted:

1. The resource management director or his designated representative may for good cause exempt some construction work for a limited time.
2. Emergency work is exempt from this section.

a) Neither the Kern County General Plan or Noise Ordinance establish quantitative noise exposure standards that apply to construction activity. However, for the purposes of due diligence, resultant noise levels from simultaneous operations of all equipment were estimated, consistent with the general assessment methodology of the Federal Transit Administration (FTA 2018) using the Federal Highway Administration's (FHWA) Roadway Construction Noise Model (RCNM). The closest sensitive receptor to the Project area is a residence over 3,500 feet north of the proposed Project site. At the distance of 3,500 feet, noise from construction activity would be virtually imperceptible and indistinguishable from the local noise environment. Given that the Kern County Noise Ordinance only addresses construction activities with sensitive receptors within a distance of 1,000 feet, this Project is exempt from such restrictions. Additionally, all proposed construction activities would occur between the allowable construction hours in Kern County. Further, once the proposed Project facilities are constructed, the facilities would not generate any noise in the area. Therefore, the proposed Project would not result in a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies, impacts would be less than significant.

b) Activities associated with proposed Project construction have the potential to generate low levels of groundborne vibration due to the operation of equipment (i.e. drill rig for jack and boring of proposed pipeline, water trucks, support trucks). This type of equipment is not identified by Caltrans (2020) or the Federal Transit Administration (FTA 2018; Caltrans 2020) as associated with generation of notable vibration. No high-impact activities, such as pile driving or blasting, would be used during construction activities. As described above in the discussion for Section 4.13a, Project activities would not take place near any residences or other noise-sensitive land uses that could be exposed to vibration levels generated from Project activities. Vibration attenuates rapidly with distance and would be imperceptible at the distances to the closest structures and sensitive receptors. Therefore, the proposed Project would result in less than significant impacts.

c) The proposed Project would not establish new noise sensitive land uses that could be exposed to noise from local airports. The Project area is located in a rural area that is distant from commercial or general aviation airports. The nearest public use airport is the Minter Field Airport, located approximately 5 miles west of the proposed pipeline. Therefore, there would be no impact in relation to airports and the Project exposing people residing or working in the Project area to excessive noise levels.

References

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4.14 Population and Housing

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
XIV. POPULATION AND HOUSING — Would the project:				
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☒	☐
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Discussion

a) The proposed Project involves the construction and operation of a proposed inflow canal, collection basin and pipeline within property or easements owned by the District to increase groundwater storage in the Famoso Basin. The proposed Project would not directly induce population growth, as it does not propose development of new housing that would attract additional population to that area. The additional water supply would support agricultural operations and would not indirectly support population growth. Further, implementation of the proposed Project would not result in any permanent employment that could indirectly induce population growth. Impacts would be less than significant.

b) There are no existing residences within the Project area that would be impacted by proposed Project. Further, no residences would be condemned or displaced by the proposed Project. Therefore, the proposed Project would not displace people or housing necessitating the construction of replacement housing elsewhere. Therefore, no impact would occur.

4.15 Public Services

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
XV. PUBLIC SERVICES —				
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public services:				
i) Fire protection?	☐	☐	☐	☒
ii) Police protection?	☐	☐	☐	☒
iii) Schools?	☐	☐	☐	☒
iv) Parks?	☐	☐	☐	☒
v) Other public facilities?	☐	☐	☐	☒

Discussion

a.i) The proposed Project does not include new fire departments or expansion of fire protection facilities. The proposed Project would not induce population growth required for expansion of fire protective facilities. The construction and operation of the proposed Project would be filled by the local work force so no fire protection facilities to maintain response ratios, service ratios, or other measures of performance would be required. In the event of a fire or other emergency near or at a proposed Project area, existing fire protection services within the Project area would be able to sufficiently respond to emergency events with existing facilities and staffing capacities. Because the proposed Project facilities would not result in the permanent increase in residences or population, no increase in the need for new fire protection facilities would occur. As a result, **no impact** would occur because construction of a new fire facility would not be required.

a.ii) The proposed Project does not include new police departments or expansion of police facilities. The proposed Project would not induce population growth required for expansion of police protective facilities. The construction and operation of the Project would be filled by the local work force so no police protection facilities to maintain response ratios, service ratios, or other measures of performance would be required. In the event of an emergency, existing police protection services within the Project area would be able to sufficiently respond to emergency events with existing facilities and staffing capacities. Because the proposed Project facilities would not result in the permanent increase in residences or population, no increase in the need for new police protection facilities would occur. As a result, no impact would occur because construction of a new police facility would not be required.

a.iii) Since the proposed Project does not propose to construct any additional housing units within the CWD service area nor would implementation of the proposed Project result in an increase in new employment opportunities within the region, population growth would not occur within the proposed Project area. No new schools would need to be built in order to maintain acceptable

performance objectives. Thus, the proposed Project would not require the construction of new schools, and no impact would occur.

a.iv) The proposed Project does not propose any new housing units or increase in new employment opportunities within the region. Thus, the proposed Project would not induce population growth, either directly or indirectly, and would not necessitate the construction of additional parks within the Project area in order to meet performance objectives. Therefore, the Proposed Project would not adversely affect parks and no impact would occur.

a.v) The proposed Project does not propose any new housing units or increase in new employment opportunities within the region. Thus, the proposed Project would not induce population growth, either directly or indirectly, and would not necessitate the construction of additional public facilities, such as libraries or hospitals, within the proposed Project area. Therefore, the proposed Project would not adversely affect public facilities of any kind. No impact would occur.

4.16 Recreation

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
XVI. RECREATION —				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒

Discussion

a) There is one recreational facility located in the vicinity of the proposed Project, the North Kern Golf Course located approximately 4,000 feet to the northwest. The proposed Project does not propose any new housing units or workers that would temporarily or permanently increase the use of existing parks or other recreational facilities. Additionally, construction activities would not impact access to the North Kern Golf Course or any other recreational area nearby. It Recreational users would still be able to access local facilities and parks within the proposed Project area. Therefore, implementation of the proposed Project would not cause the substantial degradation of existing parks or recreational facilities. No impact would occur

b) The proposed pipeline would be underground and implementation of the proposed inflow canal and collection basin would not affect existing recreational facilities. No new recreational facilities are included in the proposed Project, nor would they be required in the County of Kern to accommodate the proposed Project. No impact would occur.

4.17 Transportation

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

Discussion

a) Implementation of the proposed Project could temporarily increase the number of vehicles on local roadways due to the transport and delivery of equipment and daily worker commute trips over the construction period. All equipment and materials would be transported to the proposed Project sites on public highways, local roads, and private driveways, using standard transport vehicles.

The delivery of vehicles and equipment to the sites is only expected to occur when the equipment is delivered to/from the sites (two one-way trips for all equipment). The majority of traffic impacts would occur from the daily arrival and departure of workers that would commute individually to the active site. The addition of up to 15 construction workers along local roads would not substantially affect the circulation capacity, and therefore, vehicle trips would not substantially affect the capacity of the local roadways. Further, the proposed Project would not conflict with adopted policies, plans, or programs related to public transit or alternative modes of transportation as there are no public transit facilities within the vicinity of the Project area. The Project would not decrease the performance or safety of these facilities, which are sparse within the largely rural Project area. Project activities would not disrupt services along local public transit, bicycle, or pedestrian routes.

The installation of the proposed pipeline would occur beneath State Highway 65. Road closures are not anticipated; however, potential closures would impact the local circulation system. In order to reduce potential impacts to transportation along State Highway 65, CWD would be required to implement **Mitigation Measure TRA-1**, which would require the preparation and implementation of a Traffic Control Plan, which includes measures specifically for alternative transportation facilities. The Traffic Control Plan would include, but not be limited to, signage, striping, delineated detours, flagging operations, changeable message signs, delineators, arrow boards, and K-Rails that will be used during construction to guide motorists, bicyclists, and pedestrians safely through the construction area and allow for adequate access and circulation to the satisfaction of the appropriate local jurisdiction. The Traffic Control Plan would be coordinated with the County of Kern and Caltrans. Therefore, with implementation of Mitigation

Measure TRA-1, impacts to program plans, policies, or ordinances addressing alternative transportation facilities during construction of the proposed pipeline, specifically, would be reduced to less than significant with mitigation measure incorporated.

Once construction of the proposed Project is complete, operation of the proposed facilities would return to pre-construction conditions as the pipeline would be underground and the proposed inflow canal and collection basin would not be located within the roadway rights-of-way. Operation and maintenance of the proposed Project would be minimal and would not interfere with alternative transportation facilities. Therefore, impacts to alternative transportation facilities during operation would be less than significant.

Mitigation Measures

TRA-1: Traffic Control Plan. Prior to the start of construction of the proposed pipeline, CWD shall require the construction contractor to prepare a Traffic Control Plan. The Traffic Control Plan will show all signage, striping, delineated detours, flagging operations and any other devices that will be used during construction to guide motorists, bicyclists, and pedestrians safely through the construction area and allow for adequate access and circulation to the satisfaction of the County of Kern and Caltrans. The Traffic Control Plan shall be prepared in accordance with the County of Kern and Caltrans' traffic control guidelines and will be prepared to ensure that access will be maintained to individual properties, and that emergency access will not be restricted. Additionally, the Traffic Control Plan will ensure that congestion and traffic delay are not substantially increased as a result of the construction activities.

During construction, CWD shall verify that the construction contractor has maintained continuous vehicular access to any affected driveways from the public street to private property line, except where necessary construction precludes such continuous access for reasonable periods of time. Access will be reestablished at the end of the workday. If a driveway needs to be closed or interfered with as described above, CWD shall notify the owner or occupant of the closure of the driveway at least five working days prior to the closure. The Traffic Control Plan shall include provisions to ensure that the construction of the pipeline does not interfere unnecessarily with the work of other agencies such as school buses and municipal waste services.

CWD shall also notify local emergency responders of any planned partial or full lane closures or blocked access to roadways or driveways required for proposed Project facility construction. Emergency responders include fire departments, police departments, and ambulances that have jurisdiction within the proposed Project area. Written notification and disclosure of lane closure location must be provided at least 30 days prior to the planned closure to allow emergency response providers adequate time to prepare for lane closures.

b) "Vehicle miles traveled" refers to the amount and distance of automobile travel attributed to a project. Up to 15 construction workers would receive access the staging areas from the local area. These construction worker trips would be temporary over the 6-month construction window and would not result in any perceivable increase in vehicle miles traveled that would exceed a County threshold of significance. Construction of the proposed Project would not be inconsistent with CEQA Guidelines Section 15064.3 subdivision (b) and impacts would be less than significant.

Vehicle miles generated during operation and maintenance of the proposed Project would be minimal and sporadic and would not cause a substantial decrease in the performance of existing

roadways within the regional circulation system. Thus, operation and maintenance of the proposed Project would not be inconsistent with CEQA Guidelines Section 15064.3 subdivision (b) and impacts would be less than significant.

c) The proposed Project would not alter existing roadways, nor include any hazardous design features such as sharp curves or dangerous intersections. The proposed pipeline construction would be restored to pre-Project conditions and would not impact local roadways or State Highway 65. There is a potential for road closures during jack and bore drilling activities for the proposed pipeline under State Highway 65. The presence of construction vehicles and equipment along local roadways and the State Highway 65 would temporarily introduce potential safety hazards to motorists and pedestrians during Project construction. However, implementation of Mitigation Measure TRA-1 would require the preparation and implementation of a Traffic Control Plan for roadways which require partial closures during construction to minimize the effects on roadway safety. Therefore, with implementation of Mitigation Measure TRA-1, construction of the proposed Project would not result in a hazardous design feature or incompatible use within the proposed Project area. Impacts during construction would be less than significant with mitigation incorporated.

Mitigation Measures

Implement Mitigation Measure TRA-1.

d) As explained above under Section 4.17a above, construction truck and vehicle trips would be generated primarily by construction workers commuting and trucks hauling materials and equipment to and from the Project site. Construction trucks and vehicle trips would also temporarily use the staging areas illustrated on Figure 2-1. Construction trucks and vehicles would use the regional circulation system to bring construction materials and construction workers to the Project area. Construction trucks and vehicles would access the site intermittently throughout the day and would not interfere with emergency access to the Project area. Furthermore, all construction trucks and vehicles would adhere to all applicable roadway regulations and standards related to emergency access. Therefore, adequate emergency access would be provided during construction of the proposed inflow canal and collection basin. The proposed pipeline would be implemented underground within areas owned or acquired by easement from the District, and would need to be drilled using jack and bore techniques beneath State Highway 65. While construction of the proposed pipeline would not substantially increase traffic levels on the surrounding roadways, potential construction activities underneath and immediately adjacent to State Highway 65 may require partial closure of traffic lanes, which could affect emergency access routes and times. In order to reduce impacts to emergency access during construction of the proposed pipeline, CWD would be required to implement Mitigation Measure TRA-1, which would require the preparation and implementation of a Traffic Control Plan. with implementation of Mitigation Measure TRA-1, impacts related to emergency access during construction of the underground facilities would be reduced to less than significant levels with mitigation incorporated.

Once constructed, the proposed pipeline would be contained entirely underground and would require minimal maintenance and associated trips on local roadways. Operation of proposed

inflow canal and collection basin would require minimal maintenance. While these maintenance activities would generate additional truck trips on the surrounding regional circulation system, trucks and vehicles accessing the site would be sporadic and would be required to comply all applicable roadway regulations and standards related to emergency access. Therefore, operation of the proposed inflow canal and collection basin would not result in inadequate emergency =

Mitigation Measures

Implement Mitigation Measure TRA-1.

4.18 Tribal Cultural Resources

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

Discussion

ESA sent outreach letters to all individuals and groups indicated by the NAHC as having affiliation with the Project area in order to solicit information on Native American cultural resources in the vicinity of the Project. Consultation notification letters were sent via certified mail on March 11, 2022 to five Native American groups affiliated with the Project's geographic area (**Table 4-2; Appendix B**). The letters included a description of the Proposed Project and provided a map figure depicting the Project location. Letters were followed up with emails to the same five Native American groups on March 24, 2022. As of the completion of this document, no responses have been received.

TABLE 4-2
SUMMARY OF OUTREACH EFFORTS

Contact	Tribe/Organization	Date Notification Letter Sent	Date Follow-Up Email Sent	Response Received
Danelle Gutierrez, Tribal Historic Preservation Officer	Big Pine Paiute Tribe of the Owens Valley	3/11/2022	3/24/2022	-
Sally Manning, Environmental Director	Big Pine Paiute Tribe of the Owens Valley	3/11/2022	3/24/2022	-
James Rambeau, Chairperson	Big Pine Paiute Tribe of the Owens Valley	3/11/2022	3/24/2022	-
Julio Quair, Chairperson	Chumash Council of Bakersfield	3/11/2022	3/24/2022	-
Delia Dominguez, Chairperson	Kitanemuk & Yowlumne Tejon Indians	3/11/2022	3/24/2022	-
Octavio Escobedo, Chairperson	Tejon Indian Tribe	3/11/2022	3/24/2022	-

Contact	Tribe/Organization	Date Notification Letter Sent	Date Follow-Up Email Sent	Response Received
Colin Rambo, Cultural Resource Management Technician	Tejon Indian Tribe	3/11/2022	3/24/2022	-
Neil Peyron, Chairperson	Tule River Indian Tribe	3/11/2022	3/24/2022	-
Joey Garfield, Tribal Archaeologist	Tule River Indian Tribe	3/11/2022	3/24/2022	-
Kerri Vera, Environmental Department	Tule River Indian Tribe	3/11/2022	3/24/2022	-

An SLF search for the Proposed Project was requested from the NAHC on December 20, 2021 and the NAHC responded to the request in a letter dated February 25, 2022. The results of the SLF search conducted by the NAHC returned negative results for the Project area. As a result, no tribal cultural resources have been identified within the Project area.

a.i) **No Impact**. No tribal cultural resources were identified as a result of the outreach letters, follow up emails, and SLF search. Therefore, no tribal cultural resources that are listed in or eligible for listing in the California Register, or in a local register of historical resources as defined in PRC Section 5020.1(k) would be impacted by the Project and no mitigation is required. No impact would occur.

a.ii) **No Impact**. No tribal cultural resources were identified as a result of the outreach letters, follow up emails, and SLF search. Therefore, no tribal cultural resources that have been 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, would be impacted by the Project and no mitigation is required. No impact would occur.

4.19 Utilities and Service Systems

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

Discussion

a) The proposed Project would involve the temporary employment of up to 15 construction workers throughout the 6-month construction schedule. The proposed Project may require limited use of potable water during construction activities. Water required for potential dust suppression would be obtained from a support truck. The amount of water required would be minimal and would not require expanded water supply to the area. No water or wastewater treatment facilities would be installed as part of the proposed Project. No improvements are planned to support the proposed Project that require new electric power, natural gas, or telecommunication facilities.

As discussed within Section 4.10c.iii, construction of the proposed Project would temporarily alter surface water flow due to ground-disturbing activities. However, with implementation of the Project-specific SWPPP, BMPs would minimize the potential for flooding, reducing water flow to stormwater drainage systems. Therefore, construction of the proposed Project would not require construction or expansion of new stormwater facilities.

The proposed Project would not substantially alter the local drainage pattern of the Project area. The proposed pipeline would be implemented underground and implementation of the proposed inflow canal and collection basin does not include impervious surfaces. Therefore, the proposed Project would alter or change the rate or amount of surface runoff from the Project site. Therefore, the proposed Project would not require the construction or expansion of new storm

water drainage facilities during operation. There would be no construction of utility infrastructure associated with the proposed Project and impacts would be considered less than significant.

b) The proposed Project facilities would require minimal water amounts during construction for purposes including dust control. New or expanded supply entitlements would not be required during the proposed Project facilities construction. The Project would convey oil treated water within the Project area for increased recharge into the Famoso Basin. The proposed Project would use existing water supply entitlements via agreements with Trio for purposes of recharge. This recharge would actually increase supplies. No new water supply entitlements would be required for Project operation and as such, no impact would occur.

c) The proposed Project would result in the generation of wastewater associated with temporary use of portable toilets during construction. During Project implementation, CWD or the contractor(s) may have portable toilet facilities available on-site temporarily for use by workers. Given the relatively small construction workforce, this amount of waste would be minimal. Once construction activities are concluded, such portable facilities would be removed and the wastewater properly handled and disposed in accordance with all applicable laws and regulations. Therefore, the proposed Project does not require a wastewater treatment provider to serve the Project. No impact would occur.

d) Implementation of the proposed Project would result in nominal solid waste, limited to trash and other Project-related materials. Because the proposed Project would not demolish existing facilities on-site or require building materials or infrastructure, there would be no construction debris to be disposed of or transported. Excavated soils would be used to form the proposed collection reservoir berms

There are four landfills located within 17 and 38 miles away from the proposed Project area. These four landfills have adequate capacities to service the nominal waste in the form of construction worker trash that would be generated by the proposed Project. Therefore, the proposed Project would result in a less than significant impact related to local infrastructure capacity and would not impair attainment of solid waste reduction goals.

e) As discussed above, implementation of the proposed Project would result in nominal generation of solid waste. Statewide policies regarding solid waste have become progressively more stringent, reflecting AB 939, which requires local government to develop waste reduction and recycling policies and meet mandated solid waste reduction targets. Construction and operation of the proposed Project would comply with federal and state regulations related to solid waste, which would determine the landfill to be used for disposal of construction waste. During operation of the proposed Project, no solid waste would be generated. As such, impacts would be less than significant.

4.20 Wildfire

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

Discussion

a) As discussed above in Section 4.9, the proposed Project area is located within both a LRA and SRA. The eastern portion of the proposed Project that would be located within SRA is considered to be an area with moderate wildfire potential. While the construction of the proposed Project facilities would occur on land owned or acquired by CWD and not within a right-of-way, the proposed pipeline would need to be constructed using jack and bore techniques beneath State Highway 65. It is not anticipated that construction underneath State Highway 65 would require temporary closure of traffic lanes. However, in the off-chance closure of traffic lanes would occur, construction of the proposed pipeline could impair implementation of or physically interfere with an adopted emergency response plan. Although there are no designated emergency or evacuation routes along State Highway 65, closure of lanes or detour areas could impact the timing if emergency response were need to occur in the event of a wildfire in the Project area. Implementation of Mitigation Measure TRA-1, which would require coordination with local emergency responders regarding lane closures, potential impacts to emergency response would be reduced potential impacts regarding emergency response. Potential impacts would be less than significant with the implementation of mitigation.

During operation, the proposed Project facilities would not physically interfere with an adopted emergency response plan or emergency evacuation plan. No impacts would occur.

Mitigation Measures

Implement Mitigation Measure TRA-1.

b) The proposed Project is not located on a slope. The proposed pipeline would be located underground after construction and the proposed inflow canal and collection basin would store and convey oil treated water, which do not include materials or build structures that would contribute to the spread of a wildfire via winds or other environmental factors. No impact would occur.

c) The Proposed Project is not located within an area that is designated by CAL FIRE as a very high fire hazard zone. All construction must comply with fire protection and prevention requirements specified by California Code of Regulations (CCR) and Cal/OSHA. This includes various measures such as easy accessibility of firefighting equipment, proper storage of combustible liquids, no smoking in service and refueling areas, and worker training for firefighter extinguisher use. With adherence to applicable laws and regulations, impacts would be reduced to a less than significant level.

During operation, the proposed Project facilities would not add to the area's fire risk. The proposed pipeline would operate below ground and would thus not catch fire during wildland fires. The proposed inflow canal and collection basin would not be constructed of highly flammable materials and would hold water during much of their operation, thereby reducing their flammability. Therefore, proposed Project impacts related to wildland fires during operation would be less than significant.

d) The proposed Project is not located on a downward slope that could result in post-fire slope instability. As discussed in Sections 4.7a.iv, 4.7c, 4.10c.ii, and 4.10c.i, the proposed Project would not result in increased drainage or runoff that could contribute to landslide or flooding impacts. No impact would occur.

4.21 Mandatory Findings of Significance

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

Discussion

Would the Project:

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

As discussed above within Section 4.4, *Biological Resources*, construction of the proposed Project has the potential to cause both direct and indirect impacts to two special-status wildlife species confirmed to be present within the BSA (loggerhead shrike and San Joaquin coachwhip), and four special-status species with moderate potential to occur within the BSA (burrowing owl, California horned lark, San Joaquin pocket mouse, and San Joaquin kit fox). Construction activities will result in permanent impacts to approximately 10.19 acres and temporary impacts to approximately 11.49 acres of grassland habitat suitable for all six special-status wildlife species. Additionally, construction activities will result in permanent impacts to approximately 0.70 acre and temporary impacts to approximately 0.11 acre of allscale shrub habitat suitable for burrowing owl, loggerhead shrike, San Joaquin coachwhip, San Joaquin kit fox, and San Joaquin pocket mouse. The BSA also contains non-native grassland communities and an orchard that both provide suitable nesting habitat for birds protected under the MBTA and CFG Code Section 3500. Potential Project impacts to nesting birds may occur particularly during the general avian nesting season of February through August during construction. Impacts to special-status species would be potentially significant. Implementation of Mitigation Measures BIO-1 through BIO-11

would ensure that impacts to biological resources including special-status species and nesting birds are mitigated to a less than significant level.

Additionally, potential state protected non-wetland waters of the State were determined to occur within the BSA. In total, 0.3 acres of waters that are under CDFW and RWQCB jurisdiction were identified and delineated. Direct impacts may occur to these waters, such as loss of non-wetland habitat through removal, filling or hydrological interruption. Indirect impacts include altered hydrology, dust, sedimentation, and introduction of invasive plant species. Construction through areas within or adjacent to these non-wetland features would require approval from one or both the RWQCB or CDFW. For components impacting native vegetation within jurisdictional drainages, the implementing agency would be required to obtain California Fish and Game Code Section 1602 compliance and Section 401 Certification from the RWQCB. These potential direct and indirect impacts to non-wetland waters would be considered significant. However, implementation of a SWPPP and Mitigation Measures BIO-11 would mitigate impacts to a less than significant level.

As discussed above in within Section 4.5, *Cultural Resources*, a subsurface sensitivity assessment found that the Project Area has low sensitivity for the presence of subsurface prehistoric archaeological resources because Early and Mid-Pleistocene, Pliocene, and Miocene deposits are mapped at a surface within the Project area, all of which predate human habitation within the San Joaquin Valley, and are not of suitable age to preserve subsurface archaeological deposits. In addition, soil types identified within the Project area do not appear to contain a stable subsurface horizon that would have supported the accumulation of archaeological materials in the past. However, it is unknown if any historic period subsurface manifestations of both oil field resources may exist within the Project area, and there remains a possibility that archaeological resources could be encountered. As such, implementation of Mitigation Measures CUL-1 and CUL-2 would be necessary to minimize impacts to archaeological resources to a less than significant level.

Although there is no indication that the Proposed Project area has been used for human burial purposes in the recent or distant past, a lack of known prehistoric activity in the area suggests that there is a very low possibility of uncovering human remains during Project implementation. In the event that human remains are discovered during Project construction, including those interred outside of formal cemeteries, the human remains could be inadvertently disturbed, which could be a significant impact. With the implementation of Mitigation Measure CUL-3, impacts to human remains would be reduced to a less than significant level.

As discussed in Section 4.7, *Geology and Soils*, while there are no known fossil localities in the Project area, a large number of vertebrate fossils have been previously recorded in relatively close proximity to the proposed Project from the same sedimentary deposits that occur in the Project area. Many of these occurred at shallow depths, with the Kern River Formation in particular being known to contain diverse Miocene vertebrates in the lower, less coarse sediments. Based on standard geological principles and similar encounters elsewhere in Kern County, there is a high potential to encounter fossils at depth. As such, mitigation measures PALEO-1 through PALEO-4 will be implemented to reduce impacts to paleontological resources to be less than significant.

Once constructed, operation of the proposed Project would have no long-term permanent impacts to biological or cultural resources. As a result, potential impacts would be less than significant with mitigation incorporated.

Mitigation Measures

Implement Mitigation Measures BIO 1 through BIO-11, CUL-1 through CUL-3, and PALEO-1 through PALEO-4

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)?**

A cumulative impact could occur if the proposed Project would result in an incrementally considerable contribution to a significant cumulative impact in consideration of past, present, and reasonably foreseeable future projects for each resource area. No direct significant impacts were identified for the proposed Project that could not be mitigated to a less than significant level. However, when combined with other projects within the vicinity, the proposed Project may result in a contribution to a potentially significant cumulative impact.

The proposed Project does not include any mineral resources that could be impacted and would have no effect on population and housing, public services, or recreation. In addition, impacts would be less than significant, either with or without mitigation, for aesthetics, biological resources, agriculture and forestry resources, cultural resources, energy, geology and soils, GHG emissions, hazards and hazardous materials, hydrology and water quality, land use and planning, tribal cultural resources, utilities and service systems, and wildfire. The impacts to these environmental topic areas would be localized to the Project site, would be able to be reduced to a less than significant level with Mitigation Measures BIO-1 through BIO-11, CUL-1 through CUL-3, and PALEO-1 through PALEO-4, and would not combine with other nearby projects to create a cumulatively considerable impact. As a result, cumulative impacts related to these resources would be less than significant.

As noted throughout this document, the potential impacts of the proposed Project are primarily temporary and short-term impacts and are site-specific. As noted above, all of the potential direct and indirect impacts of the proposed Project were determined to be fully avoided or reduced to less than significant with incorporation of mitigation measures. As a result, the potential impacts of the proposed Project are not considered cumulatively considerable, and impacts would be less than significant with mitigation incorporated.

Mitigation Measures

Implement Mitigation Measures BIO-1 through BIO-11, CUL-1 through CUL-3, and PALEO-1 through PALEO-4

c) **Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?**

The potential impacts of the proposed Project are temporary, short-term, and site-specific. These impacts are all localized to the proposed Project area and include limited adverse effects on biological, cultural, and geological resources. The proposed Project would not include any activities or uses that may cause substantial adverse effects on human beings, either directly or indirectly, or on the physical environment. However, as described above in Section 4.17, *Transportation*, the presence of construction vehicles and equipment along local roadways and the State Highway 65 would temporarily introduce potential safety hazards to motorists and pedestrians during Project construction. Implementation of Mitigation Measure TRA-1 would require the preparation and implementation of a Traffic Control Plan for roadways which require partial closures during construction to minimize effects on roadway and human safety. Compliance with applicable local, State, and federal standards, as well as incorporation of Project mitigation measures, would result in less than significant impacts with mitigation incorporated.

Mitigation Measures

Implement Mitigation Measures BIO-1 through BIO-11, CUL-1 through CUL-3, PALEO-1 through PALEO-4, and TRA-1.

Appendix A
Biological Technical Report

CAWELO COLLECTION BASIN AND PIPELINE PROJECT KERN COUNTY, CALIFORNIA

Biological Technical Report

Prepared for
Cawelo Water District
17207 Industrial Farm Road
Bakersfield, CA 93308

August 2024

CAWELO COLLECTION BASIN AND PIPELINE PROJECT
KERN COUNTY, CALIFORNIA

Biological Technical Report

Prepared for:
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17207 Industrial Farm Road
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August 2024

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EXECUTIVE SUMMARY
Biological Technical Report

Environmental Science Associates (ESA) has prepared this Biological Technical Report (BTR) for Cawelo Water District (Cawelo) in support of the Cawelo Collection Basin and Pipeline Project (Project). The purpose of this BTR is to provide an inventory of biological resources occurring or potentially occurring within the Project area and to evaluate the relationship of those biological resources to the Project's construction and operational activities. This BTR describes the methodology of the study, existing conditions, potential impacts, and mitigation measures to address potential impacts resulting from implementation of the Project.

An analysis of potential Project impacts to biological resources and corresponding recommendations for avoidance, minimization, and mitigation are discussed below. It should be noted that while the overall Project footprint is in its preliminary stages, final Project impacts will need to be determined upon a more finalized Project design. Potential impacts and corresponding avoidance, minimization, and mitigation are based on the current proposed Project footprint.

The Proposed Project includes construction of a 13-acre-foot (AF) reservoir and a two-mile pipeline to convey treated produced water from the Trio Petroleum LLC facility to the Famoso Basin for groundwater recharge or to augment crop irrigation surface water supplies.

ES.1 Biological Study Area

This BTR encompasses an approximately 313-acre biological study area (BSA) that includes the proposed approximately 27-acre Project footprint plus a 500-foot perimeter buffer around the Project footprint within Kern County, approximately 4 miles east of the unincorporated community of Cawelo. California State Route (SR) 65 traverses through the approximate center of the Project footprint. Much of this area is currently used for agriculture and oil extraction but several areas within the BSA do support native habitat and wildlife.

ES.2 Methodology

This BTR includes a review of existing literature and a field reconnaissance survey focusing on areas within the BSA with the highest likelihood of supporting biological resources. The literature review was originally conducted prior to the field reconnaissance survey in 2021 and was updated in 2024. The biological resources reconnaissance field survey was conducted by ESA biologists on November 29 and 30, 2021. The survey effort involved pedestrian access over the entire site. All species of plant and animals observed, including sign (e.g., presence of scat) as well as any audible detections, were noted during the site visit. Wildlife observations and other features were mapped utilizing Collector for ArcGIS and representative photographs were taken. Vegetation mapping was conducted during the reconnaissance

field survey; notes were taken of vegetation communities observed. Vegetation communities noted were generally classified using the systems provided in the Preliminary Descriptions of the Terrestrial Communities of California (Holland 1986), and modified using A Manual of California Vegetation, Second Edition (MCV) (Sawyer et al. 2009) as necessary to reflect the existing site conditions. Representative photographs of habitats that occur within the BSA are included in **Appendix A**.

No focused surveys for special-status species were conducted during these field surveys. The potential for special-status species and other sensitive biological resources to occur was based on assessment of habitat suitability, such as soil type, vegetation, slope, aspect, hydrology, and the presence of any disturbances within or adjacent to the area. Areas where foot access was restricted were surveyed with the use of binoculars.

Additionally, consideration was given to the federal, state, and local regulatory framework overlapping or adjacent to the BSA. Local regulatory framework included a review of county policies. Additionally, regional habitat conservation plans in the BSA vicinity were considered.

The determination of the potential for special-status plant and wildlife species to occur within the BSA was based on observations of vegetation and habitat quality, topography, elevation, soils, surrounding land uses, habitat preferences, geographic ranges and a review of the biological databases such as the California Natural Diversity Database (CNDDB).

A formal jurisdictional delineation to locate potential natural drainage features and water bodies that may be under the jurisdiction of United States Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB) and/or California Department of Fish and Wildlife (CDFW) was performed concurrently with this biological assessment task and the results are summarized in this BTR. The full jurisdictional delineation is presented under a standalone aquatic resources delineation report (ARDR).

ES.3 Results

The BSA is within the Tulare Lake Watershed. The primary land cover of the BSA is grazed grassland, oil extraction operations, and agriculture consisting of citrus and olive orchards with little native habitat values. However, some areas within the BSA (which includes a 500-foot perimeter buffer surrounding the Project footprint) contain native vegetation communities that provide suitable habitat for flora and fauna, including special-status plant and wildlife species or support jurisdictional aquatic features. These undeveloped areas contain both native and naturalized habitats including: allscale scrub and non-native grasslands. Native shrubs commonly detected in these habitats primarily consist of bracted alkali goldenbush (*Isocoma acradenia* var. *bracteosa*), Stanislaus milkvetch (*Astragalus oxyphysus*), and allscale saltbush (*Atriplex polycarpa*). General wildlife observed or detected during the habitat assessment primarily includes species that are adapted to agricultural or urbanized environments.

A total of 19 special-status plant and 15 wildlife species were assessed for potential to occur within the BSA. Special-status plants were determined to have no potential to occur within the BSA. This determination was made due to the limited native habitat and highly disturbed nature of the vegetation present. Of the 15 wildlife species assessed, two species were detected within the BSA; loggerhead shrike (*Lanius ludovicianus*) and San Joaquin coachwhip (*Masticophis flagellum ruddocki*). Additionally, four species have a moderate potential to occur within the BSA including: burrowing owl (*Athene*

cunicularia), California horned lark (*Eremophila alpestris actia*), San Joaquin pocket mouse (*Perognathus inornatus*), and San Joaquin kit fox (*Vulpes macrotis mutica*). The remaining eight species were determined to have a low potential to occur within the BSA including: northwestern pond turtle (*Actinemys marmorata*), Nelson'santelope squirrel (*Ammospermophilus nelson*), Bakersfield legless lizard (*Anniella grinnelli*), Crotch bumble bee (*Bombus crotchii*), Swainson's hawk (*Buteo swainsoni*), Tipton kangaroo rat (*Dipodomys nitratoides nitratoides*), western mastiff bat (*Eumops perotis californicus*), blunt-nosed leopard lizard (*Gambelia sila*), and Tulare grasshopper mouse (*Onychomys torridus tularensis*). No critical habitat for plant or wildlife species is present within the BSA. Additionally, there are no "sensitive" natural communities located within the BSA.

Construction and operation of the proposed Project would avoid sensitive habitat and special-status species. However, in some areas, proximity of construction activities to natural habitats could result in effects to sensitive biological resources. Implementation of impact avoidance and minimization measures as proposed within this BTR would reduce impacts below a level of significance for special-status plants and wildlife, nesting birds, sensitive vegetation communities, protected wetlands, and wildlife corridors. With implementation of these proposed measures, impacts to biological resources are expected to be less than significant.

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CHAPTER 1
Introduction

1.1 Project Overview

Cawelo Water District (Cawelo) proposes to construct a 13-acre-foot (AF) reservoir and a two-mile pipeline to convey treated produced water from the Trio Petroleum LLC facility to the Famoso Basin for groundwater recharge or to augment crop irrigation surface water supplies.

The reservoir will be excavated on site using bulldozers. Excavated soils would be used to form the reservoir berms. The facility would be compacted and graders would groom the bottom and sides. A geo-membrane liner would be installed to minimize infiltration from the reservoir. The liner would be delivered to the site and stored at a staging area prior to being installed.

The pipeline would be constructed using open trench, cut and cover techniques. A trench approximately 10 feet deep would be excavated and the new 18-inch diameter polyvinyl chloride (PVC) pipeline would be installed in the trench. The PVC segments would be fused either within the trench or in the project staging area. Excavated sols would be used to cover the trench once the pipeline is installed. The construction corridor would be approximately 25 feet wide and would traverse SR 65. Once the pipeline is installed the surface would be returned to its pre-project condition.

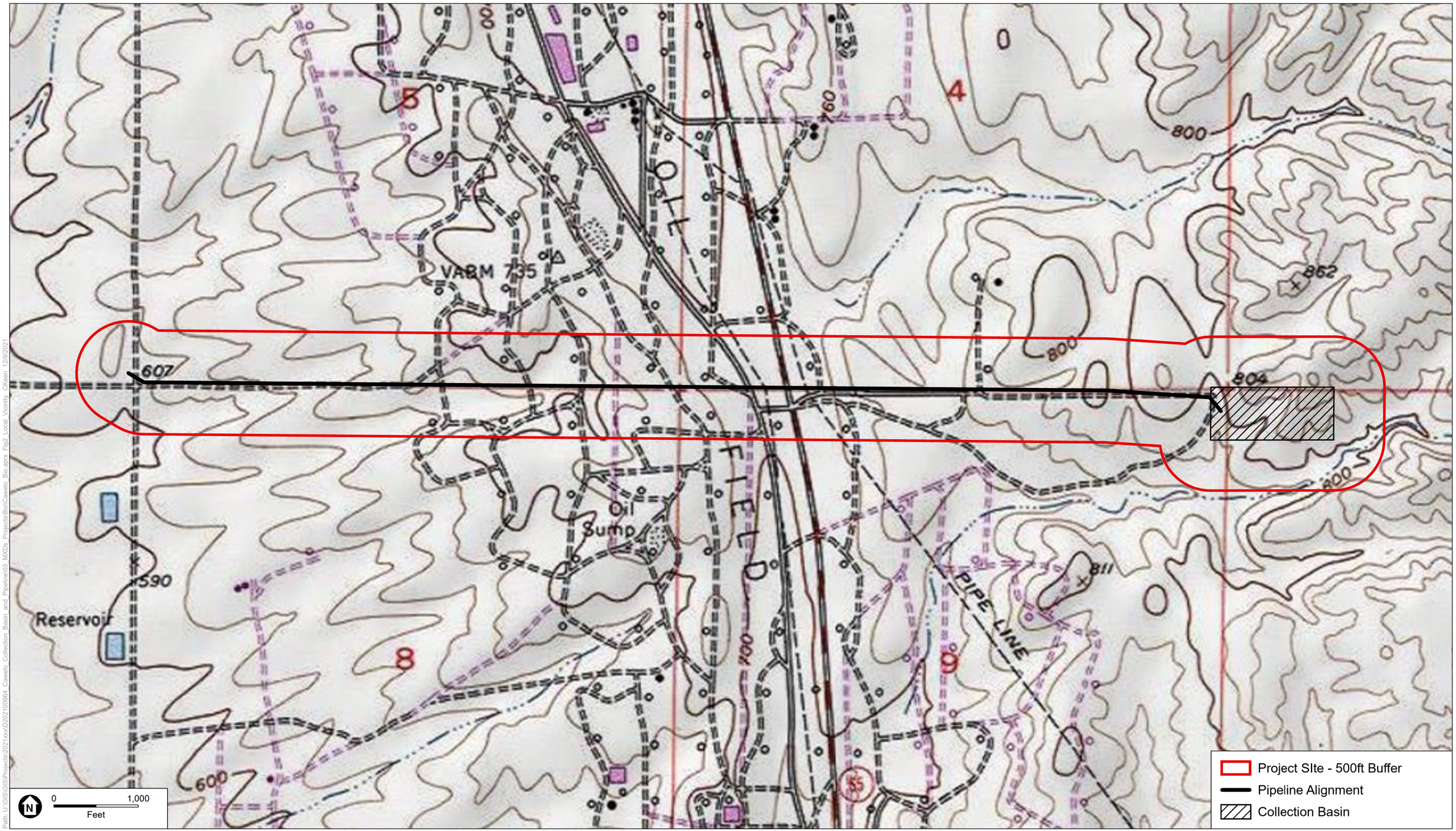
1.2 Project Location

The Project site is located approximately 5.0 miles north of the community of Saco and about 12 miles northwest of Bakersfield in Kern County, north of the intersection of SR 65 and Lerdo Highway (**Figure 1, Regional Location**). The Project site is also located about 4 miles east of the community of Cawelo. The site is bounded by the Lerdo Highway to the south, Dove Road to the north, oil extraction and agricultural land uses to the east and west (**Figure 2, Local Vicinity Map**).

SOURCE: Mapbox; ESA, 2021

Cawelo Collection Basin and Pipeline

Figure 1
Regional Location



SOURCE: USA Topographic Map (North of Oildale, CA), 2011; ESA, 2021

Cawelo Collection Basin and Pipeline

Figure 2
Local Vicinity

ESA

Path: U:\GIS\GIS\Projects\2021xxx\D2021009\64_Cawelo_Collection_Basin_and_Pipeline\03_MXDs_Projects\Bio\Cawelo_Bio.aprx, Fig2_Local_Vicinity, CKeen 12/9/2021

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CHAPTER 2
Methodology

This analysis includes an existing literature review and a field reconnaissance survey focusing on areas within the BSA with the highest likelihood of supporting biological resources. A description of the methodologies used is provided below.

2.1 Existing Literature and Database Review

Prior to conducting the habitat assessment, a review of aerial maps and biological resource databases was conducted to identify biological resources potentially occurring within the BSA and broader vicinity of the proposed Project components. Recent and historical aerial imagery was reviewed, as well as the topographic electronic copies of the applicable USGS 7.5-minute topographic quadrangle maps. Aerial imagery (Google Earth 2024) was reviewed to confirm the current locations of developed and undeveloped land, and unique landforms. The literature and database review was originally conducted prior to the field reconnaissance survey in 2021 and updated in 2024. A list of special-status plant and wildlife species and their habitats known to occur near the proposed Project components was compiled primarily from the California Department of Fish and Wildlife (CDFW), California Natural Diversity Database (CNDDB) (2024a), and California Native Plant Society (CNPS) (2024) Inventory of Rare and Endangered Plants. ESA conducted a query of the CNDDB and CNPS records for the following USGS 7.5-minute topographic quadrangle maps: Deepwell Ranch, Famoso, Knob Hill, McFarland, North of Oildale, Oil Center, Oildale, Rosedale, and Sand Canyon. Specifically, the Project is located in the North of Oildale USGS 7.5-minute topographic quadrangle. Other data sources reviewed included the United States Department of Agriculture Natural Resources Conservation Service (NRCS) soils mapping (USDA 2024), U.S. Fish and Wildlife Service (USFWS) critical habitat maps (USFWS 2024a), the Information for Planning and Consultation (IPaC) (USFWS 2024b), and the National Wetlands Inventory (NWI) (USFWS 2024c).

2.2 Field Surveys

The biological resources reconnaissance field survey was conducted by ESA biologists Ryan Gilmore and Amanda French on November 29 and 30, 2021. Weather conditions during the surveys consisted of an average temperature of 46–72° Fahrenheit, calm winds, and relatively clear skies. The survey effort involved pedestrian access over the entire site. All species of plant and animals observed, including sign (e.g., presence of scat) as well as any audible detections, were noted during the site visit. Wildlife observations and other features were mapped utilizing Collector for ArcGIS and representative photographs were taken.

Vegetation mapping was conducted; notes were taken of vegetation communities observed. Vegetation communities noted were generally classified using the systems provided in the Preliminary Descriptions

of the Terrestrial Communities of California (Holland 1986), and modified using A Manual of California Vegetation, Second Edition (MCV) (Sawyer et al. 2009) as necessary to reflect the existing site conditions.

The assessment included an approximate 500-foot perimeter buffer around the proposed Project footprint. Plant communities and habitats within these areas were characterized to determine the extent of habitats on and adjacent to the proposed Project that could support special-status plant and wildlife species. The potential for special-status species and other sensitive biological resources to occur was based on assessment of habitat suitability, such as soil type, vegetation, slope, aspect, hydrology, and the presence of any disturbances within or adjacent to the area. Areas where foot access was prevented were surveyed with the use of binoculars. Representative photographs of habitats that occur within the BSA are included in **Appendix A**. No focused surveys for special-status species or aquatic resource delineations were conducted during these field surveys. A formal jurisdictional delineation to locate potential natural drainage features and water bodies that may be under the jurisdiction of United States Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB) and/or CDFW was performed concurrently with the biological assessment. The Aquatic Resources Delineation Report (ARDR) is available as **Appendix B**.

CHAPTER 3
Regulatory Framework

3.1 Federal

3.1.1 Endangered Species Act (USC, Title 16, Sections 1531 through 1543)

The federal Endangered Species Act (FESA) and subsequent amendments provides for the conservation and protection of wildlife and plant species that are listed or proposed for listing as endangered or threatened species and the ecosystems upon which they depend. The FESA also provides statutory framework for the conservation and recovery of threatened and endangered species as well as for the conservation of designated critical habitat that USFWS determines is required for the survival and recovery of these listed species.

Section 7 of the FESA requires federal agencies, in consultation with and assistance from the Secretary of the Interior or the Secretary of Commerce, as appropriate, to ensure that actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of threatened or endangered species or result in the destruction or adverse modification of critical habitat for these species. The USFWS and National Marine Fisheries Service (NMFS) share responsibilities for administering the FESA. Regulations governing interagency cooperation under Section 7 are found in CCR Title 50, Part 402. The opinion issued at the conclusion of consultation will include a statement authorizing "take" (to harass, harm, pursue, hunt, wound, kill, etc.) that may occur incidental to an otherwise legal activity. Although federal funding is not expected, if the proposed Project were to receive federal funding the funding agency would be required to initiate a consultation with USFWS under Section 7. The consultation process would then lead to issuance of a Biological Opinion from USFWS. In most cases, a Biological Opinion addresses a project's potential to result in "take" of listed species (as defined below), and includes mandatory conditions that would allow for limited incidental take to occur subject to prescribed conditions.

Section 9 lists those actions that are prohibited under the FESA. Although take of a listed species is prohibited, it is allowed when it is incidental to an otherwise legal activity. Section 9 prohibits take of listed species of fish, wildlife, and plants without special exemption. The definition of "harm" includes significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns related to breeding, feeding, or shelter. "Harass" is defined as actions that create the likelihood of injury to listed species by disrupting normal behavioral patterns related to breeding, feeding, and shelter significantly.

Section 10 provides a means whereby a non-federal action with the potential to result in take of a listed species can be allowed under an incidental take permit which may be issued once an HCP is approved.

Application procedures are found at 50 CFR 13 and 17 for species under the jurisdiction of USFWS and 50 CFR 217, 220, and 222 for species under the jurisdiction of NMFS.

3.1.2 Migratory Bird Treaty Act (16 USC 703 through 711)

The Migratory Bird Treaty Act (MBTA) is the domestic law that affirms, or implements, a commitment by the U.S. to four international conventions (with Canada, Mexico, Japan, and Russia) for the protection of a shared migratory bird resource. The MBTA makes it unlawful at any time, by any means, or in any manner to pursue, hunt, take, capture, or kill migratory birds. "Migratory bird" means any bird protected by any of the treaties and currently includes 1,027 bird species in the United States (50 CFR 10.13), regardless of whether the particular species actually migrates. The law also applies to the removal of nests occupied by migratory birds during the breeding season. The MBTA makes it unlawful to take, pursue, molest, or disturb these species, their nests, or their eggs anywhere in the United States.

3.1.3 Bald and Golden Eagle Protection Act of 1940 (16 USC 668, enacted by 54 Stat. 250)

The Bald and Golden Eagle Protection Act of 1940 protects bald and golden eagles by prohibiting the taking, possession, and commerce of such birds and establishes civil penalties for violation of this act. Take of bald and golden eagles includes to "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb." 16 U.S.C. § 668c. Disturb means to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, (1) injury to an eagle; (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior; or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior. (Federal Register [FR], volume 72, page 31132; 50 CFR 22.3).

3.1.4 Federal Clean Water Act (33 USC 1251 through 1376)

In accordance with Section 404 of the Clean Water Act (CWA), the United States Army Corps of Engineers (USACE) regulates discharge of dredged or fill material into waters of the United States. Waters of the United States and their lateral limits are defined in 33 CFR 328.3(a) and includes navigable waters of the United States, interstate waters, all other waters where the use or degradation or destruction of the waters could affect interstate or foreign commerce, tributaries to any of these waters, and wetlands that meet any of these criteria or that are adjacent to any of these waters or their tributaries. Any activity resulting in the placement of "fill" material within waters of the United States requires a permit from USACE; "fill" is defined as any material that replaces any portion of a water of the United States with dry land or that changes the bottom elevation of any portion of a water of the United States. In accordance with Section 401 of the CWA, proposed actions that apply for a Section 404 permit for discharge of dredged or fill material must obtain water quality certification, either from the Regional Water Quality Control Board (RWQCB) when located on state, private, or public land or from the Environmental Protection Agency when located on federal or tribal land.

3.1.5 Fish and Wildlife Conservation Act

The Fish and Wildlife Conservation Act declares that fish and wildlife are of ecological, educational, esthetic, cultural, recreational, economic, and scientific value to the United States. The purposes of this

Act are to encourage all federal departments and agencies to utilize their statutory and administrative authority, to the maximum extent practicable and consistent with each agency's statutory responsibilities and to conserve and to promote conservation of non-game fish and wildlife and their habitats. Another purpose is to provide financial and technical assistance to the states for the development, revision, and implementation of conservation plans and programs for nongame fish and wildlife.

3.1.6 Recovery Plan for Upland Species of the San Joaquin Valley

The Recovery Plan for Upland Species of the San Joaquin Valley covers 34 species of plants and animals that occur in the San Joaquin Valley. The recovery plan was prepared by the Endangered Species Recovery Program at the California State University at Stanislaus for the United States Fish and Wildlife Service (USFWS). The plan includes 11 officially listed species, including five plant species that are listed as Endangered under the FESA and five Endangered animals. In addition, 23 candidates or species of special concern are addressed. The ultimate goal of this recovery plan is to delist the endangered and threatened species and ensure the long-term conservation of the 23 candidates and species of concern. An interim goal is to reclassify the endangered species to threatened status. USFWS is responsible for implementation of the recovery plan and the plan does not have the legal force of laws or regulations.

3.2 State

3.2.1 California Endangered Species Act (CFG Code Section 2050 et seq.)

The California Endangered Species Act (CESA) establishes the policy of the state to conserve, protect, restore, and enhance threatened or endangered species and their habitats. The CESA mandates that state agencies should not approve projects that would jeopardize the continued existence of threatened or endangered species if reasonable and prudent alternatives are available that would avoid jeopardy. There are no state agency consultation procedures under the CESA. For projects that would affect a listed species under both the CESA and the FESA, compliance with the FESA would satisfy the CESA if CDFW determines that the federal incidental take authorization is “consistent” with the CESA under CFG Code Section 2080.1. For projects that would result in take of a species listed under the CESA only, the project operator would have to apply for a take permit under Section 2081(b).

3.2.2 California Fish and Game Code Section 1600 et seq.

CDFW is responsible for protecting and conserving fish and wildlife resources, and the habitats upon which they depend. Under Section 1600 of the California Fish and Game Code, CDFW administers the Lake and Streambed Alteration (LSA) Program and regulates all substantial diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake (which typically include reservoirs), which supports fish or wildlife.

Applicants proposing changes to such regulated water resources must submit a Lake or Streambed Alteration Notification to CDFW for such projects. CDFW will then determine if the proposed activity may substantially adversely affect an existing fish or wildlife resource and will issue a final agreement for the applicant’s signature that includes reasonable measures necessary to protect the resource. Preliminary

notification to CDFW, and project review by CDFW may occur during or after the California Environmental Quality Act (CEQA) environmental review process but prior to project implementation.

3.2.3 California Fish and Game Code Sections 2080 and 2081

Section 2080 of the California Fish and Game Code states that "No person shall import into this state [California], export out of this state, or take, possess, purchase, or sell within this state, any species, or any part or product thereof, that the Commission [State Fish and Game Commission] determines to be an endangered species or threatened species, or attempt any of those acts, except as otherwise provided in this chapter, or the Native Plant Protection Act, or the California Desert Native Plants Act." Pursuant to Section 2081, CDFW may authorize individuals or public agencies to import, export, take, or possess state-listed endangered, threatened, or candidate species. These otherwise prohibited acts may be authorized through Incidental Take permits or Memoranda of Understanding if the take is incidental to an otherwise lawful activity, impacts of the authorized take are minimized and fully mitigated, the permit is consistent with any regulations adopted pursuant to any recovery plan for the species, and the project operator ensures adequate funding to implement the measures required by CDFW, which makes this determination based on available scientific information and considers the ability of the species to survive and reproduce.

3.2.4 California Fish and Game Code Sections 3503, 3503.5, 3513, and 3800

Under these sections of the California Fish and Game Code, a project operator is not allowed to conduct activities that would result in the taking, possessing, or destroying of any birds of prey; the taking or possessing of any migratory nongame bird as designated in the MBTA; the taking, possessing, or needlessly destroying of the nest or eggs of any raptors or nongame birds protected by the MBTA; or the taking of any nongame bird pursuant to California Fish and Game Code Section 3800.

Section 3800 of the CFG Code affords protection to all nongame birds, which are all birds occurring naturally in California that are not resident game birds, migratory game birds, or fully protected birds. Section 3513 of the CFG Code upholds the MBTA by prohibiting any take or possession of birds that are designated by the MBTA as migratory nongame birds except as allowed by federal rules and regulations promulgated pursuant to the MBTA.

3.2.5 California Environmental Quality Act Guidelines Section 15380

Although threatened and endangered species are protected by specific federal and state statutes, California Environmental Quality Act (CEQA) Guidelines Section 15380(b) provides that a species not listed on the federal or state list of protected species may be considered rare or endangered if the species can be shown to meet certain specified criteria. These criteria have been modeled after the definition in FESA and the section of the California Fish and Game Code dealing with rare or endangered plants or animals. This section is included in CEQA primarily to deal with situations in which a public agency is reviewing a project that may have a significant effect on, for example, a candidate species that has not been listed by either USFWS or CDFW. Thus, CEQA provides an agency with the ability to protect a species from the potential impacts of a project until the respective government agencies have an opportunity to designate the species as protected, if warranted. CEQA also calls for the protection of other locally or regionally

significant resources, including natural communities. Although natural communities do not at present have legal protection of any kind, CEQA calls for an assessment of whether any such resources would be affected and requires findings of significance if there would be substantial losses. Natural communities listed by CNDDB as sensitive are considered by CDFW to be significant resources and fall under the State CEQA Guidelines for addressing impacts. Local planning documents such as General Plans often identify these resources as well.

3.2.6 California Water Quality Control Act (Porter-Cologne California Water Code Section 13260)

The State Water Resources Control Board and the RWQCB (together "Boards") are the principal state agencies with primary responsibility for the coordination and control of water quality. The Boards regulate activities pursuant to Section 401(a)(1) of the federal CWA as well as the Porter-Cologne Water Quality Control Act (Porter-Cologne) (Water Code Section 13260). Section 401 of the CWA specifies that certification from the State is required for any applicant requesting a federal license or permit to conduct any activity including but not limited to the construction or operation of facilities that may result in any discharge into navigable waters. The certification shall originate from the State in which the discharge originates or will originate, or, if appropriate, from the interstate water pollution control agency having jurisdiction over the navigable water at the point where the discharge originates or will originate. Any such discharge will comply with the applicable provisions of Sections 301, 302, 303, 306, and 307 of the CWA.

In Porter-Cologne, the Legislature declared that the "State must be prepared to exercise its full power and jurisdiction to protect the quality of the waters in the State from degradation …" (California Water Code Section 13000). Porter-Cologne grants the Boards the authority to implement and enforce the water quality laws, regulations, policies and plans to protect the groundwater and surface waters of the State. It is important to note that enforcement of the State's water quality requirements is not solely the purview of the Boards and their staff. Other agencies (e.g., CDFW) have the ability to enforce certain water quality provisions in state law.

The State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State (procedures), adopted by the State Water Resources Control Board on April 2, 2019, became effective May 28, 2020. The Procedures include a definition for wetland waters of the state that include (1) all wetland waters of the U.S.; and (2) aquatic resources that meet both the soils and hydrology criteria for wetland waters of the U.S. but lack vegetation.

3.2.7 Native Plant Protection Act (CFG Code Sections 1900 through 1913)

The California's Native Plant Protection Act requires all state agencies to use their authority to carry out programs to conserve endangered and rare native plants. Provisions of the Native Plant Protection Act prohibit the taking of listed plants from the wild and require notification of CDFW at least 10 days in advance of any change in land use. This allows CDFW to salvage listed plant species that would otherwise be destroyed. The project operator is required to conduct botanical inventories and consult with CDFW during project planning to comply with the provisions of this act and sections of CEQA that apply to rare or endangered plants.

3.3 Regional or Local

3.3.1 Unincorporated Kern County

Kern County General Plan

The Kern County General Plan identifies the federal, State, and local statutes, ordinances, or policies that govern the conservation of biological resources that must be considered by Kern County during the decision-making process for any project that could affect biological resources.

The Land Use, Open Space, and Conservation Element of the Kern County General Plan states that the element provides for a variety of land uses for future economic growth while also ensuring the conservation of the County's agricultural, natural, and resource attributes. Section 1.10, *General Provisions*, provides goals, policies, and implementation measures that apply to all types of discretionary projects.

Chapter 1. Land Use, Open Space, and Conservation Element

General Goal 1. Ensure that the County can accommodate anticipated future growth and development while maintaining a safe and healthful environment and a prosperous economy by preserving valuable natural resources, guiding development away from hazardous areas, and assuring the provision of adequate public services.

1.10.5. Threatened and Endangered Species

Policies

Policy 27: Threatened or endangered plant and wildlife species should be protected in accordance with state and federal laws.

Policy 28: The County should work closely with state and federal agencies to assure that discretionary projects avoid or minimize impacts on fish, wildlife, and botanical resources.

Policy 29: The County will seek cooperative efforts with local, state, and federal agencies to protect listed threatened and endangered plant and wildlife species through the use of conservation plans and other methods promoting management and conservation of habitat lands.

Policy 30: The County will promote public awareness of endangered species laws to help educate property owners and the development community of local, State, and federal programs concerning endangered species conservation issues.

Policy 31: Under the provisions of CEQA, the County, as lead agency, will solicit comments from the CDFG and the USFWS when an environmental document (Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report) is prepared.

Policy 32: Riparian areas will be managed in accordance with the USACE and the CDFG rules and regulations to enhance the drainage, flood control, biological, recreational, and other beneficial uses while acknowledging existing land use patterns.

Implementation Measures

Measure Q: Discretionary projects shall consider effects to biological resources as required by the CEQA.

Measure R: Consult and consider the comments from responsible and trustee wildlife agencies when reviewing a discretionary project subject to the CEQA.

Measure S: Pursue the development and implementation of conservation programs with State and federal wildlife agencies for property owners desiring streamlined endangered species mitigation programs.

Chapter 5. Energy Element

5.2. Importance of Energy to Kern County

Policies

Policy 8: The County should work closely with local, State, and federal agencies to assure that energy projects (both discretionary and ministerial) avoid or minimize direct impacts to fish, wildlife, and botanical resources, wherever practical.

Policy 9: The County should develop and implement measures which result in long-term compensation for wildlife habitat, which is unavoidably damaged by energy exploration and development activities.

Valley Floor Habitat Conservation Plan

The Project site is within the plan area of the Kern County draft Valley Floor Habitat Conservation Plan (draft VFHCP). This long-term program has been designed to conserve species that are protected under the FESA and the CESA and/or other species of concern and provide compliance with the FESA and the CESA. Although the VFHCP is not an approved plan, it presents a recent review of wildlife and habitat use in the plan area, which includes 3,110 square miles of the southern San Joaquin Valley. The draft VFHCP would acquire a permit under Section 10(a)(1)(B) of the FESA (hereafter referred to as a 10(a) permit) and a permit under Section 2081 of the CESA for covered activities. The program area consists of three separate habitat zone categories based on habitat value. The red zones contain the highest valued conservation habitat. The green zones contain some disturbance but are important for movement of covered species among the core red zones. Green zones are located in areas that−because of terrain, lack of infrastructure, and their non-intensive resource use−are not expected to develop with intensive resource uses. White zones consist primarily of intensive agricultural areas that are typically highly disturbed and not considered valuable habitat. The pipeline alignment is within the white zone and the collection basin is within the green zone. The VFHCP has not been adopted. However, it provides a general indicator of potential biological resource use within the Project area.

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CHAPTER 4
Existing Conditions

The primary land cover of the BSA is disturbed *Bromus rubens–Schismus* (*arabicus*, *barbatus*) Semi-Natural Stands a type of non-native grassland that can provide suitable habitat for special-status wildlife species. Existing conditions in this section are discussed for the entirety of the BSA.

4.1 Topography and Watersheds

The BSA is located within Kern County in the North of Oildale USGS 7.5-minute topographic quadrangle maps; at an elevation of ranging roughly between 609 feet to 815 feet above mean sea level. The BSA is within the San Joaquin Valley. Land use surrounding the BSA and the surrounding region primarily consists of extensive agriculture land and oil extraction uses with a mix of natural and commercial land uses. The BSA is within the Tulare Lake Watershed. This watershed spans from the foothills of the Sierra Nevada Mountains, the California Coast Ranges, to the cities of Bakersfield, Fresno, and Visalia. The watershed consists of three major lakes and lakebeds: Buena Vista Lake, Kern Lake, and Tulare Lakebed. These lakes and lakebeds are remnants of the ancient Lake Corcoran. Two major rivers in the watershed include the Kern and the Kings. No lakes, lakebeds, or rivers cross the BSA areas.

4.2 Soils

The soils within the BSA show evidence of previous disturbances related primarily to oil extraction and agricultural development. A majority of the soils in the BSA have been graded and used as a dirt road way (USDA 2021). The soils that occur within the BSA include five types, the majority of which are considered conducive to agricultural uses.

4.2.1 Delano Sandy Loam, 2 to 5 percent slopes

This soil map unit contains soils resulting from alluvium derived from granite rock. Delano sandy loam soils are found in alluvial fans and have slopes of 2 to 5 percent. This soil is well-drained with moderately high permeability and moderate (about 8.5 inches) water capacity. This soil type is classified as prime farmland if irrigated and is not listed by the NRCS as a hydric soil in Kern County.

4.2.2 Delano Sandy Loam, 5 to 9 percent slopes

This soil map unit contains soils resulting from alluvium derived from granite rock. Delano sandy loam soils are found in alluvial fans and have slopes of 5 to 9 percent. This soil is well-drained with moderately high permeability and moderate (about 8.5 inches) water capacity. This soil type is classified as prime farmland if irrigated and is not listed by the NRCS as a hydric soil in Kern County.

4.2.3 Premier Coarse Sandy Loam, 5 to 9 percent slopes

This soil map unit contains soils resulting from alluvium derived from granite rock. Premier coarse sandy loam soils are found in alluvial fans and have slopes of 5 to 9 percent. This soil is well-drained with high permeability and moderate (about 6.6 inches) water capacity. This soil type is classified as farmland of statewide importance and is not listed by the NRCS as a hydric soil in Kern County.

4.2.4 Premier-Durorthids Association, 9 to 15 percent slopes

This soil map unit contains soils resulting from alluvium derived from granite rock. Premier-Durorthids Association soils are found in alluvial fans and have slopes of 9 to 15 percent. This soil is well-drained with high permeability and moderate (about 6.6 inches) water capacity. This soil type is classified as not prime farmland and is not listed by the NRCS as a hydric soil in Kern County.

4.2.5 Premier-Haplodurids Complex, 9 to 30 percent slopes

This soil map unit contains soils resulting from alluvium derived from granitoid or sedimentary rock. Premier-Haplodurids Complex soils are found in alluvial fans and have slopes of 9 to 30 percent. This soil is well-drained with high permeability and moderate (about 6.6 inches) water capacity. This soil type is classified as not prime farmland and is not listed by the NRCS as a hydric soil in Kern County.

4.3 Natural Communities and Land Cover Types

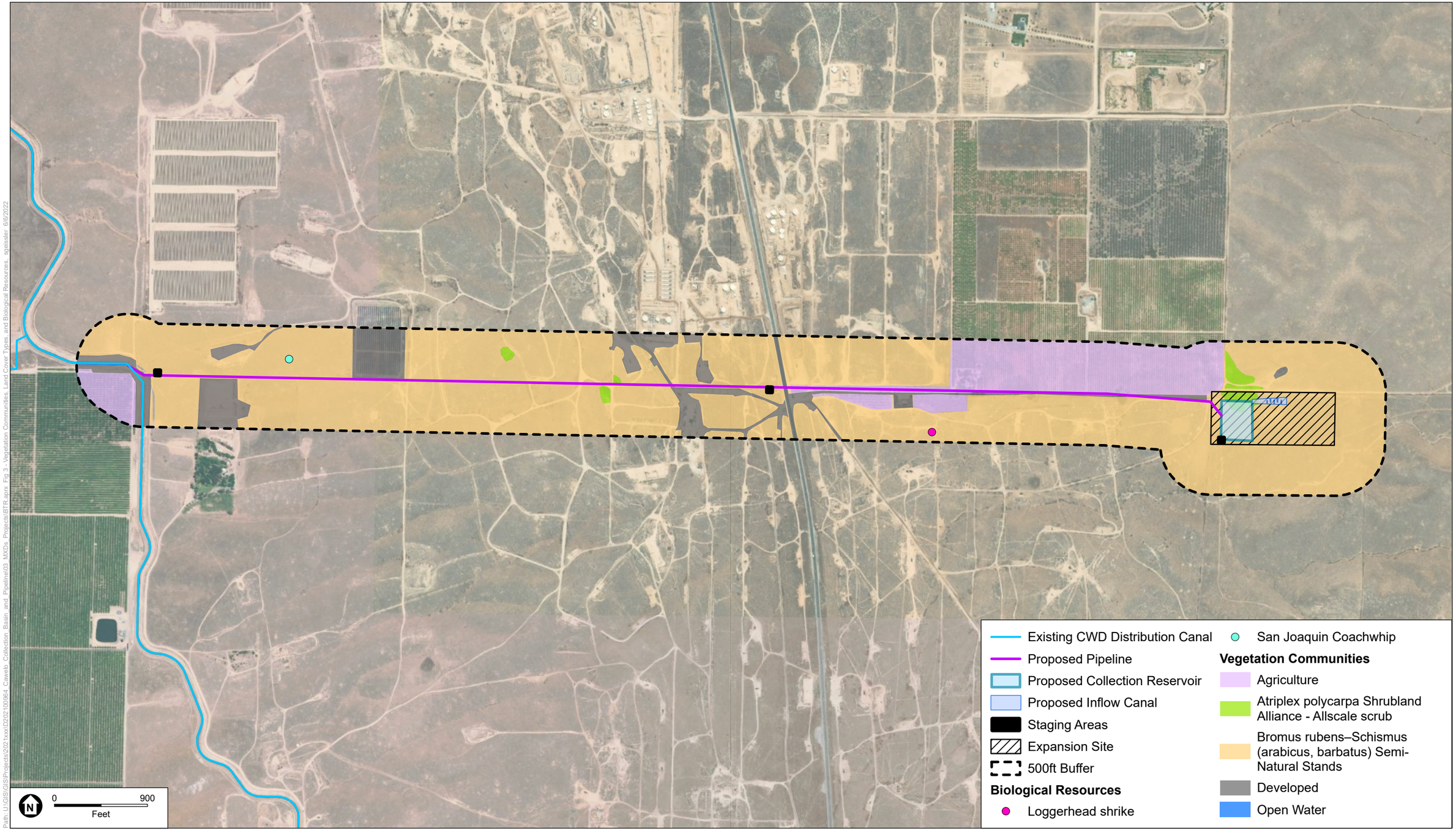
The following discussion includes plant communities and land uses observed within or are immediately adjacent to the BSA (**Figure 3, Vegetation Communities, Land Cover Types, and Biological Resources**). Representative photographs were taken during the field surveys and are included in **Appendix A**.

Table 1 indicates the acreages of the plant communities and land cover types observed within the BSA.

TABLE 1
NATURAL COMMUNITIES AND LAND COVER TYPES WITHIN THE BIOLOGICAL STUDY AREA

Natural Community/Land Cover Type	Project Site (acres)	500-foot Buffer (acres)	Total (acres)
Aquatic/Riparian			
Open Water	X	0.44	0.44
Terrestrial			
Atriplex polycarpa Shrubland Alliance - Allscale scrub	2.49	6.63	9.12
Bromus rubens–Schismus (arabicus, barbatus) Semi-Natural Stands	20.02	237.78	257.8
Developed/Disturbed Land Cover Types			
Agriculture	3.06	40.71	43.77
Developed	1.84	27.76	29.6
TOTAL	**27.41**	**313.32**	**340.73**

SOURCE: ESA, 2021



Path: U:\GIS\GIS\Projects\2021xxx\D2021100964_Cawelo_Collection_Basin_and_Pipeline\03_MXDs_Projects\BTR aprx Fig 3 - Vegetation Communities, Land Cover Types, and Biological Resources_ sgeisler 6/6/2022

SOURCE: ESRI, 2021; ESA, 2021

Cawelo Collection Basin and Pipeline

Figure 3
Vegetation Communities, Land Cover Types, and Biological Resources

ESA

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4.3.1 *Atriplex polycarpa* Shrubland Alliance – Allscale scrub

Allscale scrub consists of allscale saltbush (*Atriplex polycarpa*) as the dominant species in the shrub layer with bracted alkali goldenbush (*Isocoma acradenia* var. *bracteosa*), Stanislaus milkvetch (*Astragalus oxyphysus*) as subdominants. Within the BSA, this community is found sporadically and isolated from other stands of native vegetation. This vegetation is also heavily disturbed by grazing and adjacent oil extraction activities. Historically this vegetation types occurs regionally within washes, alluvial fans, rolling hills and terraces throughout the central valley in soils which may be alkaline or carbonate rich. This vegetation community comprises 2.49 acres within the Project Site, and 6.63 acres outside the Project Site but within the 500-foot buffer of the BSA.

4.3.2 *Bromus rubens–Schismus* (*arabicus*, *barbatus*) Semi-Natural Stands

The vegetation community *Bromus rubens–Schismus* (*arabicus*, *barbatus*) Semi-Natural Stands observed occurring within the BSA consists of red brome (*Bromus rubens*) and Arabian schismus (*Schismus arabicus*) as the dominant species and includes other species including redstem filaree (*Erodium cicutarium*), white horehound (*Marrubium vulgare*), and white horse-nettle (*Solanum elaeagnifolium*). This community is the dominant vegetation type with the BSA is found throughout. This vegetation is also heavily disturbed by grazing and adjacent oil extraction activities. This vegetation community comprises 20.02 acres within the Project Site, and 237.78 acres outside the Project Site but within the 500-foot buffer of the BSA.

4.3.3 Agriculture

The portions of the BSA occurs in citrus and olive orchards. These areas are highly maintained and kept mostly denuded of all other vegetation. This land cover type comprises of the Project Site at 3.06 acres, with 40.71 acres outside the Project Site within the 500-foot buffer of the BSA.

4.3.4 Developed

Developed lands consist of areas that have been built over with permanent infrastructure and are absent of native plant cover. Infrastructure within these lands mostly consists of oil extraction, solar fields, maintained dirt roadways, and supporting orchard buildings. This land cover type comprises 1.84acres of the Project Site, and 27.76 acres outside the Project Site within the 500-foot buffer of the BSA.

4.3.5 Open Water

This land cover type is characterized by an area of open water associated with the canal located at the western terminus of the project site. This land cover type occupies approximately 0.44 acres outside the Project Site but within the 500-foot buffer of the BSA.

4.4 General Plant and Wildlife Species

The vast majority of the BSA is disturbed *Bromus rubens–Schismus* (*arabicus*, *barbatus*) Semi-Natural Stands or agriculture. Areas mapped as agriculture are dominated by orange (*Citrus sinensis*) and olive (*Olea europaea*) trees planted in vast rows with a denuded understory. In natural areas, such as allscale

scrub, native species include allscale saltbush, bracted alkali goldenbush, turkey mullein (*Croton setiger*), jimsonweed (*Datura wrightii*), and common fiddleneck (*Amsinckia intermedia*). A comprehensive list of plant species observed is provided in **Appendix C**.

General wildlife observed or detected during the habitat assessment primarily included species that are adapted to agricultural and grazed grassland environments. Bird species observed during the assessment included: great horned owl (*Bubo virginianus*), red-tailed hawk (*Buteo jamaicensis*), Anna's hummingbird (*Calypte anna*), turkey vulture (*Cathartes aura*), killdeer (*Charadrius vociferus*), common raven (*Corvus corax*), American kestrel (*Falco sparverius*), house finch (*Haemorhous mexicanus*), savannah sparrow (*Passerculus sandwichensis*), black phoebe (*Sayornis nigrens*), Say's phoebe (*Sayornis saya*), mountain bluebird (*Sialia currucoides*), western meadowlark (*Sturnella neglecta*), European starling (*Sturnus vulgaris*), mourning dove (*Zenaida macroura*), and white-crowned sparrow (*Zonotrichia leucophrys*). Mammal species detected within the survey area included coyote (*Canis latrans*), black-tailed jackrabbit (*Lepus californicus*), California ground squirrel (*Otospermophilus beechyi*), and desert cottontail (*Sylivagus audubonii*). Two State species of special concern was observed consisting of a single loggerhead shrike (*Lanius ludovicianus*) and a single San Joaquin coachwhip (*Masticophis flagellum ruddocki*). Common reptile species included common side-blotched lizard (*Uta stansburiana*). No amphibian species were detected.

4.5 Sensitive Biological Resources

4.5.1 Special-Status Plants

Special-status plants are defined as those plants that, because of their recognized rarity or vulnerability to various causes of habitat loss or population decline, are recognized by federal, state, or other agencies as under threat from human-associated developments. Some of these species receive specific protection that is defined by federal or state endangered species legislation. Others have been designated as special-status on the basis of adopted policies and expertise of state resource agencies or organizations with acknowledged expertise, or policies adopted by local governmental agencies such as counties, cities, and special districts to meet local conservation objectives. Special-status plants are defined as follows:

- Plants that are listed or proposed for listing as threatened or endangered, or are candidates for possible future listing as threatened or endangered, under the FESA or the CESA
- Plants that meet the definitions of rare or endangered under State CEQA Guidelines Section 15380
- Plants covered under an adopted Natural Community Conservation Plan (NCCP)/Habitat Conservation Plan (HCP)
- Plants considered by the CNPS to be rare, threatened, or endangered (Rank 1A, 1B, 2A and 2B plants) in California
- Plants listed as rare under the California Native Plant Protection Act (Fish and Game Code 1900 et seq.)

The potential for special-status plant species to occur within the BSA is based on on-site vegetation and habitat quality, topography, elevation, soils, surrounding land uses, habitat preferences and geographic ranges. A review of the CNDDB (CDFW 2024a) and the CNPS Inventory of Rare and Endangered Plants (CNPS 2024) revealed that many special-status plant species have been recorded within the USGS

quadrangle search area. However, based on the criteria listed below, it has been determined that many of these do not have the potential to occur because they lack necessary habitat requirements. They are listed in **Appendix D** and have been omitted from further discussion in this report.

A total of 19 special-status plants were determined to have no potential to occur within the BSA. This determination was made due to the lack of native habitat and highly disturbed nature of the vegetation present. No focused rare plant surveys were conducted at this time. A detailed description of each of these plants and their potential to occur within the BSA is provided in **Appendix D**. The criteria for potential to occur include:

- **Present:** Species was observed or detected during Project-specific biological surveys.
- **High Potential:** Species identified in the literature search and/or known to occur in the region and suitable habitat is present on the Project site. These species are generally common and/or widespread in the Project area and vicinity.
- **Moderate Potential:** Species identified in the literature search and/or known to occur in the region and suitable habitat is present within the Project site. These species are generally less common and/or widespread than species considered to have "high" potential to occur.
- **Low Potential:** Species identified in the literature search or known to occur in the region, but the habitat on site is of low or marginal quality and/or the Project site occurs outside the species known geographic or elevational range. Distance to nearest known occurrence and the age of last reported local occurrence are also considered. Limited to no suitable habitat present within the project site.
- **Not Expected:** Species identified in the literature search or known to occur in the region, but the habitat on site is not suitable for the species.

No special-status plant species were observed within the BSA during 2021 surveys.

4.5.2 Special-Status Wildlife

Special-status wildlife consists of those animals that, because of their recognized rarity or vulnerability to various forms of habitat loss or population decline, are considered by federal, state, or other agencies to be under threat from human-associated developments. Some of these species receive specific protection that is defined by federal or state endangered species legislation and others have been designated as special-status on the basis of adopted local policies (i.e., city and county) or the educated opinion of respected resource interest groups (e.g., Western Bat Working Group). Special-status wildlife is defined as follows:

- Wildlife listed or proposed for listing as threatened or endangered, or are candidates for possible future listing as threatened or endangered, under the FESA or the CESA.
- Wildlife that meet the definitions of rare or endangered under California Environmental Quality Act (CEQA) Guidelines Section 15380.
- Wildlife covered under an adopted NCCP/HCP.
- Wildlife designated by CDFW as species of special concern, included on the Watch List or are considered Special Animals (CDFW 2024b).
- Wildlife "fully protected" in California (Fish and Game Code Sections 3511, 4700, and 5050).

- Bird species protected by the Migratory Bird Treaty Act (MBTA).
- Bat species considered priority by the Western Bat Working Group (WBWG).

The potential for special-status wildlife species to occur within the BSA is based on on-site vegetation and habitat quality, topography, elevation, soils, surrounding land uses, habitat preferences and geographic ranges. A review of the CNDDB (CDFW 2024a) and IPaC (USFWS 2024b) revealed that 30 special-status wildlife species have been recorded within USGS quadrangle search area; however, based on habitat preference, geographic distributions, and/or range restrictions, it was determined that a number of the species do not have the potential to occur and were therefore omitted from further discussion in this report. Based on the criteria listed below, it has been determined that a total of 15 special-status wildlife species have been determined to have a low to moderate potential to occur, or were observed to be present within the BSA, based on the criteria described below:

- **Present:** The species was observed within the study area during the site assessment or has been documented within or immediately adjacent to the BSA during recent surveys (with 2 years).
- **High Potential:** Species identified in the literature search and/or known to occur in the region and suitable habitat is present on the BSA. These species are generally common and/or widespread in the BSA and vicinity.
- **Moderate Potential:** Species identified in the literature search and/or known to occur in the region and suitable habitat is present within the BSA. These species are generally less common and/or widespread than species considered to have “high” potential to occur.
- **Low Potential:** Species identified in the literature search or known to occur in the region, but the habitat on site is of low or marginal quality and/or the BSA occurs outside the species known geographic or elevational range. Distance to nearest known occurrence and the age of last reported local occurrence are also considered.

Of the 15 species presented below in **Table 2**, two species were detected within the BSA: loggerhead shrike and San Joaquin coachwhip (**Figure 3, Vegetation Communities, Land Cover Types, and Biological Resources**). Additionally, four species have a moderate potential to occur within the BSA including: burrowing owl (*Athene cunicularia*), California horned lark (*Eremophila alpestris actia*), San Joaquin pocket mouse (*Perognathus inornatus*), and San Joaquin kit fox (*Vulpes macrotis mutica*). The remaining nine species were determined to have a low potential to occur within the BSA including: northwestern pond turtle (*Actinemys marmorata*), Nelson'santelope squirrel (*Ammospermophilus nelson*), Bakersfield legless lizard (*Anniella grinnelli*), Crotch bumble bee (*Bombus crotchii*), Swainson’s hawk (*Buteo swainsoni*), Tipton kangaroo rat (*Dipodomys nitratoides nitratoides*), western mastiff bat (*Eumops perotis californicus*), blunt-nosed leopard lizard (*Gambelia sila*), and Tulare grasshopper mouse (*Onychomys torridus tularensis*).

TABLE 2
SPECIAL-STATUS WILDLIFE SPECIES

Common Name *Scientific Name*	Sensitivity Status	Preferred Habitat/Known Elevational Range	Presence/Potential to Occur within Biological Study Area
Invertebrates			
Crotch bumble bee *Bombus crotchii*	—/SCE	Open grassland and scrub habitats that support potential nectar sources such as plants within the Fabaceae, Apocynaceae, Asteraceae, Lamiaceae, and Boraginaceae families.	**Low.** Limited suitable nectar source plants are present within the BSA. Two CNDDB records exist within 5-miles of the Project Site with the most recent dated 1979.
Reptiles			
northwestern pond turtle *Actinemys marmorata*	FPT/SSC	Known to occur in slow-moving permanent or intermittent streams, ponds, small lakes, rivers, streams, marshes, irrigation ditches with abundant vegetation, reservoirs with emergent basking sites, and either rocky or muddy bottoms. In woodland, forest, or grassland habitats. In creeks that pool to shallower areas and with logs, rocks, cattail mats, and/or exposed banks for basking are required. Could enter brackish or even seawater. Adjacent uplands used during winter.	**Low.** Limited suitable aquatic habitat present within the Cawelo Distribution Canal. The closest known occurrence is from 2000 and is located approximately 8.11 miles southeast of the BSA along the Kern River.
Bakersfield legless lizard *Anniella grinnelli*	—/SSC	Lives mostly underground, burrowing in loose sandy soil. Forages in loose soil, sand, and leaf litter during the day. Sometimes found on the surface at dusk and at night. Apparently active mostly during the morning and evening when they forage beneath the surface of loose soil or leaf litter which has been warmed by the sun. Habitat information for *Anniella* spp. below also applies.	**Low.** Limited suitable riparian habitat or moist soils present within the BSA. The closest known occurrence is from 2017 is located approximately 7.27 miles south of the BSA along the Calloway Canal.
blunt-nosed leopard lizard *Gambelia sila*	FE/SE	Scattered in undeveloped lands of the San Joaquin Valley and Coast Range foothills. This species prefers to inhabit open, sparsely vegetated areas of low relief on the San Joaquin Valley floor. The most important aspect of any potential habitat is sparse vegetation. Found in association with other burrowing animals. Known to occur in valley and foothill grassland, chenopod scrub, iodine bush grassland and flats.	**Low.** Limited suitable grassland and chenopod scrub habitat present within the BSA. This species is not known to use agricultural or disturbed lands. One occurrence from 1974 is located within the central portion of the BSA.
San Joaquin coachwhip *Masticophis flagellum ruddocki*	—/SSC	Occurs in open, dry, treeless areas with little or no cover, including valley grassland and saltbush scrub.	**Present.** Observed within the western portion of the BSA.
Birds			
burrowing owl *Athene cunicularia*	BCC/SSC	Inhabits coastal prairie, coastal scrub, Great Basin scrub, Mojavean desert scrub, Sonoran desert scrub, annual and perennial grasslands, bare ground, and disturbed habitats characterized by low-growing vegetation. A subterranean nester dependent upon burrowing mammals, particularly the California ground squirrel.	**Moderate.** Suitable disturbed grassland habitat is located throughout the BSA. Throughout the entire BSA there is a dense population of California ground squirrels and associated burrow complexes. The closest known occurrence is from 2002 and is located approximately 3.18 miles south of the BSA at Meadows Field Airport.

Common Name *Scientific Name*	Sensitivity Status	Preferred Habitat/Known Elevational Range	Presence/Potential to Occur within Biological Study Area
Swainson's hawk *Buteo swainsoni*	BCC/ST	Found in Great Basin grassland, riparian forest, riparian woodland, valley and foothill grassland. Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, and agricultural or ranch lands with groves or lines of trees. Requires adjacent suitable foraging areas such as grasslands, or alfalfa or grain fields supporting rodent populations.	**Low (Foraging).** Limited suitable foraging habitat is present within the BSA. No suitable riparian areas used for nesting are present within the BSA. The closest known occurrence is from 1935 and is located approximately 8.60 miles south of the BSA within the city of Bakersfield.
California horned lark *Eremophila alpestris actia*	—/WL	Found from grasslands along the coast and deserts near sea level to alpine dwarf-shrub habitat above the treeline. During the winter, this species typically flocks in desert lowlands.	**Moderate.** Suitable grassland habitat is found throughout the BSA. However, the two nearby CNDDB occurrences are located over 5 miles south of the BSA.
loggerhead shrike *Lanius ludovicianus*	—/SSC	Found in woodlands, riparian woodlands, open scrub habitats and washes.	**Present.** Observed foraging within the eastern portion of the BSA.
Mammals			
Nelson's (=San Joaquin) antelope squirrel *Ammospermophilus nelsoni*	—/ST	Chenopod scrub in western San Joaquin Valley from 200-1200 feet in elevation. On dry, sparsely vegetated loam soils. Species dig burrows or use kangaroo rat burrows. Need widely scattered shrubs, forbs and grasses in broken terrain with gullies and washes.	**Low.** Limited chenopod scrub (allscale scrub) habitat is present within the BSA. Additionally, majority of the species occurrences are located west of the BSA near Buttonwillow. The closest known occurrence is from 1911 and is located approximately 9.16 miles southeast of the BSA along the Kern River.
Tipton kangaroo rat *Dipodomys nitratoides nitratoides*	FE/SE	Chenopod scrub. Saltbrush scrub and sink scrub communities in the Tulare Lake Basin of the southern San Joaquin Valley. Needs soft friable soils which escape seasonal flooding. Digs burrows in elevated soil mounds at bases of shrubs.	**Low.** Limited chenopod scrub (allscale scrub) habitat is present within the BSA. The closest known occurrence is from 1911 and is located approximately 9.41 miles southeast of the BSA along the Kern River. Additionally, the majority of the species occurrences are located west of the BSA and are associated with valley saltbush scrub sensitive habitat.
western mastiff bat *Eumops perotis californicus*	—/SSC	Known to occur in habitat consisting of extensive open areas within dry desert washes, flood plains, chaparral, cismontane oak woodland, coastal scrub, open ponderosa pine forest, and grasslands. Roosts primarily in crevices in rock outcrops and buildings.	**Low (Foraging).** Limited suitable foraging habitat is present within the BSA. No suitable roosting habitat within rock outcrops and limited buildings are present within the BSA. The closest known occurrences are located approximately 8.93 miles south of the BSA.
Tulare grasshopper mouse *Onychomys torridus tularensis*	—/SSC	Found primarily in shrubland habitat on sandy or gravelly soils in open and semi-open habitats. Found in the southern San Joaquin Valley, Carrizo Plain, Cuyama Valley, and nearby foothills of the Sierra Nevada and Tehachapi Mountains.	**Low.** Limited shrubland habitat is present within the BSA. The closest known occurrence is from 1891 and is located approximately 4.89 miles south of the BSA.
San Joaquin pocket mouse *Perognathus inornatus*	—/CSA	Found on flat ground and low hills. Seeds of atriplex and artemisia are primary foods of this species. Also eats soft-bodies insects.	**Moderate.** Limited suitable chenopod scrub habitat (food source) is present within the BSA. However, two occurrences from 2002 were located within the BSA. There is a total of eight CNDDB records all dated in 2002 located within the quadrangle search area.

Common Name *Scientific Name*	Sensitivity Status	Preferred Habitat/Known Elevational Range	Presence/Potential to Occur within Biological Study Area
San Joaquin kit fox *Vulpes macrotis mutica*	FE/ST	San Joaquin kit foxes occur in several San Joaquin Valley native plant communities. In the southernmost portion of the range, these communities include valley sink scrub, valley saltbush scrub, upper Sonoran subshrub scrub, and annual grassland.	**Moderate.** Suitable grassland habitat and limited suitable scrub habitat exist within the BSA. The BSA is located within a CNDDB record from 1978. The BSA is also adjacent a CNDDB record from 1975. There are 16 CNDDB records within 5-miles of the Project Site with the most recent in 2007.

KEY:

Federal Listings

FE = Listed as endangered under the FESA
FT = Listed as threatened under the FESA
FPT = Federally proposed threatened
BCC = Birds of Conservation Concern (USFWS)

State Listings

SE = Listed as endangered under the CESA
ST= Listed as threatened under the CESA
SCE = State candidate endangered
SSC = Species of Special Concern (CDFW)
WL = Watch List (CDFW)
CSA = California Special Animal

SOURCE: CDFW 2024a, USFWS 2024

Bakersfield Legless Lizard

Bakersfield legless lizard occurs in undeveloped lands of the San Joaquin Valley and Coast Range foothills. This species prefers to inhabit open, sparsely vegetated areas of low relief on the San Joaquin Valley floor. This species lives mostly underground, burrowing in loose sandy soil, and forages in loose soil, sand, and leaf litter during the day. Limited suitable moist warm loose soils are present near the Cawelo Distribution Canal. Eight CNDDB records exist within the quadrangle search area with the most recent dated 2023 (CDFW 2024a).

Blunt-Nosed Leopard Lizard

Blunt-nosed leopard lizard occurs in undeveloped lands of the San Joaquin Valley and Coast Range foothills. This species prefers to inhabit open, sparsely vegetated areas of low relief on the San Joaquin Valley floor. The most important aspect of preferred habitat is sparse vegetation. This species is found in association with other burrowing animals. It is known to occur in valley and foothill grassland, chenopod scrub, iodine bush grassland and flats. Limited suitable habitat is located within the BSA and primarily within the proposed collection basin site. Seventeen CNDDB records exist within the quadrangle search area with the most recent dated 2013 (CDFW 2024a).

Burrowing Owl

Burrowing owl is commonly associated with coastal prairie, coastal scrub, Great Basin scrub, Mojavean desert scrub, Sonoran desert scrub, annual and perennial grasslands, bare ground, and disturbed habitats characterized by low-growing vegetation. It is a subterranean nester dependent upon burrowing mammals, particularly the California ground squirrel (CAGS). Suitable habitat and burrows are located within the BSA as there is a large population of CAGS throughout the BSA. There are seven CNDDB records within the quadrangle search area with the most recent occurrence in 2006 (CDFWa).

California Horned Lark

California horned lark is commonly found within grasslands in the Central Valley. Suitable grassland habitat is present throughout the BSA. One CNDDB record from 2006 is located within the quadrangle search area (CDFW 2024a).

Crotch Bumble Bee

Crotch bumble bee is a near-endemic to California with limited records in Baja California. It inhabits grassland and scrub habitats primarily located in the coast zone and central valley. The species nests in underground burrows and its preferred food source is nectar. This species is characterized by a short-tongue, and therefore, prefers certain plant species as a food source, including but not limited to, milkweeds (*Asclepias* sp.), dusty maidens (*Chaenactis* sp.), lupines (*Lupinus* sp.), sweet clovers (*Melilotus* sp.), phacelias (*Phacelia* sp.), sages (*Salvia* sp.), clarkias (*Clarkia* sp.), poppies (*Eschscholzia* sp.), and wild buckwheats (*Eriogonum* sp.). Many of these plant species have potential to occur within the BSA. Overall, there are five CNNDB records located within the quadrangle search area with the most recent record from 1980 (CDFW 2024a).

Loggerhead Shrike

Loggerhead shrike is commonly found in woodlands, riparian woodlands, open scrub habitats and washes. This species was observed foraging within the eastern portion of the BSA (see **Figure 3**). No CNDDB records are located within the BSA (CDFW 2024a).

Nelson's Antelope Squirrel

Nelson's antelope squirrel is also known as the San Joaquin antelope squirrel. This species occupies arid grassland, shrubland, and alkali sink habitats. Green vegetation is an important food source, especially Mormon tea (*Ephedra* sp.) and allscale (*Atriplex* sp.). This species also eats seeds, insects, and small mammals. Limited suitable habitat is present within the allscale scrub and grassland habitat present within the BSA. One CNDDB record from 1911 is located within the quadrangle search area (CDFW 2024a).

Northwestern Pond Turtle

Northwestern pond turtle typically occurs in slow-moving permanent or intermittent streams, ponds, small lakes, rivers, streams, marshes, irrigation ditches with abundant vegetation, reservoirs with emergent basking sites, and either rocky or muddy bottoms. They require creeks that pool and have logs, rocks, cattail mats, and/or exposed banks for basking. They are known to use adjacent uplands used during winter. There is limited suitable aquatic habitat present within the Cawelo Distribution Canal. The closest known occurrence is from 2000 and is located approximately 8.11 miles southeast of the BSA along the Kern River (CDFW 2024a).

San Joaquin Coachwhip

San Joaquin coachwhip occurs in open, dry, treeless areas with little or no cover. Vegetation communities inhabited by the species primarily include valley grassland and saltbush scrub. The most important aspect of preferred habitat is sparse vegetation. Suitable habitat is located throughout the BSA and within the project site. The closest known CNDDB occurrence is located approximately 14.55 miles south of the

BSA just south of the Kern River (CDFW 2024a). A single juvenile specimen was observed within the western portion of the BSA (see **Figure 3**).

San Joaquin Kit Fox

San Joaquin kit fox occurs in several San Joaquin Valley native plant communities. In the southernmost portion of the range, these communities include valley sink scrub, valley saltbush scrub, upper Sonoran subshrub scrub, and annual grassland. There is limited suitable scrub habitat within the BSA; however, suitable grassland habitat is present throughout the BSA. The nearest CNDDB record is located adjacent the BSA and is dated 1975. Overall, there are 16 CNDDB records within 5-miles of the BSA with the most recent in 2007 (CDFW 2024a).

San Joaquin Pocket Mouse

San Joaquin pocket mouse is generally found on flat ground and low hills. Seeds of *Atriplex* and *Artemisia* are primary foods of this species. This species also eats soft-bodies insects. There is limited suitable chenopod scrub habitat (food source) within the BSA, primarily within the proposed collection basin site. Nine CNDDB occurrences are located within the BSA with the most recent from 2002 (CDFW 2024a).

Swainson's Hawk

Swainson's hawk is generally found in desert, grassland, and agricultural landscapes throughout the Central Valley and portions of the Antelope Valley in the western Mojave Desert. The species migrates from Central and South America to summer breeding areas in North America. The species typically utilizes agricultural grain fields, desert scrub, and grassland vegetation for foraging. The species prefers large trees, isolated trees, and small groves surrounded by their preferred foraging habitat for nesting. Commonly, this species will return to an established nest site annually. Suitable foraging habitat is located within the grassland and agriculture habitats throughout the BSA. One CNDDB occurrence from 1935 is located within the quadrangle search area (CDFW2024a).

Tipton Kangaroo Rat

Tipton kangaroo rat inhabits low and open sparse scrub habitats. This species favors compact soils with a sparse growth of perennial grasses. This species digs burrows in elevated soil mounds often at the bases of shrubs. Suitable habitat is present within the grassland and scrub habitats located throughout the BSA. Two CNDDB records are located within the quadrangle search area with the most recent from 1993 (CDFW 2024a).

Tulare Grasshopper Mouse

Tulare grasshopper mouse is generally found on compact soils with a sparse growth of perennial grasses in desert scrub associations composed of grasses and shrubs such as allscale. Limited suitable shrubland habitat is present within the allscale scrub habitat of the BSA. Two CNDDB occurrences are located within the quadrangle search are with the most recent from 1907 (CDFW 2024a).

Western Mastiff Bat

Western mastiff bat is known to occur in habitat consisting of extensive open areas within dry desert washes, flood plains, chaparral, cismontane oak woodland, coastal scrub, open ponderosa pine forest, and grasslands. This species roosts primarily in crevices in rock outcrops and buildings. Suitable foraging habitat is present throughout the BSA. Two CNDDB occurrences are located within the quadrangle search area (CDFW 2024a).

4.5.3 Sensitive Natural Communities

Sensitive natural communities and habitats are defined by the CDFW as those natural communities that have a reduced range and/or are imperiled as a result of residential and commercial development, agriculture, energy production and mining, or an influx of invasive and other problematic species. Vegetation communities are evaluated using VegCAMP Heritage Methodology, which is based on the knowledge of range and distribution of a specific vegetation type and the proportion of occurrences that are of good ecological integrity. Evaluation is done at both global level (natural range within and outside of California [G]) and subnational level (state level for California [S]), each ranked from 1 ("critically imperiled," or very rare and threatened) to 5 (demonstrably secure). Natural communities and habitats with state ranks of S1 through S3 are considered sensitive natural communities and require review when evaluating environmental impacts (CDFW 2024c). No sensitive natural communities were observed within the BSA (CDFW 2024a).

4.5.4 Critical Habitat

Under FESA, to the extent feasible, the USFWS and NMFS are required to designate critical habitat for endangered and threatened species. Critical habitat is defined as areas of land, water, and air space containing the physical and biological features essential for the survival and recovery of endangered and threatened species. Designated critical habitat includes sites for breeding and rearing, movement or migration, feeding, roosting, cover, and shelter. Designated critical habitats require special management and protection of existing resources, including water quality and quantity, host animals and plants, food availability, pollinators, sunlight, and specific soil types. Critical habitat delineates all suitable habitat, occupied or not, essential to the survival and recovery of the species.

According to the USFWS critical habitat maps, no critical habitat is located within the BSA.

4.5.5 Areas of Critical Environmental Concern

Areas of Critical Environmental Concern (ACEC) are designated areas by the Bureau of Land Management (BLM) where special management is provided for fish and wildlife or other natural resources. The Project is not located within 20 miles of an existing ACEC.

4.6 Aquatic Resources

A formal jurisdictional waters delineation was conducted and is presented in the standalone ARDR (**Appendix B**). All aquatic features within the survey area (Project Site and 100-foot buffer) were analyzed in the field to determine whether each may be considered wetland or non-wetland ("other") waters of the U.S., waters of the State, and/or FGC Section 1600 resources. Aquatic resources delineated within the survey area include the Cawelo Distribution Canal, two manmade ditches, an ephemeral drainage, and a stormwater feature, which are described below, summarized in **Table 4, Aquatic Resources within the Survey Area**, and depicted in **Figures 4-0** through **4-3**, Potential Non-Jurisdictional Waters of the U.S./Waters of the State/FGC 1600 Resources.

TABLE 3
AQUATIC RESOURCES WITHIN THE SURVEY AREA

Aquatic Feature	Figure	Cowardin Type	Dominant Vegetation/ Land Cover Type	OHWM (feet)	Linear Feet	Acres
C-1	5-1	Riverine Intermittent	Open Water, Developed	25	140	0.08
ED-1	5-3	Riverine Intermittent	Bromus rubens-Schimus (arabicus, barbatus) Semi-Natural Stands	80	65	0.04
MD-1	5-2	Riverine Intermittent	Bromus rubens-Schimus (arabicus, barbatus) Semi-Natural Stands	15	215	0.06
MD-2	5-2	Riverine Intermittent	Bromus rubens-Schimus (arabicus, barbatus) Semi-Natural Stands	9	165	0.03
SW-1	5-2	Riverine Intermittent	Bromus rubens-Schimus (arabicus, barbatus) Semi-Natural Stands	15–60	100	0.09
		TOTAL ACREAGE			**685**	**0.30**

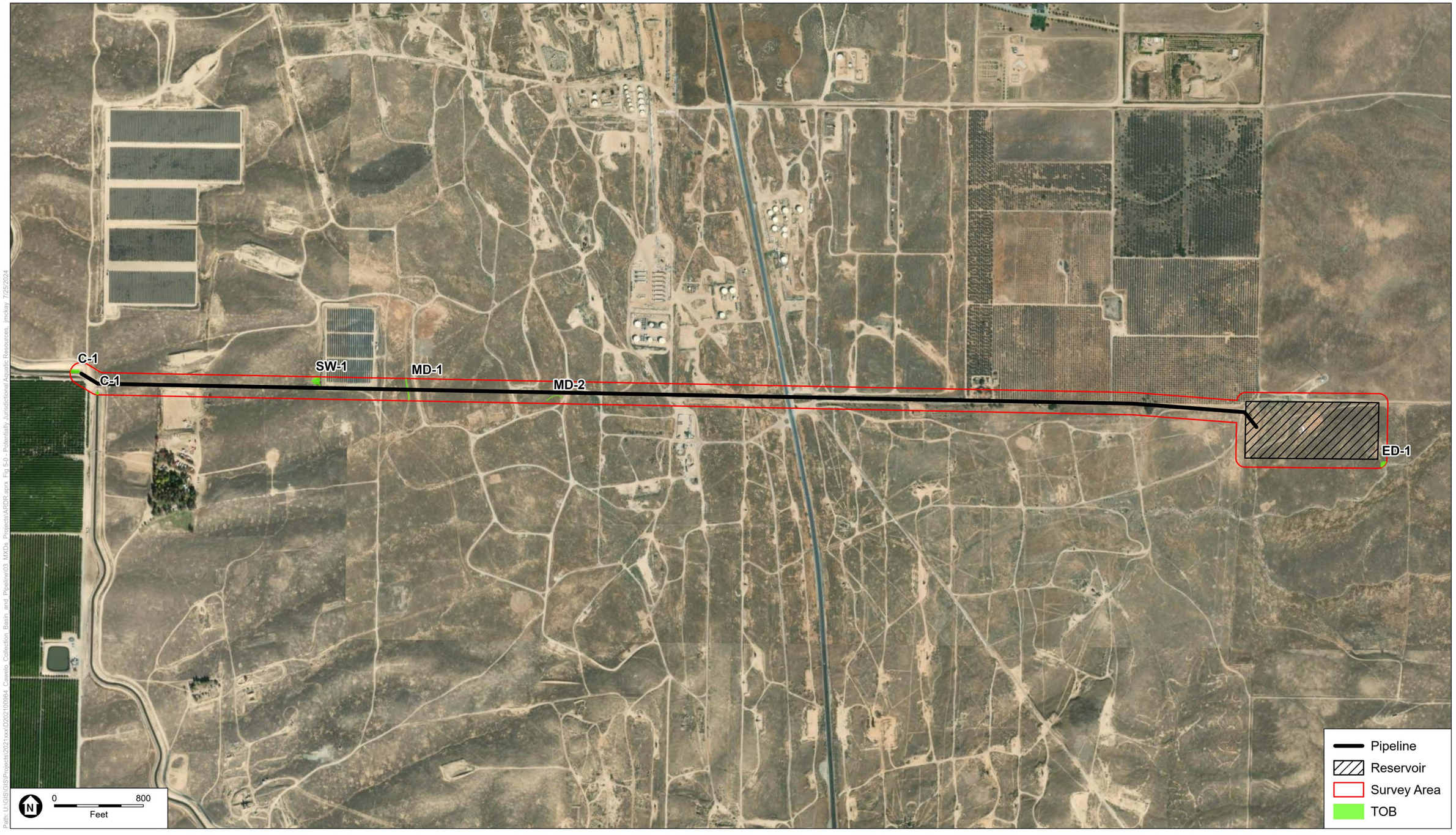
Based on the results of the aquatic resources delineation and the jurisdictional analysis, it is presumed that 0.3 acres of potential other (non-wetland) waters of the State and aquatic resources potentially jurisdictional under FGC Section 1600 et seq. occurs within the survey area.

4.7 Wildlife Movement

Effective wildlife movement is essential for dispersal, genetic exchange, migration, foraging, and breeding. Migration of wildlife either seasonally or in response to resource availability is vital for survival in virtually all ecosystems. Migration corridors are linkages between large open space areas. Top tier predators, mezzo predators and prey species alike utilize migration corridors for travel and refuge between open space areas, as well as for wintering and breeding grounds. Some migration corridors are created naturally by topography and have been used by wildlife for hundreds or thousands of years, and some have been constructed by humans to mitigate for the loss of existing natural corridors, such as bridge crossings, underpasses and culverts. Natural features commonly utilized for local wildlife movement and migration include creeks, rivers, canyons and valleys, because these low-lying riparian areas are generally flat and include an over story of vegetation that provides shelter from predators. Functional wildlife movement corridors are especially important in highly fragmented habitat, such as

urbanized areas. Wildlife movement corridors are generally used by terrestrial animals, although they may also be important for aquatic species and avian dispersal.

The BSA is primarily located within the Central Valley that is surrounded by agriculture, oil extraction fields, and large fragmented undeveloped areas. The subject parcels are located east of major agricultural areas and otherwise surrounded by mostly undeveloped land with sparse oil extraction facilities, thus allowing for the local movement of wildlife species without obstruction. These undeveloped areas are contiguous south, east, and north of the Project. The northeastern boundary of the Project contains an orchard that does not function as the sole regional corridor between the two larger stands of habitat. Overall, the areas surrounding the Project create a large open corridor for wildlife movement with the exception of the agricultural fields to the west.



Path: U:\GIS\GIS\Projects\2021xxx\D2021009\64_Cawelo_Collection_Basin_and_Pipeline\03_MXDs_Projects\ARDR.aprx Fig 5-0 - Potentially Jurisdictional Aquatic Resources_ jmckay 7/25/2024

SOURCE: ESRI, 2021; ESA, 2021

Cawelo Collection Basin and Pipeline

Figure 4-0
Potentially Jurisdictional Aquatic Resources - Overview

ESA

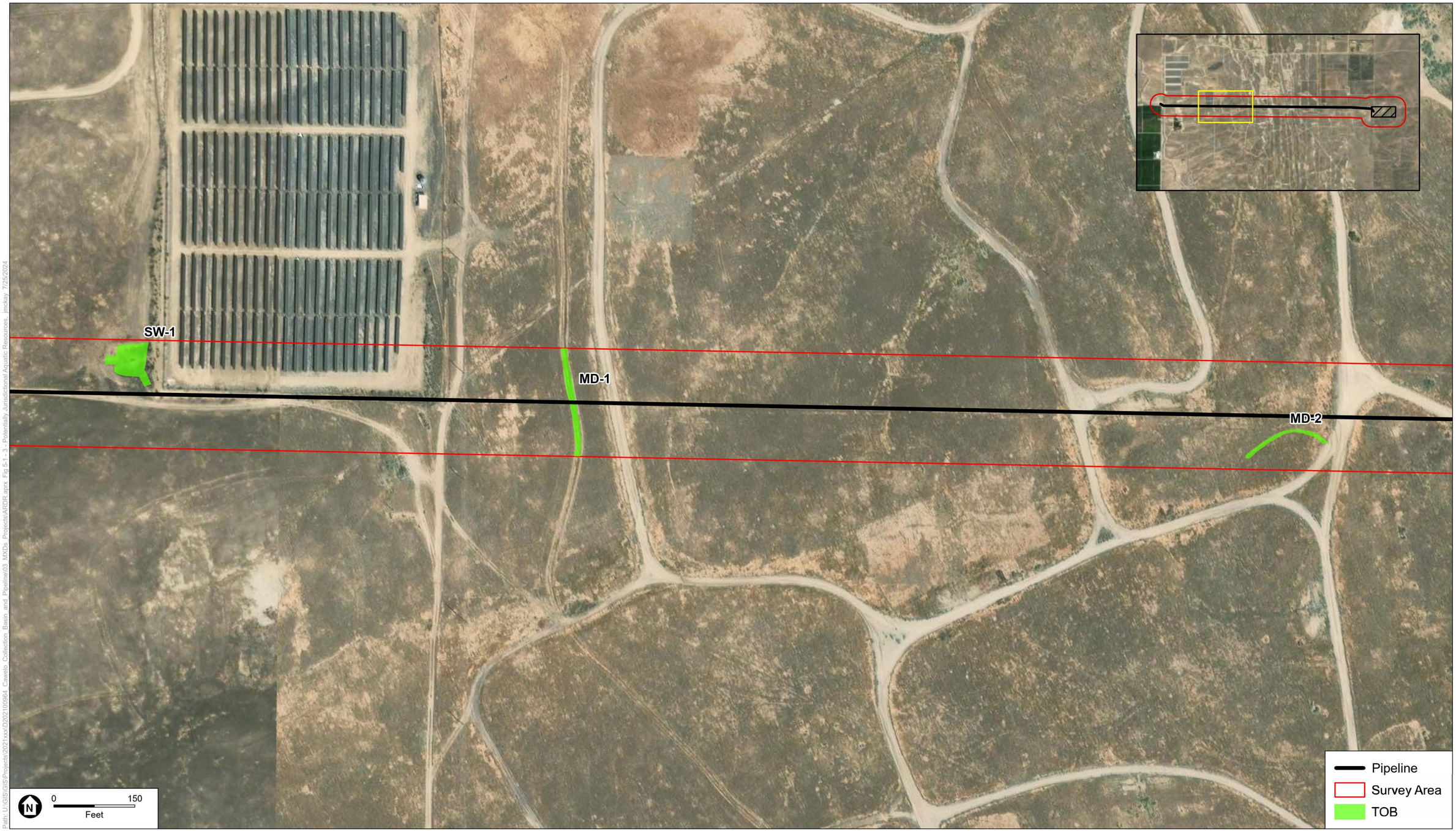
SOURCE: ESRI, 2021; ESA, 2021

Cawelo Collection Basin and Pipeline

Figure 4-1
Potentially Jurisdictional Aquatic Resources

ESA

Path: U:\GIS\GIS\Projects\2021xxx\D20210086\4_Cawelo_Collection_Basin_and_Pipeline\03_MXDs_Projects\ARDR.aprx Fig 5-1 - 3 - Potentially Jurisdictional Aquatic Resources_jmckay 7/25/2024



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SOURCE: ESRI, 2021; ESA, 2021

Cawelo Collection Basin and Pipeline

Figure 4-2
Potentially Jurisdictional Aquatic Resources

ESA

Path: U:\GIS\GIS\Projects\2021\xxx\D202100964_Cawelo_Collection_Basin_and_Pipeline\03_MXDs_Projects\ARDR.aprx Fig 5-1 – 3 – Potentially Jurisdictional Aquatic Resources_ jmckay 7/25/2024

SOURCE: ESRI, 2021; ESA, 2021

Cawelo Collection Basin and Pipeline

Figure 4-3
Potentially Jurisdictional Aquatic Resources

ESA

CHAPTER 5
Project Impacts and Avoidance, Minimization, and Mitigation

An analysis of Project impacts to biological resources and corresponding recommendations for avoidance, minimization, and mitigation are discussed in this section. It should be noted that because the overall Project footprint is conceptual at this time, impacts may need to be confirmed upon completion of a more finalized Project design. Potential impacts and corresponding avoidance, minimization, and mitigation based on the current proposed Project footprint are discussed within this chapter.

5.1 Approach to the Analysis

Generally, impacts may be defined as direct or indirect, permanent or temporary. Definitions of these impact types are provided below.

- **Direct Impacts:** Any alteration, disturbance, or destruction of biological resources that would result from project-related activities is considered a direct impact. Examples include loss of individual species and/or their associated plant communities, diversion of surface water flows, and encroachment into wetlands. Under the FESA, direct impacts are defined as the immediate impacts of a project on a species or its habitat, including construction noise disturbance, sedimentation, or habitat loss.
- **Indirect Impacts:** As a result of project-related activities, biological resources may also be affected in an indirect manner. Under the FESA, indirect impacts are defined as those impacts that are caused by, or would result from, a proposed project but occur later in time and are reasonably certain to occur [50 C.F.R. Section 402-02]. An example of indirect impacts may include irrigation runoff from a developed area into surrounding natural vegetation. Indirect impacts could also include increased wildfire frequency as a result of power line failures.
- **Temporary Impacts:** Any impacts to biological resources that are considered reversible can be viewed as temporary. Examples include the generation of fugitive dust during construction activities and temporary access or staging areas that will be returned to pre-project conditions.
- **Permanent Impacts:** All impacts that result in the irreversible removal of biological resources are considered permanent. Examples include constructing a building or permanent road on an area with native vegetation, such that the native vegetation is permanent removed and replaced with a developed structure.

5.2 Thresholds of Significance

Based on 2024 State CEQA Guidelines Appendix G, the Project would result in a significant impact on biological resources if it would:

1. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW Game or USFWS.
2. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service.
3. Have a substantial adverse effect on state or federally protected wetlands (including but not limited to marsh, vernal pool, coastal) through direct removal, filling, hydrological interruption, or other means.
4. 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.
5. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
6. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

5.3 Analysis of Potential Project Impacts

Included within this section is a discussion of potential impacts as relevant to Appendix G of the CEQA guidelines.

5.3.1 Species Impacts

Issue 1: Would the proposed Project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS

Special-Status Plants

No special-status plant species were observed within the BSA. A total of 19 special-status plants were determined to have no potential to occur within the BSA. This determination was made due to the lack of native habitat and highly disturbed nature of the vegetation present. No focused rare plant surveys were conducted during the field assessment. Focused rare plant surveys are not recommended to confirm presence or absence of these species within the BSA.

Special-Status Wildlife

Two special-status wildlife species (loggerhead shrike and San Joaquin coachwhip) are confirmed to be present within the BSA. Additionally, based on the presence of suitable habitat, four wildlife special-status species have a moderate potential to occur within the BSA. These four species include burrowing owl, California horned lark, San Joaquin pocket mouse, and San Joaquin kit fox. Habitat for these species occurs primarily within the grassland habitat throughout the BSA. Loggerhead shrike and California

horned lark may forage and nest within 500 feet of the Project Site. Additionally, burrowing owl, San Joaquin coachwhip, San Joaquin kit fox, and San Joaquin pocket mouse may forage and use burrows within 500 feet of the Project Site.

Potential direct and indirect impacts may occur to these species as a result of Project construction. Direct impacts may occur as a result of direct mortality of individuals, loss or degradation of habitat (short- or long-term), and introduction or increase in noise during the breeding season. Construction activities will result in permanent impacts to approximately 10.19 acres and temporary impacts to approximately 11.49 acres of grassland habitat suitable for all six special-status wildlife species. Additionally, construction activities will result in permanent impacts to approximately 0.70 acres and temporary impacts to approximately 0.11 acres of allscale scrub habitat suitable habitat for burrowing owl, loggerhead shrike, San Joaquin coachwhip, San Joaquin kit fox, and San Joaquin pocket mouse. Indirect impacts may occur from adjacent nighttime lighting that may introduce predation, habitat fragmentation/edge effects, introduction of non-native species/predators, and increased human disturbance.

Significance Determination

Construction of the proposed Project has the potential to result in a significant impact to special-status wildlife species occurring within the BSA. Implementation of Mitigation Measures BIO-1 through BIO-10 would minimize impacts to these resources. With implementation of these measures, impacts would be reduced to less than significant.

Avoidance, Minimization, and Mitigation Measures

BIO-1: Retention of Biological Monitors. Prior to the issuance of grading permit or ground disturbing activities, the project operator shall retain a Lead Biologist who meets the qualifications of a Monitoring Biologist acceptable to wildlife agencies to oversee compliance with protection measures for all listed and other special-status species including loggerhead shrike, San Joaquin coachwhip, burrowing owl, California horned lark, San Joaquin pocket mouse, and San Joaquin kit fox. The Lead Biologist would have the right to halt all activities that are in violation of the special-status species protection measures. Work would proceed only after hazards to special-status species are removed and the species is no longer at risk. The Lead Biologist would have in their possession a copy of all the compliance measures while work is being conducted onsite.

BIO-2: Worker Environmental Awareness Program. Prior to the issuance of grading or building permits, the Project operator would provide a Construction Worker Environmental Awareness Program (WEAP), developed by the Lead Biologist.

The WEAP would include information on special-status wildlife, natural communities, and plant species present or with at least a moderate likelihood of presence, their legal protections, the definition of "take" under the federal and state Endangered Species Acts, reporting requirements, specific measures that each worker shall employ to avoid take of special-status wildlife species, and penalties for violation of the Acts.

BIO-3: Burrowing Owl Protection. No more than 30 days and no fewer than 14 days prior to initial ground disturbance for construction and decommissioning, protocol surveys for burrowing owl would be conducted by a qualified biologist in suitable habitat within the area to be disturbed and a 500-foot buffer if access has been granted by landowners. The survey methodology would

be consistent with the methods outlined in the California Department of Fish and Game Staff Report (CDFG 2012) including any Project-specific adjustments to methodology agreed to by CDFW and would consist of walking parallel transects 7 to 20 meters apart, adjusting for vegetation height and density as needed, and noting any potential burrows with fresh burrowing owl sign or presence of burrowing owls. Surveys need not be conducted for the entire Project at one time; they may be phased so that surveys target the specific area to be disturbed. A copy of the survey results would be submitted to the Kern County Planning and Community Development Department.

If no burrowing owls are detected, no further mitigation is necessary. If burrowing owls are detected, no ground-disturbing activities would be permitted within 656 to 1,640 feet, depending on the level of disturbance, of an active burrow during the breeding season (February 1 to August 31), unless otherwise authorized by CDFW. Occupied burrows would not be disturbed during the nesting season unless a qualified biologist approved by CDFW, verifies through noninvasive methods that either (1) the birds have not begun egg-laying and incubation; or (2) juveniles from the occupied burrows are foraging independently and are capable of independent survival. Burrowing owls would not be moved or excluded from burrows during the breeding season.

During the nonbreeding (winter) season (September 1 to January 31), ground-disturbing work can proceed no closer than a minimum of 160 feet from the burrow. A smaller buffer may only be established at the discretion of the qualified biological monitor and with the implementation of additional protective measures (if necessary). Additional protective measures could include sound walls to reduce noise levels and dust accumulation.

If active winter burrows cannot be avoided, owls can be displaced from winter burrows according to recommendations made in the Burrowing Owl Mitigation Staff Report (CDFG 2012). Burrowing owls would not be excluded from burrows until a Burrowing Owl Exclusion Plan is developed and approved by CDFW and submitted to the Kern County Planning and Community Development Department.

BIO-4: Burrowing Owl Mitigation. If relocation of burrowing owl is required pursuant to BIO-3, compensatory mitigation for lost breeding habitat would be implemented onsite or offsite in accordance with Burrowing Owl Mitigation Staff Report (CDFG 2012) and in Consultation with CDFW. At a minimum, the following recommendations would be implemented:

i. Temporarily disturbed habitat would be restored, if feasible, to pre-Project conditions, including decompacting and revegetating soil.

ii. Permanent impacts to nesting, occupied and satellite burrows would be mitigated such that the habitat acreage and number of burrows impacted are replaced based on a site-specific analysis and would include permanent conservation of similar vegetation communities (grassland, scrublands, desert, urban, and agriculture) to provide for burrowing owl nesting, foraging, wintering, and dispersal (i.e., during breeding and non-breeding seasons) comparable to or better than that of the impact area, and with sufficiently large acreage and presence of fossorial mammals.

iii. Permanently protect mitigation land through a conservation easement deeded to a nonprofit conservation organization or public agency with a conservation mission. If the Project is located within the service area of a CDFW-approved burrowing owl conservation bank, the Project operator may purchase available burrowing owl conservation bank credits.

BIO-5: San Joaquin Kit Fox Surveys. No more than 30 days and no less than 14 days prior to initial ground disturbance, pre-construction surveys would be conducted in areas of suitable habitat for San Joaquin kit fox. Surveys need not be conducted for the entire project at one time; they may be phased so that surveys target the specific area to be disturbed. If no potential San Joaquin kit fox dens are present, no further mitigation is required.

If potential dens are observed, and the qualified biologist determines they are inactive, they would be avoided in accordance with measure BIO-8. Alternatively, potential dens could be hand-excavated following USFWS standardized recommendations for the protection of the San Joaquin kit fox prior to or during ground disturbance (USFWS 2011) to prevent foxes from re-use during construction.

If San Joaquin kit fox activity is observed at a den, the den status would change to "known" per USFWS guidelines (2011), and the buffer distance would be increased in accordance with measure BIO-12.

No excavation of known San Joaquin kit fox dens or pupping dens would occur without prior consultation and authorization from the USFWS and CDFW.

BIO-6: Small Mammal Burrows. Prior to and during construction, to protect San Joaquin pocket mouse and other special-status small mammals, a biologist would inspect areas with a potential for special-status small mammal burrows within 14 days prior to ground disturbance. If potential burrows are found in construction areas, an avoidance buffer of a minimum 50 feet would be established, marked with protective fencing, and maintained during construction. Where the avoidance buffer cannot be maintained, trapping would be conducted for a minimum of three nights with at least one trap per active burrow. If special-status small mammals are captured, they would be relocated to suitable habitat a minimum of 500 feet outside the construction area within 24 hours of capture, and the former burrows would be excavated by a qualified biologist.

BIO-7: Avian Nest Surveys. Prior to initial ground disturbance for construction and decommissioning, pre-construction avian nesting surveys would be implemented as follows:

i. If construction begins during the breeding season (February 1 to August 1), not more than 14 days prior to site clearing and/or ground disturbance, a qualified biologist would conduct a preconstruction avian nesting survey. Copies of the completed surveys would be submitted to Kern County Planning and Community Development Department.

ii. Surveys need not be conducted for the entire project at one time; they may be phased so that surveys target the specific area to be disturbed. The surveying biologist must be qualified to determine the species, status, and nesting stage without causing intrusive disturbance. The survey would cover all reasonably potential nesting locations (including ground nesting species) on and within 300 feet of the disturbance area if access is permitted by adjacent landowners.

iii. If construction is scheduled to occur during the non-nesting season (August 2 to January 31), no preconstruction surveys or additional measures are required.

iv. If construction begins in the non-breeding season and proceeds continuously into the breeding season, no surveys are required. However, if there is a break of 14 days or more in construction activities during the breeding season, a new nesting bird survey would be conducted before construction begins again.

v. If active nests are found, the no-disturbance buffers outlined in measure BIO-8 would be implemented until a qualified wildlife biologist has determined that the birds have fledged or will not be disturbed by construction activities.

BIO-8: Avoidance Buffers. If surveyors identify any evidence of occupation by listed or other special-status species, the following no-disturbance buffer distances would be implemented unless different buffers are approved by the appropriate wildlife agency:

i. San Joaquin kit fox potential den: 50 feet.

ii. San Joaquin kit fox known den: 100 feet.

iii. San Joaquin kit fox pupping den: 500 feet.

iv. Other protected active raptor nests during the breeding season: 300 feet or as otherwise determined by a qualified biologist.

v. Other protected active migratory bird nests during the breeding season: 50 feet or as otherwise determined by a qualified biologist.

vi. Other special-status wildlife species, including small mammal burrow buffers, are to be established as recommended by a qualified biologist.

BIO-9: Listed Species Avoidance and Take Authorization. No take of species listed on the FESA and/or CESA would occur unless prior authorization was received from CDFW and/or USFWS. If the resource agencies determine that incidental take authorization is not required, the project operator shall provide a letter summarizing the consultation process and wildlife agency determinations, indicating that such authorization is not required. The letter shall also identify the agency points of contact and contact information.

BIO-10: Construction Protection Measures. During construction, the Project operator would implement the following general avoidance and protective measures:

- Prior to construction, the proposed disturbance limits in the final Project design including staging areas, equipment access, and disposal or temporary placement of spoils would be delineated with stakes and flagging to avoid natural resources. Any disturbance areas would be fenced with a temporary exclusion fence (aboveground and/or belowground according to protocols associated with species present) to keep special-status species that may be using habitat adjacent to the area from entering. The fencing would be inspected weekly during construction activities to ensure fence integrity. Any needed repairs to the fence would be performed on the day of their discovery. Fencing would be installed and maintained during all phases of construction and decommissioning but is only required where construction will occur within 200 feet of adjacent habitat suitable for supporting special-status reptiles, rodents, and mammals. Exclusion fencing would be removed once active construction and decommissioning disturbance activities are complete.
- If any special-status species are found on the site, construction would cease in the vicinity of the animal and the animal would be allowed to leave the site on its own or relocated offsite pursuant to relocation plans approved by the agency having jurisdiction over the species. If the individual were observed within exclusion fencing, its point of entry would be determined if possible and fence repaired as needed. For species listed under the FESA and/or CESA USFWS and/or CDFW would be consulted regarding any additional avoidance, minimization, or mitigation measures that may be necessary. Once the animal is observed leaving the exclusion area, work in the area can resume. A report would be prepared by the

Lead Biologist or their designee to document the activities of the animal within the site and all fence construction, modification, and repair efforts. This report would be submitted to the Kern County Planning and Community Development Department.

- The Lead Biologist or their designee will monitor any initial ground-disturbance activities within 50 feet of native habitats to ensure that no special-status animals are present. Work would only occur during daylight hours.
- To prevent inadvertent entrapment of animals during construction, all excavated, steep-walled holes or trenches more than two feet deep would be covered with plywood or similar materials at the close of each working day or provided with one or more escape ramps constructed of earth fill or wooden planks. Before such holes or trenches are filled, they would be thoroughly inspected for trapped animals. If trapped animals are observed, escape ramps or structures would be installed immediately to allow escape. If listed species are trapped, the USFWS and CDFW would be contacted, as appropriate.
- All construction pipes, culverts, or similar structures with a diameter of four inches or more that are stored at a construction site for one or more overnight periods would be thoroughly inspected for special-status wildlife before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If a special-status animal is discovered inside a pipe, that section of pipe would not be moved until the appropriate resource agency has been consulted. If necessary, under the direct supervision of a biologist, the pipe may be moved once to remove it from the path of construction activity until the animal has escaped.
- No parked vehicle or equipment would be moved prior to inspecting the ground beneath the vehicle or equipment for the presence of wildlife. If present, the animal would be allowed to move out of harm's way on its own.
- Vehicular traffic to and from construction areas would use new and existing routes of travel wherever possible. Cross country vehicle and equipment use outside designated work areas would be continually monitored by the Lead Biologist or their designee. Vehicle speeds would not exceed 15 miles per hour once they are off public roads.
- Trash and food items would be contained in closed containers and removed daily to reduce the attractiveness to opportunistic predators such as common ravens, coyotes, and feral dogs.

5.3.2 Sensitive Natural Communities

Issue 2: Would the proposed Project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the USFWS and CDFW?

No sensitive natural communities occur within the BSA. Therefore, no potential direct or indirect to riparian habitat or sensitive natural communities are anticipated.

Potential Significance Determination

Implementation of the proposed Project would not be expected to interfere with sensitive natural communities; thus, no significant impacts would occur.

Potential Avoidance, Minimization, and Mitigation Measures

No minimization and mitigation measures recommended for sensitive natural communities.

5.3.3 Aquatic Features

Issue 3: Would the proposed Project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal) through direct removal, filling, hydrological interruption, or other means?

Potential state protected other (non-wetland) waters of the State were determined to occur within the BSA. In total, 0.3 acres of potential other (non-wetland) waters that are under CDFW and RWQCB jurisdiction were identified and delineated. No waters of the U.S. were identified during the aquatic resources delineation. Direct impacts may occur to these non-wetland habitats that occur within Project features, such as loss of non-wetland habitats through removal, filling, or hydrological interruption. Indirect impacts would consist of altered hydrology, dust, sedimentation, or runoff, and introduction of invasive plant species.

Construction through areas within or adjacent to these non-wetland features would require approval from one of both the RWQCB, or CDFW. For components impacting native vegetation within jurisdictional ‘drainages, the implementing agency would be required to obtain California Fish and Game Code Section 1602 compliance and Section 401 Certification from the RWQCB.

Potential Significance Determination

Potential direct and indirect impacts to non-wetland waters of the state would be considered significant. Implementation of Mitigation Measure BIO-11, below, including preparing a Stormwater Pollution Prevention Plan (SWPPP) for ensuring project spoils avoid aquatic resources and acquiring permits for any planned impacts to potential jurisdictional waters of the state, would mitigate impacts to a less than significant level. A

Potential Avoidance, Minimization, and Mitigation Measures

BIO-11: Jurisdictional Waters Permitting. If it is determined during the final design phase that jurisdictional aquatic features cannot be avoided, the Project operator would be subject to provisions as identified below:

a. Prior to ground-disturbing activities that could impact these aquatic features, the Project operator would file a complete Report of Waste Discharge with the RWQCB to obtain Waste Discharge Requirements and consult CDFW on the need for a streambed alteration agreement. Correspondence and copies of reports would be submitted to the Kern County Planning and Natural Resources Department.

b. Based on consultation with the RWQCB and CDFW, if permits are required for the Project, appropriate permits would be obtained prior to disturbance of jurisdictional resources.

c. Compensatory mitigation for impacts to jurisdictional aquatic features would be identified and secured as required by the RWQCB or CDFW either through onsite or offsite mitigation, or purchasing credits from an approved mitigation bank. Compensatory mitigation for aquatic features would occur at a minimum of 1:1 ratio (at least 1 acre protected for each acre disturbed).

d. The Project operator would provide copies of permits obtained from RWQCB and/or CDFW to the Kern County Planning and Natural Resources Department, prior to disturbance of jurisdictional aquatic features.

5.3.4 Wildlife Corridors

Issue 4: Would the proposed Project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

The BSA is primarily located within the Central Valley that is surrounded by agriculture, oil extraction fields, and large fragmented undeveloped areas. The subject parcels are located in east of major agricultural areas and otherwise surround by mostly undeveloped land with sparse oil extraction facilities thus allowing for the local movement of wildlife species. These undeveloped areas are contiguous south, east, and north of the Project. The northeastern boundary of the Project contains an orchard that does not function as the sole regional corridor between the two larger stands of habitat. Overall, the areas surrounding the Project create a large open corridor for wildlife movement with the exception of the agricultural fields to the west. Implementation of the project would not isolate large areas of undeveloped lands. Implementation of Mitigation Measures BIO-1 through BIO-10 would mitigate impacts to these sensitive biological resources. With implementation of these measures, impacts would be less than significant.

Nesting Birds

The proposed Project would be constructed within the existing disturbed oil extraction fields primarily vegetated with the non-native grassland community *Bromus rubens–Schismus* (*arabicus*, *barbatus*) Semi-Natural Stands. Additionally, the reservoir will be constructed within the noted non-native grasslands community and *Atriplex polycarpa* Shrubland Alliance – Allscale scrub. Lastly the BSA contains an orchard along the northeast extent. These habitats can provide suitable nesting habitat for birds protected under the MBTA and CFG Code Section 3500. Potential Project impacts to nesting birds may occur particularly during the general avian nesting season of February through August during construction. If ground disturbance, shrub and tree removals are needed, nesting birds could be impacted. Thus, direct and indirect impacts to active nests may occur due to construction noise and vibration. Impacts to birds outside of their nesting season would be negligible, as birds are expected to be temporarily displaced while construction is occurring and would forage in areas outside of the construction impact zone. The operation and maintenance phase of the Project could result in a significant impact to nesting birds are disturbed during maintenance activities.

Potential Significance Determination

With implementation of the proposed Project and Mitigation Measures BIO-1 through -10, the project would not be expected to interfere with wildlife movement or any migratory corridor/linkage, and would not be constructed within a native wildlife nursery site, thus no significant impacts would occur.

Potential Avoidance, Minimization, and Mitigation Measures

Implementation of Mitigation Measures BIO-1 through -10.

5.3.5 Local Policies

Issue 5: Would the proposed Project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

The BSA is located within the Kern County General Plan (Plan) area. The Plan contains goals and policies to protect sensitive biological resources. The Plan requires discretionary projects to consider effects to biological resources as required by the CEQA (Kern County 2004).

Potential Significance Determination

Overall, construction of the proposed Project could potentially result in impacts to sensitive biological resources, which would be considered significant. Implementation of Mitigation Measures BIO-1 through BIO-10 would mitigate impacts to sensitive biological resources. With implementation of these measures, impacts would be less than significant.

Potential Avoidance, Minimization, and Mitigation Measures

Implementation of Mitigation Measures BIO-1 through BIO-10.

5.3.6 Habitat Conservation Plan

Issue 6: Would the proposed Project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

The project and BSA is not located within an adopted federal or state habitat conservation habitat conservation plan area. The Project is located within the VFHCP (Kern 2006). The VFHCP designates three separate habitat zone categories based on habitat value. The white zones consist primarily of intensive agricultural areas that are typically highly disturbed and not considered valuable habitat. The green zones contain some disturbance but are important for movement of covered species among the core red zones. Green zones are located in areas that—because of terrain, lack of infrastructure, and their non-intensive resource use—are not expected to develop with intensive resource uses. The pipeline alignment is within the white zone and the collection basin is within the green zone. The VFHCP has not been adopted. Thus, the project would not conflict with any adopted HCPs, NCCPs, or other approved local, regional, or state HCPs.

Potential Significance Determination

No impacts to approved HCPs or NCCPs are proposed. Implementation of Mitigation Measures BIO-1 through BIO-10 would mitigate any potential indirect impacts to sensitive biological resources. With implementation of these measures, impacts would be less than significant.

Potential Avoidance, Minimization, and Mitigation Measures

Implementation of Mitigation Measures BIO-1 through BIO-10.

CHAPTER 6
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Appendix A
Representative Photographic Log

Photo 1. Agriculture vegetation community with an olive orchard within the eastern half of the biological survey area (BSA), facing northwest.

Photo 2. Overview of the proposed collection basin site, facing west.

Photo 3. *Atriplex polycarpa* Shrubland Alliance – Allscale scrub vegetation community located within the proposed collection basin site and BSA, facing north.

Photo 4. *Atriplex polycarpa* Shrubland Alliance – Allscale scrub vegetation community located within the proposed collection basin site, facing south.

Photo 5. ED-1 feature within the BSA along the southern perimeter of the proposal collection basin, facing northeast.

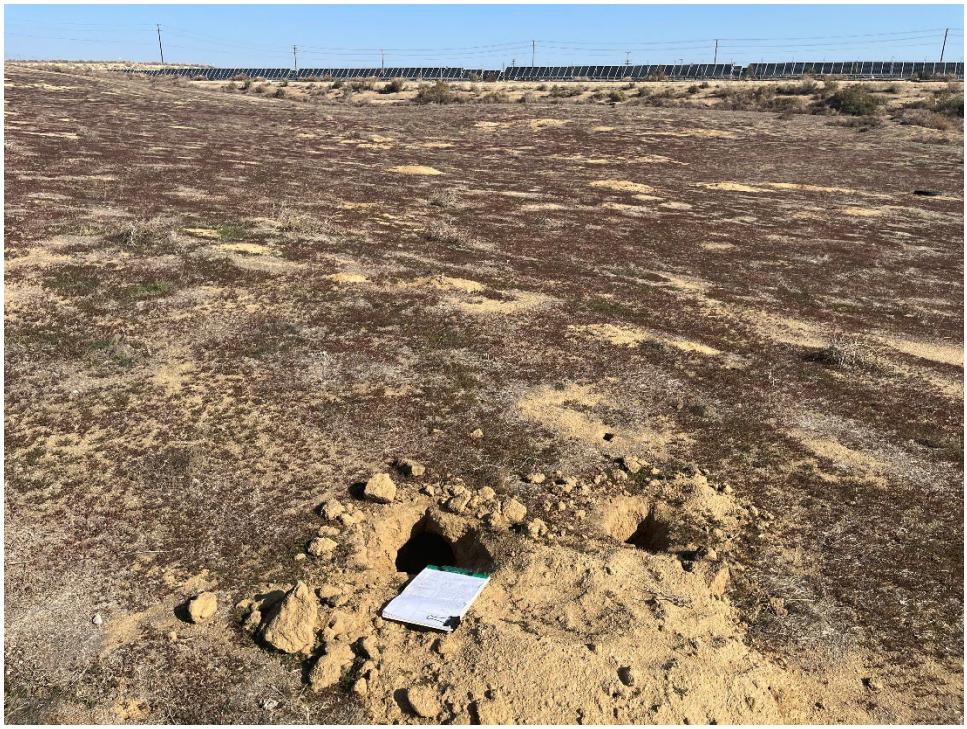

Photo 6. California ground squirrel burrows located within the BSA, facing northwest.

Photo 7. California ground squirrel burrows under debris pile located within the BSA, facing west.

Photo 8. San Joaquin coachwhip sensitive wildlife species observed within the BSA.

Photo 9. *Bromus rubens – Schismus* (*arabicus*, *barbatus*) Semi-Natural Stands vegetation community located within the eastern portion of the BSA, facing southwest.

Photo 10. *Bromus rubens – Schismus* (*arabicus*, *barbatus*) Semi-Natural Stands vegetation community located within the BSA and oil extraction field with access roads, facing east.

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Appendix B

Aquatic Resources Delineation Report

CAWELO COLLECTION BASIN AND PIPELINE PROJECT

Aquatic Resources Delineation Report

Prepared for
Cawelo Water District

August 2024

ESA

CAWELO COLLECTION BASIN AND PIPELINE PROJECT

Aquatic Resources Delineation Report

Prepared for
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August 2024

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EXECUTIVE SUMMARY

Aquatic Resources Delineation Report

Environmental Science Associates (ESA) was retained by Cawelo Water District (CWD) to conduct an aquatic resources delineation prior to the commencement of the proposed Cawelo Collection Basin and Pipeline Project (project) located in Kern County, California. The purpose of the delineation was to identify potential waters of the U.S. and State to support any necessary permits from the regulatory agencies.

Aquatic resources delineated within the survey area include the Cawelo Distribution Canal, two manmade ditches, an ephemeral drainage, and a stormwater feature. All identified features were determined to be potential non-waters of the U.S.; therefore, the Cawelo Distribution Canal, two manmade ditches, ephemeral drainage, and stormwater feature would not be subject to USACE jurisdiction under Section 404 of the Clean Water Act. The Central Valley Regional Water Quality Control Board (RWQCB) asserts jurisdiction to the top of bank (TOB) limits over non-federal waters pursuant to the Porter-Cologne Water Quality Control Act. The aquatic resources listed above are considered potential waters of the State. Additionally, these same features are potentially subject to regulation under Fish and Game Code (FGC) Section 1600 et seq.

Based on the results of the aquatic resources delineation and the jurisdictional analysis, it is presumed that 0.3 acres (685 linear feet) of potential other (non-wetland) waters of the State and aquatic resources potentially jurisdictional under 1600 et seq. of the FGC occurs within the survey area.

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CHAPTER 1
Introduction

Environmental Science Associates (ESA) was retained by Cawelo Water District (CWD) to conduct an aquatic resources delineation prior to the commencement of the proposed Cawelo Collection Basin and Pipeline Project (project) located in Kern County, California. The Bureau of Reclamation and CWD are proposing to jointly implement the project that would increase the CWD's existing produced water reuse program by up to 940 acre-feet per year (AFY). The project includes construction of a 13 acre-foot (AF) reservoir and a two-mile pipeline to convey treated produced water from the Trio Petroleum LLC facility to the Famoso Basin for groundwater recharge or to the local distribution system to augment crop irrigation surface water supplies.

The purpose of the delineation was to identify potential waters of the U.S. subject to the regulatory jurisdiction of the U.S. Army Corps of Engineers (USACE) pursuant to Section 404 of the federal Clean Water Act (CWA); waters of the State subject to the regulatory jurisdiction of the Central Valley Regional Water Quality Control Board (RWQCB) pursuant to Section 401 of the federal CWA and the Porter Cologne Water Quality Control Act; streambed and riparian habitat subject to the regulatory jurisdiction of the California Department of Fish and Wildlife (CDFW) pursuant to Sections 1600 et seq. of the California Fish and Game Code (FGC); and/or features subject to the Kern County General Plan (Kern County Planning Department 2009).

This aquatic resources delineation report (ARDR) was prepared in accordance with the USACE Sacramento District's *Minimum Standards for Acceptance of Aquatic Resources Delineation Reports* (USACE 2016a) and the *Updated Map and Drawing Standards for the South Pacific Division Regulatory Program* (USACE 2016b).

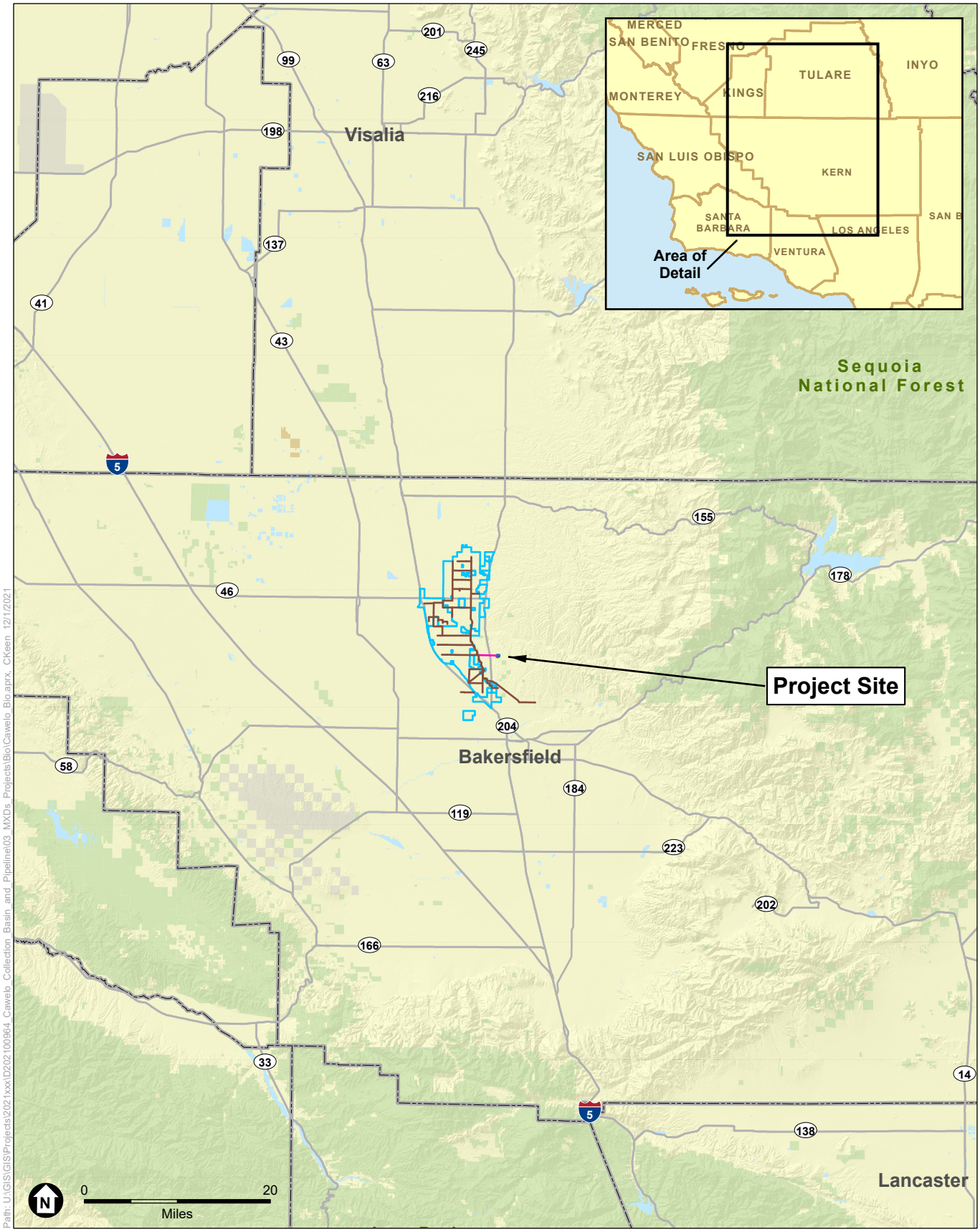
1.1 Survey Location

The project site is comprised of existing oil fields located in Kern County within the southern San Joaquin Valley, approximately 5.5 miles north of the city of Bakersfield. The southeast corner of the proposed pipeline would start at Section 3, T28, R27E, MDB&M and end at Cawelo's Distribution Canal (pipeline corridor), crossing Highway 65. The delineation was completed along the proposed pipeline corridor and reservoir and a surrounding 100-foot buffer, collectively referred to as the "survey area", within Kern County Assessor's Parcel Numbers (APN) 481-012-04, 481-012-01, 481-011-16, 481-030-14, 481-030-15, 481-030-17, 481-030-18, 481-030-65, 481-030-10, 481-040-01, 481-040-19, 481-040-18, 481-040-17, 481-040-16, 481-040-15, 481-030-63, 481-030-32 (project parcels). The City of Shafter is located approximately 4 miles to the west; the City of Wasco is located approximately 14.5 miles to the northwest; and the City of McFarland is located approximately 13 miles to the north (**Figure 1-1, Regional Map**). The survey area is located within the U.S. Geological Survey (USGS) North of Oildale 7.5-minute quadrangles (**Figure 1-2, Vicinity Map**) and the decimal degree coordinates are: 35.514733,

SOURCE: Mapbox; ESA, 2021

Cawelo Collection Basin and Pipeline

Figure 1-1
Regional Location



SOURCE: ESA, 2021

Cawelo Collection Basin and Pipeline

Figure 1-2
Project Location

ESA

-119.100245 for the northwest corner; 35.513668, -119.100183 for the southwest corner; 35.512256, -119.060197 for the southeast corner; and 35.514268, -119.060053 for the northeast corner.

1.1.1 Directions to the Survey Area

From the USACE Office location at 1325 J Street, head east on J Street toward 14th Street for 190 feet and turn left. Turn left onto I Street and use the middle lane to continue onto the I Street Bridge following signs for CA-99 S/I-5 S. After 0.3 miles, use the left lane to take the CA-99 S/I-5 S ramp. Continue on I-5 S for 252 miles before taking exit 268 for Lerdo Highway. Turn left onto Lerdo Highway for 25.9 miles and turn left onto CA-65 N/Porterville Highway. After approximately 1 mile, the survey area will cross CA-65 N.

1.2 Contact Information

1.2.1 Applicant

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General Manager
Cawelo Water District
17207 Industrial Farm Road
Bakersfield, CA 93308

1.2.2 Delineator

Amanda French, Delineator
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213.599.4300

CHAPTER 2
Existing Conditions

2.1 Survey Area

The aquatic resources delineation survey area is approximately 69 acres in size and includes the proposed pipeline corridor and reservoir with a 100-foot buffer. The survey area is depicted in **Figure 2-1, Vegetation Communities and Land Cover Types**.

2.2 Vegetation Communities and Land Cover Types

Vegetation communities and land cover types were characterized to map their extent and quantify their abundance within the survey area using ArcGIS. Plant taxonomy follows *The Jepson Manual: Vascular Plants of California, Second Edition* (Baldwin et al. 2012) nomenclature as revised by the Jepson eFlora (Jepson Flora Project 2021), and plant community descriptions were characterized using *A Manual of California Vegetation* (Sawyer et al. 2009). Plant communities and land use not identified within the aforementioned publications were characterized based on the California Department of Fish and Game's *List of California Terrestrial Natural Communities* (CDFW 2019) and/or based on species dominance or other characteristics.

The vegetation communities and land cover types mapped within the survey area include agriculture, *Atriplex polycarpa* Shrubland Alliance – Allscale scrub, *Bromus Rubens-Schimus* (*arabicus*, *barbatus*) Semi-Natural Stands, developed, and open water. These are depicted in **Figure 2-1**. Acreages of each vegetation community and land cover type in the survey area are summarized below in **Table 2-1, Vegetation Communities and Land Cover Types within the Survey Area**.

TABLE 2-1
NATURAL COMMUNITIES AND LAND COVER TYPES WITHIN THE SURVEY AREA

Natural Community/Land Cover Type	Total (acres)
Agriculture	9.54
Atriplex polycarpa Shrubland Alliance – Allscale scrub	3.76
Bromus rubens–Schismus (*arabicus*, *barbatus*) Semi-Natural Stands	50.6
Developed	7.00
Open Water	0.30
TOTAL	**71.2**

2.2.1 Agriculture

Portions of the survey area occur in citrus and olive orchards. These areas are highly maintained and kept mostly denuded of all other vegetation.

2.2.2 *Atriplex polycarpa* Shrubland Alliance – Allscale Scrub

Allscale scrub consists of allscale saltbush (*Atriplex polycarpa*) as the dominant species in the shrub layer with bracted alkali goldenbush (*Isocoma acradenia* var. *bracteosa*), Stanislaus milkvetch (*Astragalus oxyphysus*) as subdominants. Within the survey area this community is found sporadically and isolated from other stands of native vegetation. This vegetation is also heavily disturbed by grazing and adjacent oil extraction activities. Historically this vegetation types occurs regionally within washes, alluvial fans, rolling hills and terraces throughout the central valley in soils which may be alkaline or carbonate rich.

2.2.3 *Bromus rubens-Schismus* (*arabicus*, *barbatus*) Semi-Natural Stands

The vegetation community *Bromus rubens–Schismus* (*arabicus*, *barbatus*) Semi-Natural Stands observed occurring in uplands within the survey area consists of red brome (*Bromus rubens*) and Arabian schismus (*Schismus arabicus*) as the dominant species and includes other species including redstem filaree (*Erodium cicutarium*), white horehound (*Marrubium vulgare*), and white horse-nettle (*Solanum elaeagnifolium*). This community is the dominant vegetation type with the survey area. This vegetation is also heavily disturbed by grazing and adjacent oil extraction activities.

2.2.4 Developed

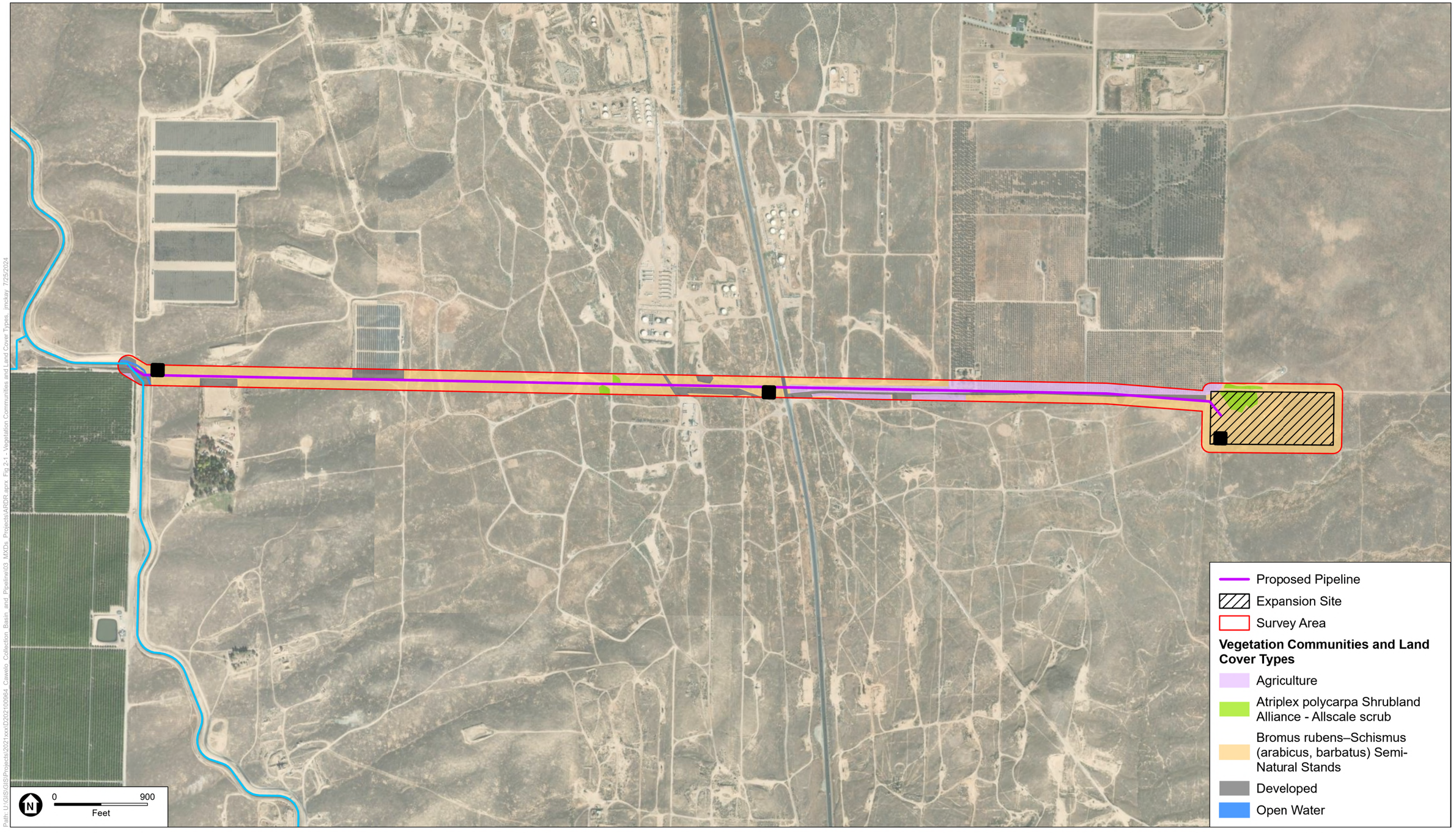
Developed lands consist of areas that have been built over with permanent infrastructure and are absent of native plant cover. Infrastructure within these lands mostly consists of oil extraction, solar fields, maintained dirt roadways, and supporting orchard buildings.

2.2.5 Open Water

This land cover type is characterized by an area of open water associated with the canal located at the western terminus of the survey area.

2.3 Soils

Soils mapped by United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey (USDA 2021) within the survey area are shown in **Figure 2-2** and described below. Soils in the survey area have been disturbed by agricultures and oil fields.

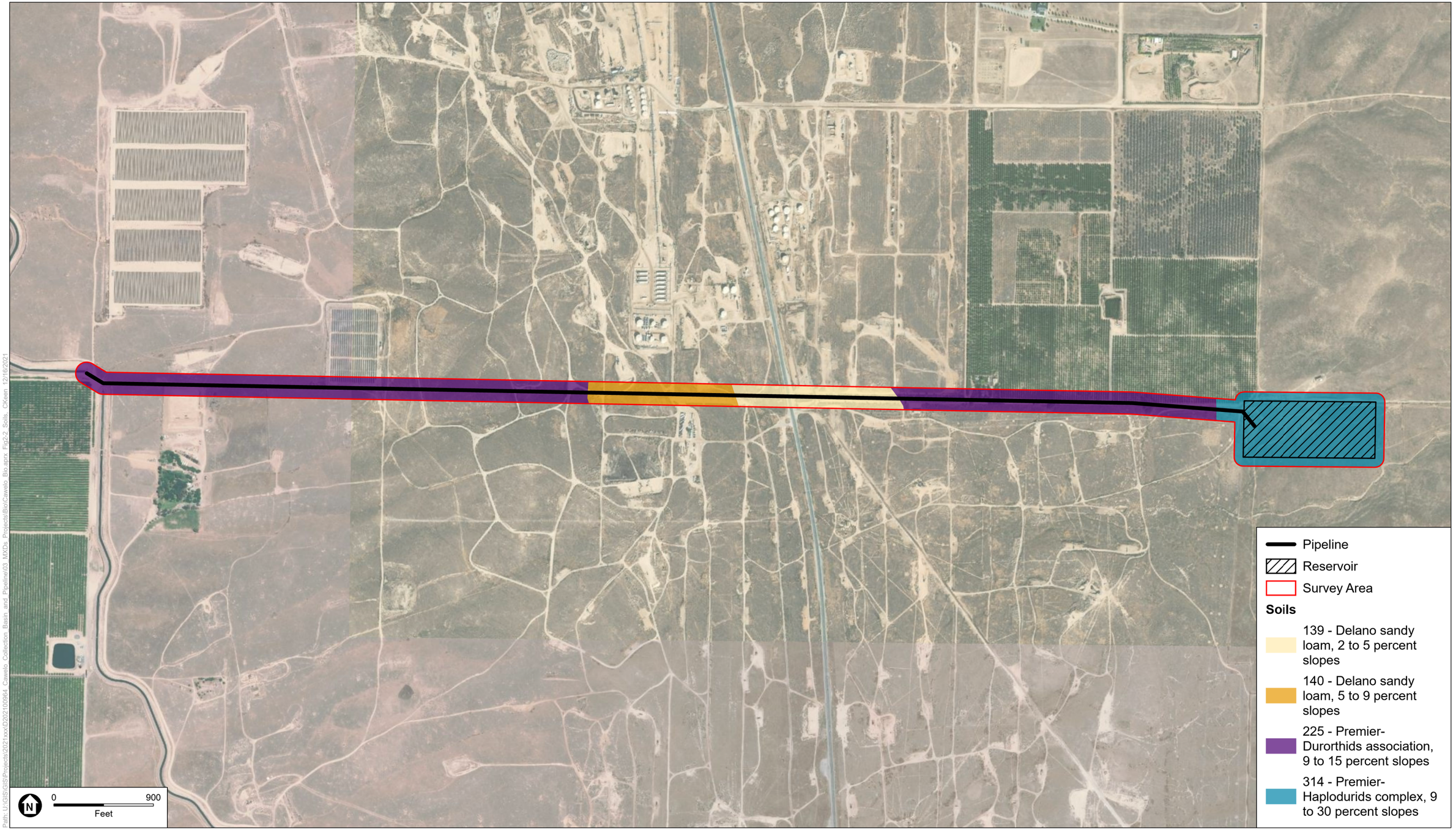


SOURCE: ESRI, 2021; ESA, 2021

Cawelo Collection Basin and Pipeline

Figure 2-1
Vegetation Communities and Land Cover Types

ESA



SOURCE: ESRI, 2021; USDA, 2021; ESA, 2021

Cawelo Collection Basin and Pipeline

Figure 2-2
Soils

ESA

2.3.1 Delano Sandy Loam, 2 to 5 Percent Slopes and 5 to 9 Percent Slopes

This soil map unit contains soils resulting from alluvium derived from granite. Delano soils are found in fan remnants and have slopes of 2 to 5 percent and 5 to 9 percent. This soil is well-drained with moderately high permeability and moderate (about 8.5 inches) water capacity. This soil type is classified as prime farmland if irrigated and is not listed by the NRCS as a hydric soil in Kern County.

2.3.2 Premier-Durorthids Association, 9 to 15 Percent Slopes

This soil map unit contains soils resulting from alluvium derived from granite. These soils are found in fan remnants and have slopes of 9 to 15 percent. This soil is well-drained with high permeability and moderate (about 6.6 inches) water capacity. This soil type is classified as not prime farmland and is not listed by the NRCS as a hydric soil in Kern County.

2.3.3 Premier-Haplodurids Complex, 9 to 30 Percent Slopes

This soil map unit contains soils resulting from alluvium derived from granitoid and/or sedimentary rock. These soils are found in fan remnants and have slopes of 9 to 30 percent. This soil is well-drained with high permeability and low to moderate (about 3.0 to 6.6 inches) water capacity. This soil type is classified as not prime farmland and is not listed by the NRCS as a hydric soil in Kern County.

2.4 Hydrology

The survey area is located within the Tulare-Buena Vista Lakes Watershed (USGS Hydrologic Unit Code 18030012). Overall site hydrology drains to the west towards the Cawelo Distribution Canal (C-1). The Cawelo Distribution Canal flows north offsite towards Poso Creek.

The Cawelo Distribution Canal is identified on the National Hydrography Dataset (NHD) and USGS topo map as a canal as shown in **Figure 2-3, Hydrology**. This canal is mapped as occurring along the western edge of the survey area. The canal originates approximately 2.0 miles south of the survey area at a reservoir receiving water pumped through a pipeline connected to the Lerdo Canal. C-1 flows generally north through the survey area ending 3.5 miles to the north just south of Poso Creek. At this point, the canal is piped underground to the north to distribute water to various agricultural fields north of Poso Creek (RWQCB 2015).

In addition to the Cawelo Distribution Canal, one unnamed ephemeral stream (ED-1) is mapped by the NHD adjacent to the eastern edge of the survey area. This stream originates within the agricultural fields approximately 0.6 miles east of the survey area. It flows east to west through the agricultural fields and oil fields adjacent to the survey area and ends with no further conveyance within the oil fields on the west side of CA-65 due to the higher topography of the landscape and surrounding highways. Surface flows are assumed to infiltrate into groundwater at this point.

2.5 Climate

The regional vicinity is described as having an arid climate characterized by hot, dry summers and cool winters with relatively low rainfall. Average highs for the region range between 56º Fahrenheit (F) in the winter (December and January) and 96.5º F in the summer (July and August), while average lows range between 36º F in in the winter and 66ºF in the summer (World Climate 2021).

2.5.1 Agricultural Applied Climate Information System Wetlands Climate Table

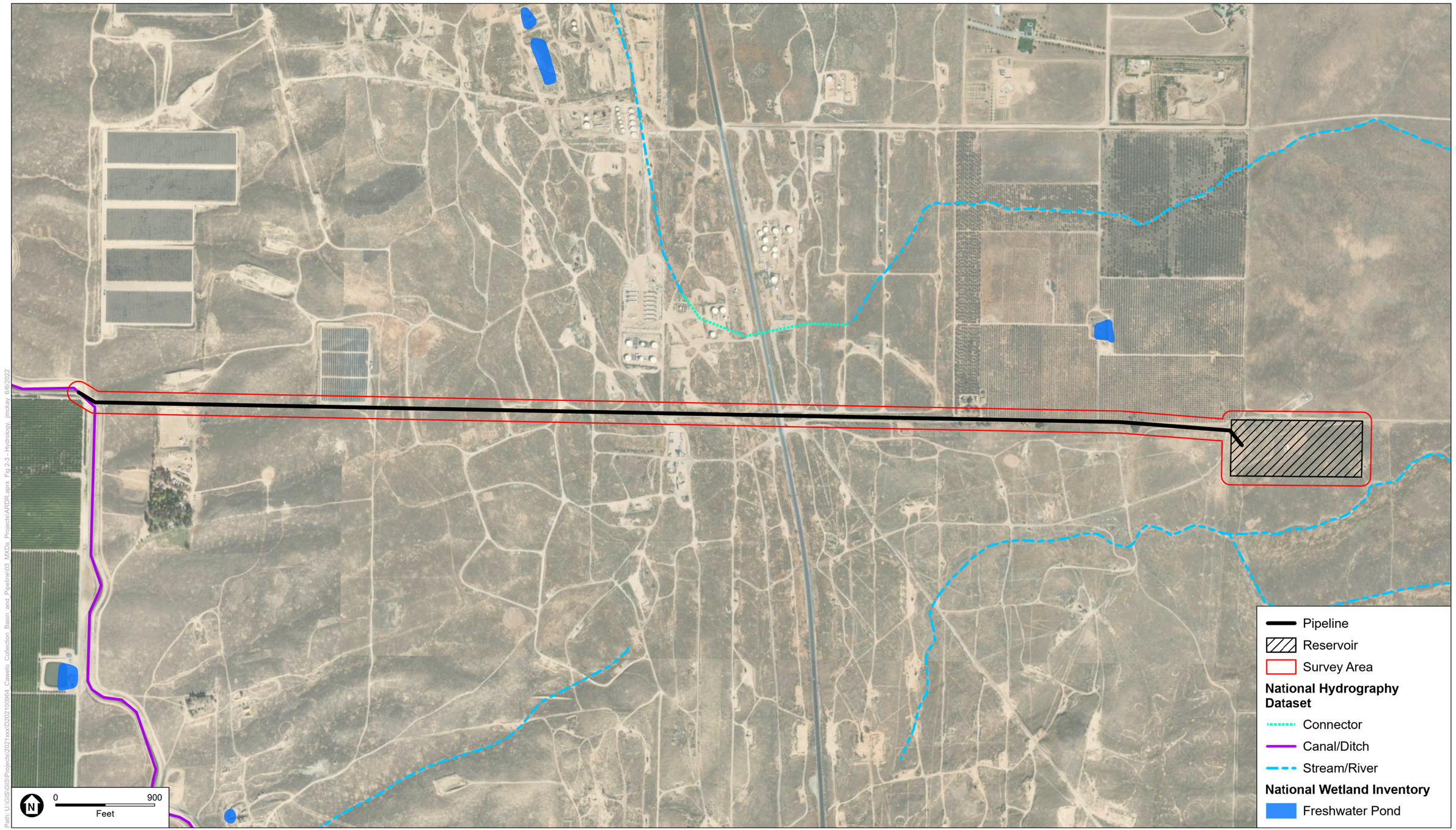
The Agricultural Applied Climate Information System (AgACIS) Wetlands (WETS) climate table for Bakersfield, California is included below in **Table 2-2** for the years January 2010 through December 2020. Historically (11-year sampling period), the month of November has experienced 0.52 inches mean rainfall levels; however, during the approximately two weeks leading up to the aquatic resources delineation, no precipitation was recorded in the region (NOAA 2021a).

TABLE 2-2
WETS TABLE: MONTHLY TOTAL PRECIPITATION FOR BAKERSFIELD AP, CA

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
2010	1.82	1.77	0.25	1.14	0.27	0.00	T	0.00	0.00	0.59	0.84	5.82	12.50
2011	0.40	0.49	1.67	0.21	0.23	0.08	T	T	T	0.55	0.76	T	4.39
2012	0.44	0.29	1.27	1.62	0.00	0.00	0.02	T	T	0.02	0.10	0.65	4.41
2013	0.83	0.60	0.83	0.05	0.05	0.00	T	0.00	T	0.03	0.94	0.10	3.43
2014	0.12	0.32	0.36	0.50	0.04	0.00	T	T	0.01	0.64	0.01	2.02	4.02
2015	0.69	0.90	0.27	0.08	0.68	T	0.04	0.00	T	0.14	0.61	0.58	3.99
2016	1.95	0.18	0.45	0.97	0.55	0.00	0.00	0.00	0.00	0.24	0.38	2.41	7.13
2017	2.76	1.46	0.16	0.35	0.06	0.00	0.00	T	0.52	T	0.03	0.04	5.38
2018	1.03	0.22	2.41	0.20	0.02	0.00	0.00	0.00	0.00	0.00	0.68	0.62	5.18
2019	1.38	1.20	2.01	0.11	1.57	0.23	T	0.00	0.02	0.00	1.02	1.52	9.11
2020	0.24	0.01	1.57	2.61	0.16	0.02	0.00	T	0.00	T	0.39	0.35	5.35
Mean (2010–2020)	**1.06**	**0.68**	**1.02**	**0.71**	**0.33**	**0.03**	**0.01**	**0**	**0.08**	**0.25**	**0.52**	**1.28**	**5.90**
2021 (current year)	0.98	0.09	0.77	0.19	0.00	T	T	0.00	T	0.94	M0.01		

ABBREVIATIONS: M = missing, and is used when more than one day of data is missing for a month; T = trace amounts of precipitation
SOURCE: NOAA 2021b

Further, the total precipitation for the previous month of October was above the historic annual mean reported for the month of October; however, both August and September mean rainfall levels were at or below the historic annual mean reported for those months. Based on site conditions and review of the AgACIS data provided in Table 2-2, it appears conditions at the time of the delineation were dry as compared to those typical for the fall months.



SOURCE: ESRI, 2021; NHD; ESA, 2021

Cawelo Collection Basin and Pipeline

Figure 2-3
Hydrology

ESA

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The Antecedent Precipitation Tool (APT; Version 2.0), was also used to evaluate climatic conditions at the survey area at the time of the surveys. A single point was placed within the survey area, and the APT Watershed Sampling Summary (**Appendix A, Antecedent Precipitation Results**) presents precipitation and climatic data for the survey area for approximately 2 months prior to the survey. As displayed in **Table 2-3, Antecedent Precipitation Tool Results for Survey Area on November 29, 2021**, indicates that the survey area exhibited "normal" conditions with a Product score of 11. Additionally, the drought index (PDSI) indicated "extreme drought".

TABLE 2-3
ANTECEDENT PRECIPITATION TOOL RESULTS FOR SURVEY AREA ON NOVEMBER 29, 2021

Date	No. of Sampling Points	PDSI Class	Season	Antecedent Precipitation Score	Antecedent Precipitation Condition
November 29, 2021	1	Extreme drought	Dry Season	11	Normal Conditions

SOURCE: Antecedent Precipitation Tool (v.2.0), generated on July 23, 2024

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CHAPTER 3
Regulatory Framework

3.1 Waters of the U.S.

3.1.1 Clean Water Act

The Clean Water Act (CWA) establishes the basic structure for regulating discharges of pollutants into the waters of the United States and regulating quality standards for surface waters. The basis of the CWA was enacted in 1948 and was called the Federal Water Pollution Control Act, but the Act was significantly reorganized and expanded in 1972. "Clean Water Act" became the Act's common name with amendments in 1972.

Section 404 of the CWA establishes a program to regulate the discharge of dredged or fill material into waters of the United States, including wetlands. Activities in waters of the United States regulated under this program include fill for development, water resource projects (such as dams and levees), infrastructure development (such as highways and airports) and mining projects. Section 404 requires a permit before dredged or fill material may be discharged into waters of the United States, unless the activity is exempt from Section 404 regulation (e.g., certain farming and forestry activities).

Wetlands are defined by USACE as “those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.” (33 CFR §328.3[c][1]; 40 CFR §120.2[c][1]). Indicators of three wetland parameters (i.e., hydric soils, hydrophytic vegetation, and wetlands hydrology), as determined by site investigation, must be present for a site to be classified as a wetland by USACE (Environmental Laboratory 1987).

Section 401 of the CWA gives the state authority to grant, deny, or waive certification of proposed federally licensed or permitted activities resulting in discharge to waters of the U.S. The State Water Resources Control Board (State Water Board) directly regulates multi-regional projects and supports the Section 401 certification and wetlands program statewide. The Regional Water Quality Control Board (RWQCB) regulates activities pursuant to Section 401(a)(1) of the federal CWA, which specifies that certification from the State is required for any applicant requesting a federal license or permit to conduct any activity including but not limited to the construction or operation of facilities that may result in any discharge into navigable waters. The certification shall originate from the State or appropriate interstate water pollution control agency in/where the discharge originates or will originate. Any such discharge will comply with the applicable provisions of Sections 301, 302, 303, 306, and 307 of the CWA.

3.1.2 Waters of the U.S.

Since its inception, the definition of the Waters of the U.S. has been a litigious issue. Most recently, the Supreme Court, ruling in *Sackett v. Environmental Protection Agency*, sharply limited the scope of the federal Clean Water Act's protection for the nation's waters. As a result of this decision, on August 29, 2023, the U.S. Environmental Protection Agency (EPA) and the USACE issued a final rule that amends the "Revised Definition of 'Waters of the United States'" to conform key aspects of the regulatory text to the U.S Supreme Court's decision.

Under the amended Revised Definition of "Waters of the United States," the term "waters of the United States" was defined as follows (33 CFR 328.3(a)):

(1) Waters which are:

  (i) Currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;

  (ii) The territorial seas; or

  (iii) Interstate waters;

(2) Impoundments of waters otherwise defined as waters of the United States under this definition, other than impoundments of waters identified under paragraph (a)(5) of this section;

(3) Tributaries of waters identified in paragraph (a)(1) or (2) of this section that are relatively permanent, standing or continuously flowing bodies of water;

(4) Wetlands adjacent to the following waters:

  (i) Waters identified in paragraph (a)(1) of this section; or

  (ii) Relatively permanent, standing or continuously flowing bodies of water identified in paragraph (a)(2) or (a)(3) of this section and with a continuous surface connection to those waters;

(5) Intrastate lakes and ponds not identified in paragraphs (a)(1) through (4) of this section that are relatively permanent, standing or continuously flowing bodies of water with a continuous surface connection to the waters identified in paragraph (a)(1) or (a)(3) of this section.

In addition, the amended regulations include eight types of excluded waters (33 CFR 328.3(b)) which are not ''waters of the United States'' even where they otherwise meet the terms of paragraphs (a)(2) through (5) of this section:

(1) Waste treatment systems, including treatment ponds or lagoons, designed to meet the requirements of the Clean Water Act;

(2) Prior converted cropland designated by the Secretary of Agriculture. The exclusion would cease upon a change of use, which means that the area is no longer available for the production of agricultural commodities. Notwithstanding the determination of an area's status as prior converted cropland by any other Federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with EPA;

(3) Ditches (including roadside ditches) excavated wholly in and draining only dry land and that do not carry a relatively permanent flow of water;

(4) Artificially irrigated areas that would revert to dry land if the irrigation ceased;

(5) Artificial lakes or ponds created by excavating or diking dry land to collect and retain water and which are used exclusively for such purposes as stock watering, irrigation, settling basins, or rice growing;

(6) Artificial reflecting or swimming pools or other small ornamental bodies of water created by excavating or diking dry land to retain water for primarily aesthetic reasons;

(7) Waterfilled depressions created in dry land incidental to construction activity and pits excavated in dry land for the purpose of obtaining fill, sand, or gravel unless and until the construction or excavation operation is abandoned and the resulting body of water meets the definition of waters of the United States; and

(8) Swales and erosional features (e.g., gullies, small washes) characterized by low volume, infrequent, or short duration flow.

3.2 Waters of the State

3.2.1 Porter-Cologne Water Quality Control Act of 1969

Most projects involving water bodies or drainages are regulated by the RWQCB, the principal state agency overseeing water quality of the state at the regional and local levels. The survey area is located within the region of the Central Valley RWQCB. RWQCBs are responsible for implementing Section 401 of the CWA as described above in Section 3.1.2, *Clean Water Act*.

In the absence of waters of the United States, waters may be regulated under the Porter-Cologne Water Quality Control Act if project activities, discharges, or proposed activities or discharges could affect California's surface, coastal, or ground waters. The permit submitted by the applicant and issued by the RWQCB is either a water quality certification (in the presence of waters of the United States) or a waste discharge requirement (in the absence of waters of the United States).

The *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State* (State Wetland Definition and Procedures), as prepared by the State Water Resources Control Board, was adopted April 2, 2019, and revised April 6, 2021. The State Wetland Definition and Procedures include a definition for wetland waters of the state and exclusions for certain artificial wetlands.

The Water Boards define an area as wetland as follows:

> *"An area is wetland if, under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation."*

The Water Code defines "waters of the state" broadly to include "any surface water or groundwater, including saline waters, within the boundaries of the state." "Waters of the state" includes all "waters of

the United States." The following wetlands are waters of the state (unless the exclusionary criteria in part d.i-xii are met):

1. Natural wetlands.
2. Wetlands created by modification of a surface water of the state.
3. Artificial wetlands that meet any of the following criteria:
    a. Approved by an agency as compensatory mitigation for impacts to other waters of the state, except where the approving agency explicitly identifies the mitigation as being of limited duration.
    b. Specifically identified in a water quality control plan as a wetland or other water of the state.
    c. Resulted from historic human activity, is not subject to ongoing operation and maintenance, and has become a relatively permanent part of the natural landscape.
    d. Greater than or equal to 1 acre in size, unless the artificial wetland was constructed, and is currently used and maintained, primarily for one or more of the following purposes (i.e., the following artificial wetlands are not waters of the state unless they also satisfy the criteria set forth in 2, 3a, or 3b):
        i. Industrial or municipal wastewater treatment or disposal.
        ii. Settling of sediment.
        iii. Detention, retention, infiltration, or treatment of stormwater runoff and other pollutants or runoff subject to regulation under a municipal, construction, or industrial stormwater permitting program.
        iv. Treatment of surface waters.
        v. Agricultural crop irrigation or stock watering.
        vi. Fire suppression.
        vii. Industrial processing or cooling.
        viii. Active surface mining—even if the site is managed for interim wetlands functions and values.
        ix. Log storage.
        x. Treatment, storage, or distribution of recycled water.
        xi. Maximizing groundwater recharge (this does not include wetlands that have incidental groundwater recharge benefits).
        xii. Fields flooded for rice growing.

3.3 Rivers, Streams, and Lakes

Pursuant to Division 2, Chapter 6, Section 1600 et seq. of the California Fish and Game Code, CDFW regulates all diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake which supports fish or wildlife. A notification of a lake or streambed alteration must be submitted to CDFW for "any activity that may substantially change the bed, channel, or bank of any river, stream, or lake." In addition, CDFW has authority under the Fish and Game Code over wetland and riparian habitats associated with lakes and streams. CDFW reviews proposed actions and, if necessary, submits to the applicant a proposal that includes measures to protect affected fish and wildlife resources.

The final proposal that is mutually agreed upon by CDFW and the applicant is the Lake and Streambed Alteration Agreement.

Fish and Game Code Section 2785 defines riparian habitat as "lands which contain habitat which grows close to and depends upon soil moisture from a nearby freshwater source." Additionally, the CDFW Notification Instructions and Process guide characterizes the riparian zone as "the area that surrounds a channel or lake and supports (or can support) vegetation that is dependent on surface or subsurface flow." Furthermore, this CDFW guide calls for the analysis of impacts on the riparian zone up to the outer landward edge of the drip line of riparian vegetation.

3.4 Kern County General Plan

The Kern County General Plan identifies policies governing the conservation and protection of biological resources that must be considered by Kern County during the decision-making process for projects that have the potential to affect biological resources. The Kern County General Plan includes the following goals related to aquatic resources:

1.10.5 Threatened and Endangered Species

Policies

Policy 32. Riparian areas will be managed in accordance with the USACE and the CDFW rules and regulations to enhance the drainage, flood control, biological, recreational, and other beneficial uses while acknowledging existing land use patterns.

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CHAPTER 4
Methodology

4.1 Pre-Field Review

Prior to completing the aquatic resources delineation, ESA conducted a review of available background information pertaining to the survey area setting. The following resources were reviewed:

- United States Department of Agriculture Natural Resources Conservation Service (NRCS) Web Soil Survey (USDA 2024);
- USGS 7.5' topographic quadrangle map: North of Oildale (USGS 2018);
- Current aerial imagery (Google Earth 2024);
- Precipitation data from the Antecedent Precipitation Tool (APT), (USACE 2021) and Applied Climate Information System (NOAA 2021a);
- The National Wetlands Inventory (NWI) (USFWS 2024); and
- National Hydrography Dataset (NHD), (USGS 2024).

4.2 Survey Methods

A delineation of aquatic resources within the survey area was conducted on November 29 and 30, 2021 by ESA Biologists Amanda French. Survey data were collected using an Eos Arrow 100 Global Navigation Satellite System receiver, which provides Satellite-based Augmentation System corrections processing during the survey and can provide 60 cm real-time horizontal accuracy.

The delineation was conducted by walking throughout the survey area to selected areas where potential jurisdictional features were identified during the literature review. Features that were identified as potentially jurisdictional included, but were not limited to, drainages that had an OHWM and defined channels with bed and bank, as well as potential wetlands evidenced by visible hydrologic indicators and/or hydrophytic vegetation. Additional data, such as landforms, vegetation, hydrology, and soils, were noted where these characteristics were pertinent to identification of features.

Potential jurisdictional features were identified and delineated following current federal and state methodology and guidelines, including waters of the United States, waters of the state, and California Fish and Game Code Section 1600 resources. Survey data forms are included in **Appendix B, Data Sheets**.

4.2.1 Waters of the U.S.

Wetlands

The delineation used the "Routine Determination Method" as described in the 1987 Corps of Engineers Wetland Delineation Manual (Environmental Laboratory 1987), hereafter called the "1987 Manual." The 1987 Manual was used in conjunction with the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0) (USACE 2008a), hereafter called the "Arid West Supplement." For areas where the 1987 Manual and the Arid West Supplement differ, the Arid West Supplement was followed. Wetlands and waters were classified using commonly accepted habitat types; however, the Cowardin classification (Cowardin et al. 1979) of each feature type is noted in the discussion in Chapter 5.

To determine the extent of potential jurisdictional wetlands on a project site, the 1987 Manual and Arid West Supplement were used as a guide for identifying wetland characteristics. Three positive wetland parameters must normally be present for an area to be considered a wetland: (1) a dominance of wetland vegetation, (2) presence of hydric soils, and (3) presence of wetland hydrology. Presence or absence of positive indicators for wetland vegetation, soils, and hydrology was assessed per the 1987 Manual and Arid West Supplement guidelines. No data points were taken as no suspected wetlands were observed.

At each data point, a visual assessment of the dominant plant species within the vegetation community was made. Dominant species were assessed using the recommended "50/20" rule per the Arid West Supplement. Plants were identified to species using The Jepson Manual: Vascular Plants of California, Second Edition (Baldwin et al. 2012). The Arid West 2020 Regional Wetland Plant List (USACE 2020) was used to determine the wetland indicator status of all plants.

Hydric soils were identified using soil indicators presented in the Regional Supplement to the Arid West Supplement and the Field Indicators of Hydric Soils in the United States, Version 8.2 (NRCS 2018). Soils at each data point were characterized by color, texture, organic matter accumulation, and the presence or absence of hydric soil indicators. The coloration of the soil samples, matrix, and mottles is assessed using the Munsell Soil Color Book (Munsell 2000).

The presence of wetland hydrology was determined at each data point by the presence of one or more of the primary and/or secondary indicators, per the guidance of the Arid West Supplement.

Non-wetland (Other) Waters of the United States

Non-wetland waters of the United States extend to the OHWM, defined in 33 CFR 328.3 as the line on the shore established by fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of the soil, destruction of terrestrial vegetation, or the presence of litter and debris. In the Arid West region of the United States, waters are variable and include ephemeral, intermittent, and perennial channel forms. The most problematic ordinary high-water delineations are associated with the commonly occurring ephemeral and intermittent channel forms that dominate the Arid West landscape.

Delineation methods were completed in accordance with A Field Guide to the Identification of the Ordinary High Water Mark in the Arid West Region of the Western United States (USACE 2008b).

Methodology for Applying the Relatively Permanent Standard

The Relatively Permanent Standard (RPS) was applied to determine whether an aquatic resource qualifies as a water of the United States as any of the following:

- **(a)(3) Tributaries** of (a)(1) or (2) waters.
- **(a)(4) Wetlands** adjacent to an RPW (Relatively permanent, standing or continuously flowing bodies of water identified as an as [a][2] or [a][3] water and with a continuous surface connection to those waters).
- **(a)(5) Intrastate lakes and ponds** not identified in paragraphs (a)(1) through (a)(4).

An evaluation of the applicability of the RPS was conducted for:

- Potentially perennial or intermittent streams: Under the RPS for (a)(3) tributaries or (a)(5) lakes and ponds, such aquatic resources must exhibit sufficient flow during certain times of the year. The phrase "certain times of the year" includes extended periods of standing or continuously flowing water occurring in the same geographic feature year after year, except in times of drought. To determine whether the RPS applies, the flow characteristics of each stream were evaluated along the entire reach of the same Strahler stream order (Strahler 1957) (i.e., from the point of confluence, where two lower order streams meet to form the tributary, downstream to the point such tributary enters a higher order stream).

4.2.2 Waters of the State

Waters of the state outside of CWA Section 401 jurisdiction and subject to Porter-Cologne Water Quality Cologne Act were delineated to also include features that convey ephemeral flows. Based on previous experience with the Central Valley RWQCB, waters of the State extend to the TOB; therefore, the limits of non-wetland waters of the State were delineated to the TOB on the north and south banks.

4.2.3 Rivers, Streams, and Lakes

California Fish and Game Code Section 1600 resources were delineated to include bed, bank, and channel up to the top of bank, and/or associated wetlands and riparian vegetation to the outer drip line, whichever is wider.

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CHAPTER 5
Results

All aquatic features within the survey area were analyzed in the field to determine whether each may be considered wetland or non-wetland ("other") waters of the U.S., waters of the State, and/or FGC Section 1600 resources. A total of five aquatic features were identified within the survey area; each resource is described in detail below. Representative photographs are provided in **Appendix C, Representative Site Photographs**.

5.1 Aquatic Resources

Aquatic resources delineated within the survey area include the Cawelo Distribution Canal, two manmade ditches, an ephemeral drainage, and a stormwater feature, which are described below and depicted in **Figures 5-0 through 5-3, Potentially Jurisdictional Aquatic Resources**.

Cawelo Distribution Canal (C-1)

Within the survey area, C-1 is unvegetated, as it is concrete-lined, and no canopy is present. Water was present within the canal during the time of the survey and was approximately 2 to 4 feet in depth.

Ephemeral Drainage 1 (ED-1)

Surface flows from ED-1 are assumed to infiltrate into groundwater at its terminus. ED-1 likely receives surface water runoff from the oil fields and agricultural fields; however, the drainage was dry at the time of the survey and no surface water was present. Within the survey area, the ED-1 streambed is unvegetated with a distinct scour line and is approximately 35 feet in width. Adjacent vegetation includes red brome (*Bromus rubens*; NL [not listed]), Arabian schismus (*Schismus arabicus*; NL), and redstem filaree (*Erodium cicutarium*; NL) which are non-native upland species that are found throughout the survey area. Based on the NWI classification definitions provided in Section 4.1.1, ED-1 is classified as R4SBC as it is an ephemeral stream that seasonally floods.

Manmade Ditch 1 (MD-1)

MD-1 is a manmade ditch located in the field just west of the solar facility on the west side of the survey area. It appears to have been constructed in uplands as the ditch is channelized with constructed banks. The ditch flows north to south before draining to a low point outside of the survey area, infiltrating into groundwater. MD-1 appears to receive surface water runoff from the surrounding fields and roadways; however, the ditch was dry at the time of the survey and no surface water was present. Within the survey area, MD-1 is approximately 15 feet in width and contains sparse vegetation with presence of red brome, Arabian schismus, and redstem filaree. In addition to the presence of upland vegetation within the channel, no signs of an OHWM or wetland indicators were observed concluding that MD-1 likely only conveys flows during large storm events.

Manmade Ditch 2 (MD-2)

MD-2 is another manmade ditch located in the field between CA-65 and the solar facility on the west side of the survey area. The ditch was excavated in uplands on a hillside to direct flows off of the adjacent dirt access road. This is apparent because of the channelization and constructed banks of the ditch. It flows east to west draining to a low point within the survey area. Surface flows from MD-2 likely infiltrate into groundwater at this point as no signs of OHWM or wetland indicators were observed. MD-2 appears to receive surface water runoff from the surrounding fields and dirt access road; however, the ditch was dry at the time of the survey and no surface water was present. Within the survey area, MD-2 is approximately 9 feet in width and contains sparse, herbaceous upland vegetation with presence of red brome, Arabian schismus, and redstem filaree.

Stormwater Feature 1 (SW-1)

SW-1 is a manmade depression located adjacent to the west of the solar facility on the west side of the survey area. The feature appears to have been constructed in uplands to direct and slow stormwater runoff from the solar facility into the adjacent field. It is apparent that the feature was constructed because the depression is a square shape with constructed banks. During heavy rainfall, SW-1 appears to receive stormwater runoff from the solar facility through a small constructed channel on the southeast corner and releases them through an open channel on the west side into the adjacent field where surface flows likely infiltrate into groundwater. SW-1 was dry at the time of the survey and no surface water was present. The feature is approximately 15 to 60 feet in width and was vegetated with red brome, Arabian schismus, and redstem filaree.

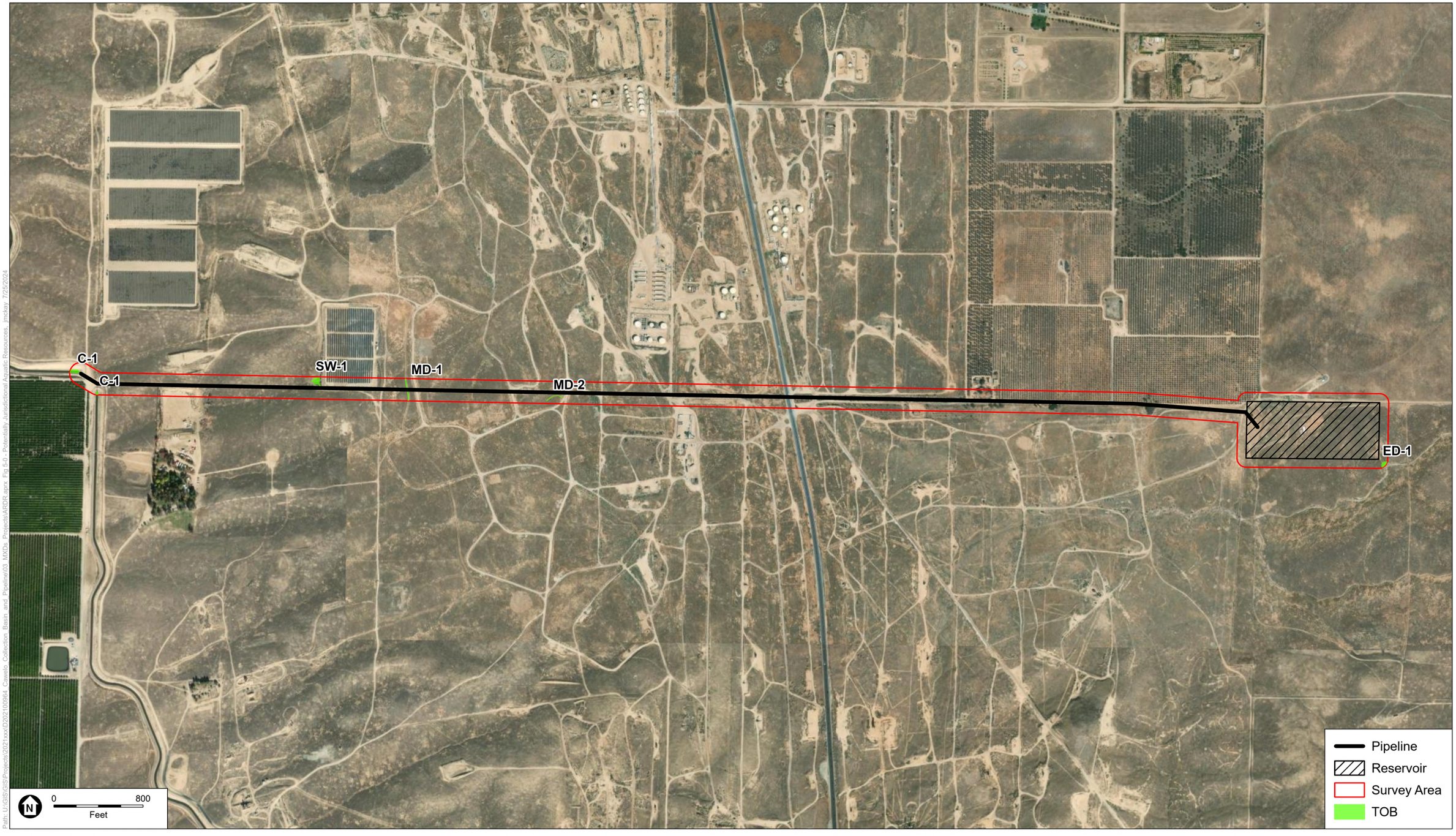
5.2 Waters of the U.S.

Non-jurisdictional (Other) Features

As defined under Section 3.1, under the Revised Definition of Waters of the U.S, there are five categories that are considered jurisdictional waters of the U.S. These categories include (a)(1) territorial seas and waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including waters which are subject to the ebb and flow of the tide, and interstate waters, including interstate wetlands; (a)(2) impoundments of waters of the U.S; (a)(3) tributaries of waters of the U.S that meet the RPS; (a)(4) wetlands adjacent to certain waters that meet the RPS; and (a)(5) intrastate lakes and ponds that meet the RPS.

The canal (C-1) was found to be perennial as it receives water from the Lerdo Canal all year. C-1 was delineated based on the identification of OHWM indicators, which included, but were not limited to water staining along the concrete-lined channel.

ED-1 is an isolated drainage that was found to be ephemeral as it only conveys flows from the surrounding landscape during precipitation events and was dry at the time of the survey. It was delineated based on the identification of OHWM indicators, which included, but were not limited to, a break in slope and changes in particle-sized distribution.



Path: U:\GIS\GIS\Projects\2021xxx\D20210008G4_Cawelo_Collection_Basin_and_Pipeline\03_MXDs_Projects\ARDR.aprx Fig 5-0 - Potentially Jurisdictional Aquatic Resources_jmckay 7/25/2024

SOURCE: ESRI, 2021; ESA, 2021

Cawelo Collection Basin and Pipeline

Figure 5-0
Potentially Jurisdictional Aquatic Resources - Overview

ESA

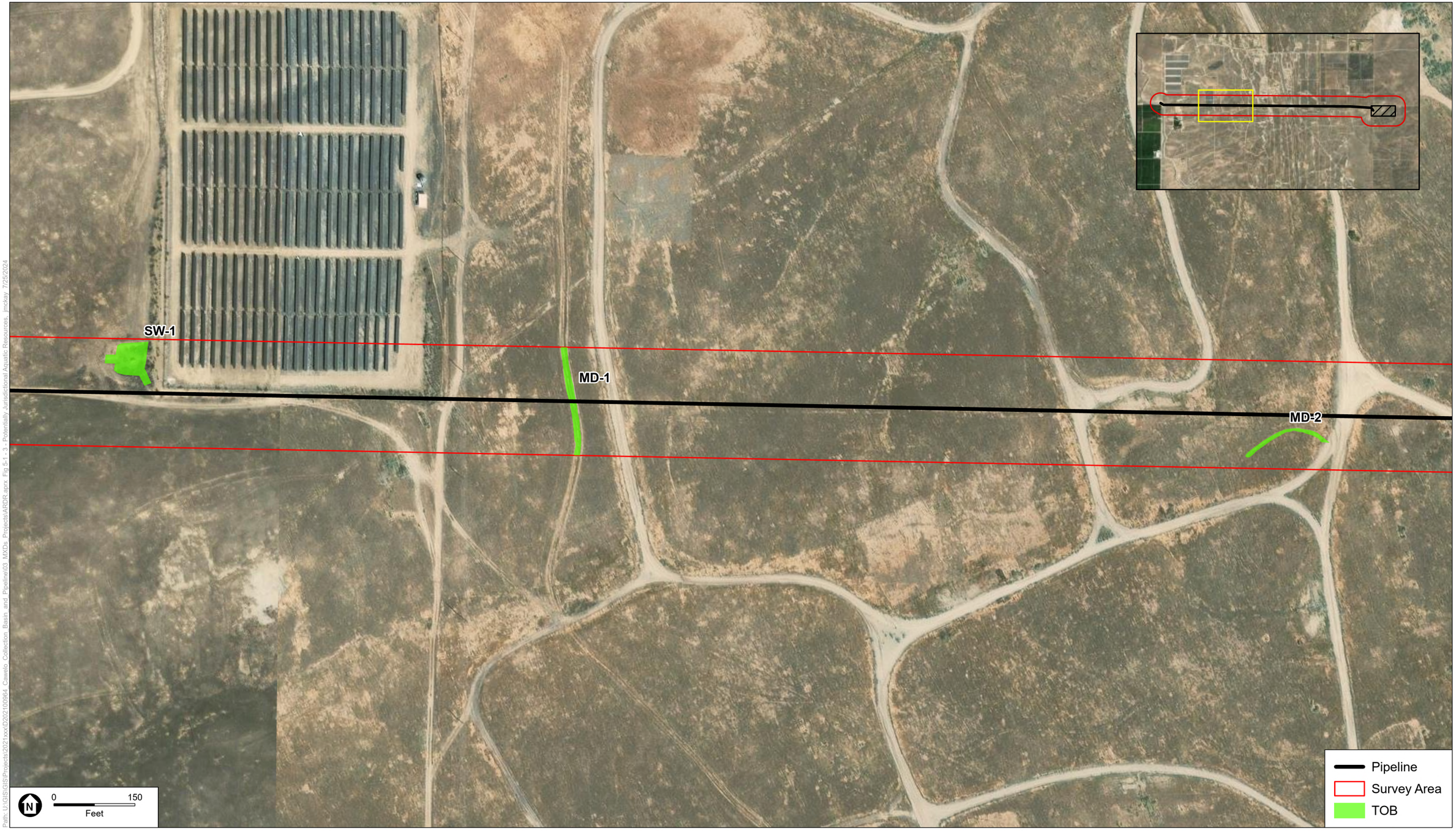
SOURCE: ESRI, 2021; ESA, 2021

Cawelo Collection Basin and Pipeline

Figure 5-1
Potentially Jurisdictional Aquatic Resources

ESA

Path: U:\GIS\GIS\Projects\2021xxx\D20210008\64_Cawelo_Collection_Basin_and_Pipeline\03_MXDs_Projects\ARDR.aprx Fig 5-1 - 3 - Potentially Jurisdictional Aquatic Resources_jmckay 7/25/2024



Path: U:\GIS\GIS\Projects\2021xxxID\20210064_Cawelo_Collection_Basin_and_Pipeline\03_MXDs_Projects\ARDR.aprx Fig 5-1 - 3 - Potentially Jurisdictional Aquatic Resources_jmckay 7/25/2024

SOURCE: ESRI, 2021; ESA, 2021

Cawelo Collection Basin and Pipeline

Figure 5-2
Potentially Jurisdictional Aquatic Resources

ESA

Path: U:\GIS\GIS\Projects\2021xxx\D2021009\64_Cawelo_Collection_Basin_and_Pipeline\03_MXDs_Projects\ARDR.aprx Fig 5-1 - 3 - Potentially Jurisdictional Aquatic Resources_ jmckay 7/25/2024

SOURCE: ESRI, 2021; ESA, 2021

Cawelo Collection Basin and Pipeline

Figure 5-3
Potentially Jurisdictional Aquatic Resources

ESA

MD-1, MD-2, and SW-1 are isolated ditches constructed in uplands (excavated on dry land), as made apparent by the constructed berms around the features, to direct water to low points away from solar facilities and roads. All three features were dry at the time of the survey and had upland vegetation growing in them showing that they had been dry for an extended period of time. Therefore, it was determined that these features are ephemeral.

Under the RPS for (a)(3) tributaries, aquatic resources must exhibit sufficient flow during certain times of the year. The phrase "certain times of the year" includes extended periods of standing or continuously flowing water occurring in the same geographic feature year after year, except in times of drought. In addition, these aquatic resources must connect to (a)(1) waters or (a)(3)(i) tributaries that are relatively permanent standing or continuously flowing bodies of waters. As discussed in the hydrology section, NHD characterizes C-1 as a canal and ED-1 as an ephemeral stream. In addition, as described in the hydrology section, C-1 flows generally north through the survey area ending 3.5 miles north of the survey area just south of Poso Creek where it is piped north to agricultural fields north of Poso Creek. E-1 flows east to west through the agricultural fields and oil fields adjacent to the east and south of the survey area and ends with no further conveyance within the oil fields on the west side of CA-65 due to the higher topography of the landscape and surrounding highways. Surface flows are assumed to infiltrate into groundwater at this point. MD-1, MD-2, and SW-1 are all ephemeral, isolated ditches.

Based on this information, C-1, ED-1, MD-1, MD-2, and SW-1 are not considered to be RPWs with a CSC to a downstream water of the U.S. and are therefore not potential tributaries under paragraph (a)(3).

5.3 Waters of the State

5.3.1 Potential Non-wetland Waters of the State

No state wetlands (as defined in the procedures) were present in the survey area. However, the Central Valley RWQCB asserts jurisdiction to TOB limits over non-federal waters pursuant to the Porter-Cologne Water Quality Control Act. All of the features (C-1, ED-1, MD-1, MD-2, and SW-1) are likely to be considered waters of the State under the Porter-Cologne Water Quality Control Act. The canal (C-1) contained approximately 2 to 4 feet of water during the survey, whereas the drainage, manmade ditches, and stormwater feature were dry at the time of the aquatic resources delineation and no surface water was observed. The TOB width for C-1 was approximately 25 feet on average. The width of the TOB width for ED-1 was 80 feet, MD-1 was 15 feet, MD-2 was 9 feet, and SW-1 was 15 to 60 feet based on an apparent break in slope observed along either side of the features. A total of approximately 0.3 acres of waters of the state were delineated in the survey area.

Waters of the state subject to Porter-Cologne Water Quality Control Act are summarized in **Table 5-1** and depicted in **Figures 5-0 through 5-3**.

TABLE 5-1
POTENTIAL OTHER WATERS OF THE STATE AND FGC 1600 RESOURCES WITHIN THE SURVEY AREA

Aquatic Feature	Figure	Cowardin Type	TOB (feet)	Linear Feet	Acres
C-1	5-1	Riverine Intermittent	25	140	0.08
ED-1	5-3	Riverine Intermittent	80	65	0.04
MD-1	5-2	Riverine Intermittent	15	215	0.06
MD-2	5-2	Riverine Intermittent	9	165	0.03
SW-1	5-2	Riverine Intermittent	15-60	100	0.09
TOTAL ACREAGE				**685**	**0.30**

5.4 Rivers, Streams, and Lakes

Potential features subject to regulation under FGC Section 1600 et seq. within the survey area are the same as the aquatic resources described for waters of the state. Table 5-1 provides the extent of potential jurisdiction within the survey area. Mapped features, including width of the feature, were based on the TOB on both banks of the feature, as shown in **Figures 5-0 through 5-3**.

The five delineated aquatic features are likely subject to CDFW jurisdiction based on bed, bank, and channel characteristics. Approximately 0.3 acres (685 linear feet) of CDFW jurisdiction was delineated in the survey area.

5.5 Conclusions

Based on the results of the aquatic resources delineation and the jurisdictional analysis, it is presumed that 0.3 acres (685 linear feet) of potential other (non-wetland) waters of the state and aquatic resources potentially jurisdictional under 1600 et seq. of the FGC occur within the survey area. No potential waters of the U.S. were identified.

This report documents the aquatic resources boundary delineation and best professional judgment of ESA investigators. The extent of jurisdictional boundaries identified are considered preliminary pending verification from the appropriate regulatory agencies.

CHAPTER 6
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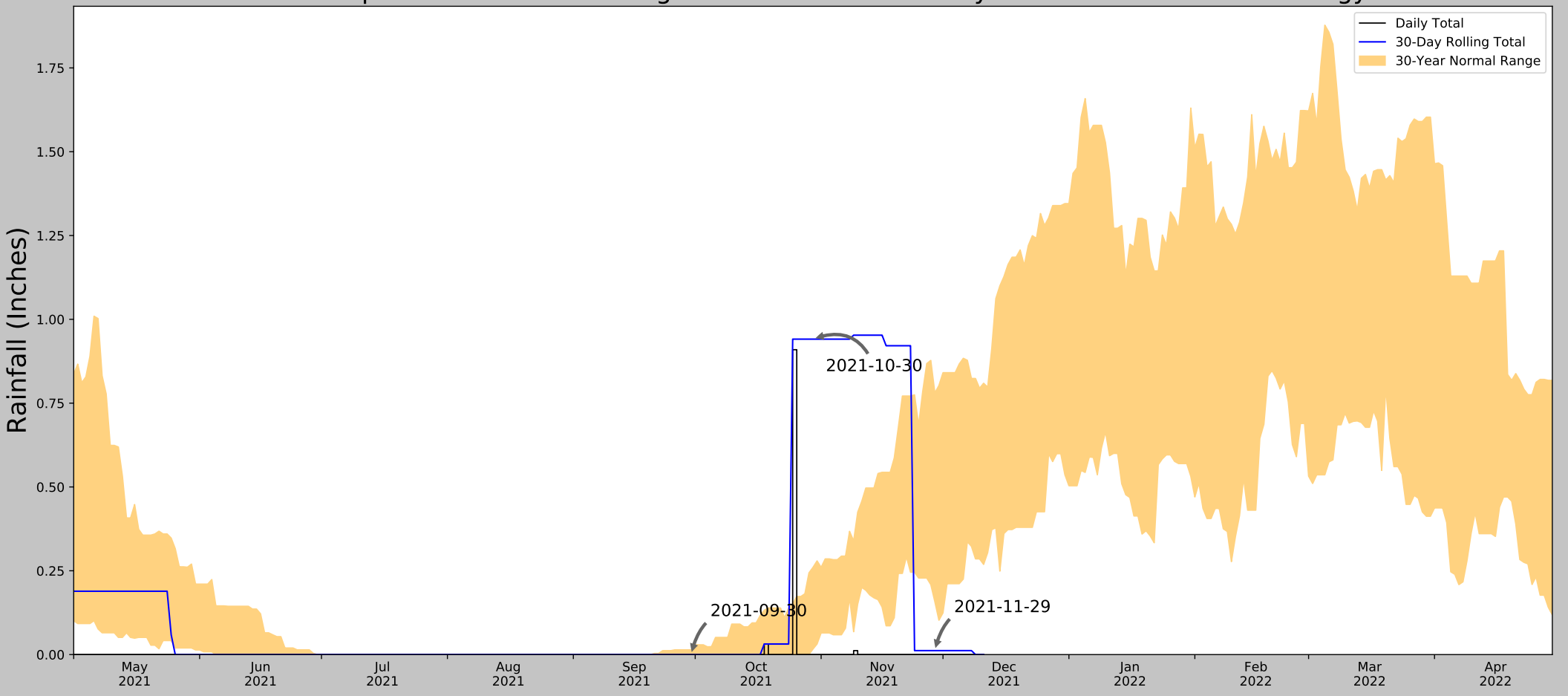
Appendix A
Antecedent Precipitation Results

Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



Coordinates	35.513917, -119.078201
Observation Date	2021-11-29
Elevation (ft)	713.9
Drought Index (PDSI)	Extreme drought
WebWIMP H_2O Balance	Dry Season

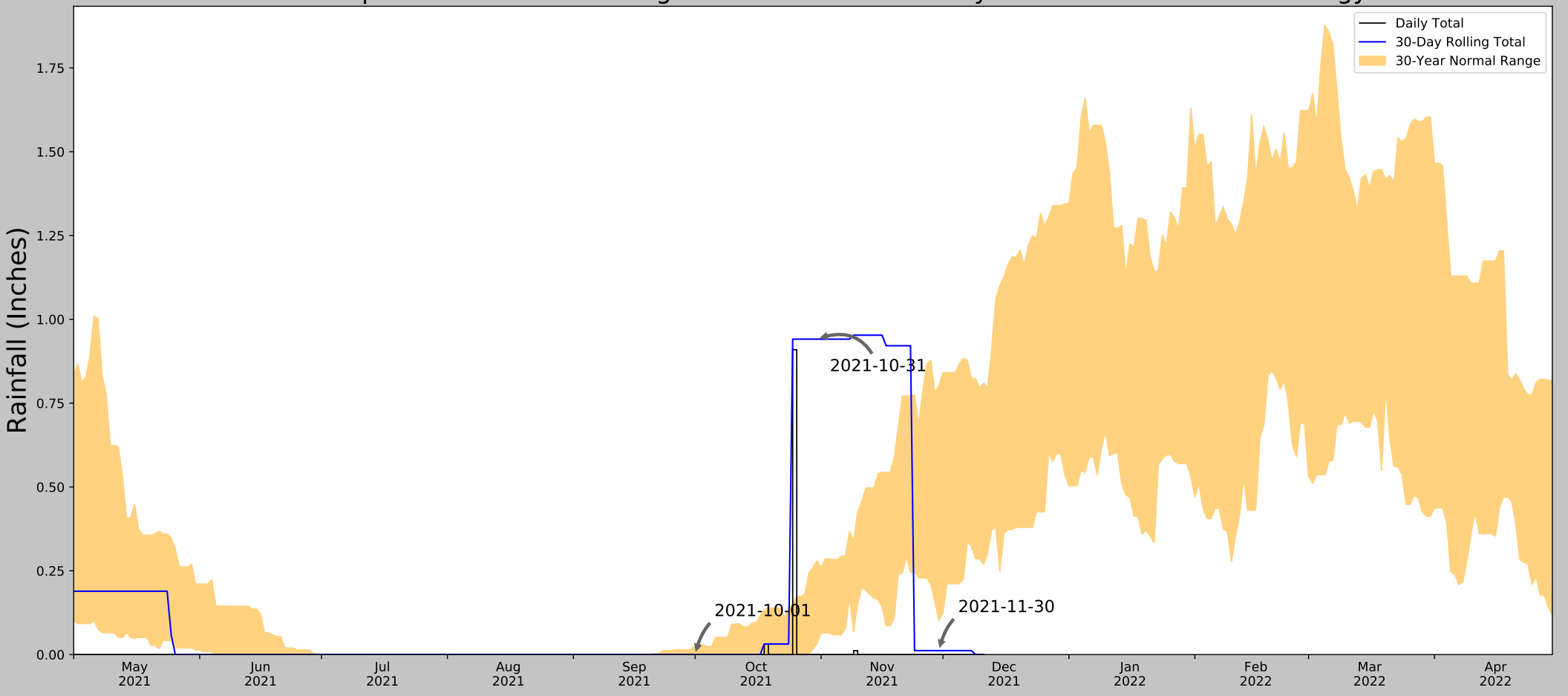
30 Days Ending	30^{th} %ile (in)	70^{th} %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2021-11-29	0.15748	0.780709	0.011811	Dry	1	3	3
2021-10-30	0.016535	0.260236	0.940945	Wet	3	2	6
2021-09-30	0.0	0.014173	0.0	Normal	2	1	2
Result							Normal Conditions - 11

Figure and tables made by the **Antecedent Precipitation Tool** Version 1.0

Written by Jason Deters
U.S. Army Corps of Engineers

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days (Normal)	Days (Antecedent)
BAKERSFIELD AP	35.4344, -119.0542	488.845	5.658	225.055	3.819	11353	90

Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



Coordinates	35.513917, -119.078201
Observation Date	2021-11-30
Elevation (ft)	713.9
Drought Index (PDSI)	Extreme drought
WebWIMP H_2O Balance	Dry Season

30 Days Ending	30^{th} %ile (in)	70^{th} %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2021-11-30	0.102362	0.802756	0.011811	Dry	1	3	3
2021-10-31	0.031496	0.279528	0.940945	Wet	3	2	6
2021-10-01	0.0	0.029134	0.0	Normal	2	1	2
Result							Normal Conditions - 11

Figure and tables made by the **Antecedent Precipitation Tool** Version 1.0

Written by Jason Deters
U.S. Army Corps of Engineers

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days (Normal)	Days (Antecedent)
BAKERSFIELD AP	35.4344, -119.0542	488.845	5.658	225.055	3.819	11353	90

Antecedent Precipitation Tool v.1.0 - Watershed Sampling Summary

Generated on 2021-12-13

User Inputs

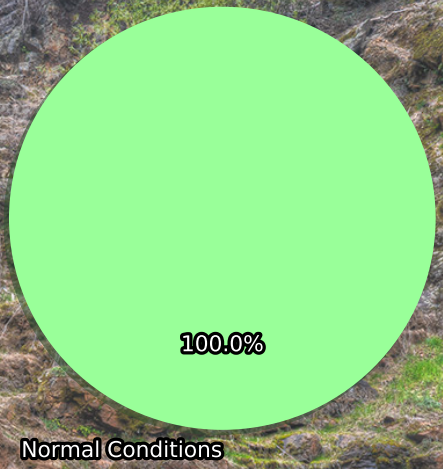
Coordinates	35.513917, -119.078201
Date	2021-11-29
Geographic Scope	HUC12

Intermediate Data

Hydrologic Unit Code	180300040306
Watershed Size	32.19 mi^2
# Random Sampling Points	4

Preliminary Result

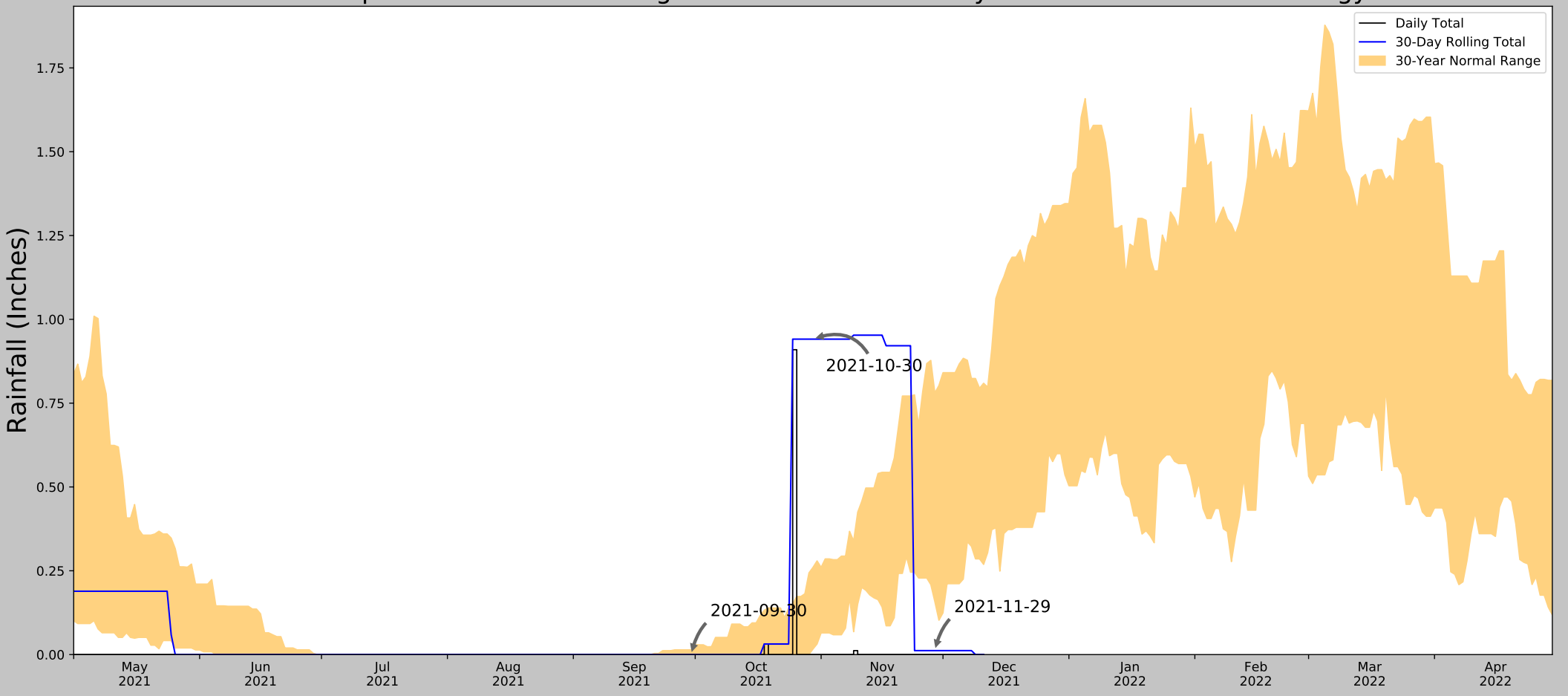
Average Antecedent Precipitation Score	11.0
Preliminary Determination	Normal Conditions



Sampling Point Breakdown

Antecedent Precipitation Score	Antecedent Precipitation Condition	WebWIMP H_2O Balance	Drought Index (PDSI)	# of Points
11	Normal Conditions	Dry Season	Extreme drought	4

Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



Coordinates	35.513917, -119.078201
Observation Date	2021-11-29
Elevation (ft)	713.9
Drought Index (PDSI)	Extreme drought
WebWIMP H_2O Balance	Dry Season

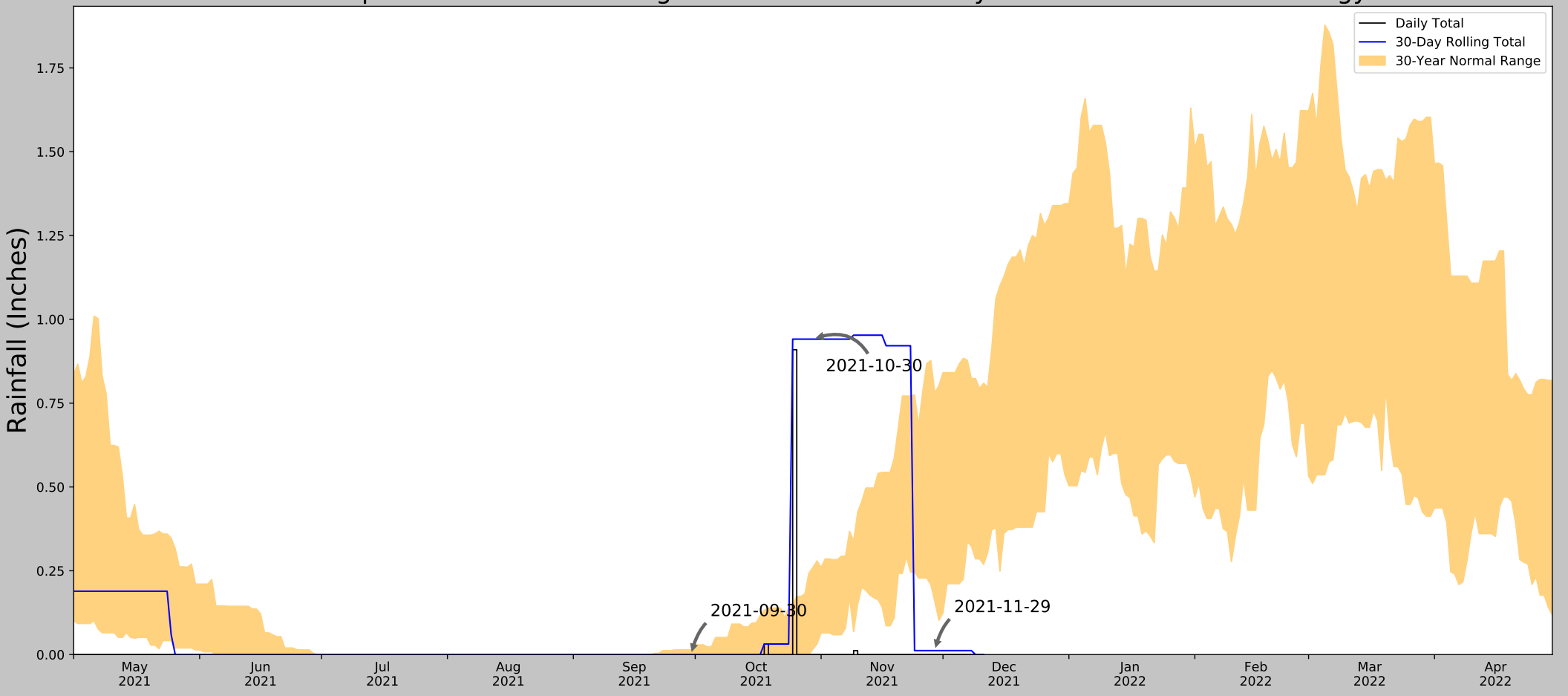
30 Days Ending	30^{th} %ile (in)	70^{th} %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2021-11-29	0.15748	0.780709	0.011811	Dry	1	3	3
2021-10-30	0.016535	0.260236	0.940945	Wet	3	2	6
2021-09-30	0.0	0.014173	0.0	Normal	2	1	2
Result							Normal Conditions - 11

Figure and tables made by the **Antecedent Precipitation Tool** Version 1.0

Written by Jason Deters
U.S. Army Corps of Engineers

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days (Normal)	Days (Antecedent)
BAKERSFIELD AP	35.4344, -119.0542	488.845	5.658	225.055	3.819	11353	90

Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



Coordinates	35.597951, -118.97886
Observation Date	2021-11-29
Elevation (ft)	1265.73
Drought Index (PDSI)	Extreme drought
WebWIMP H_2O Balance	Dry Season

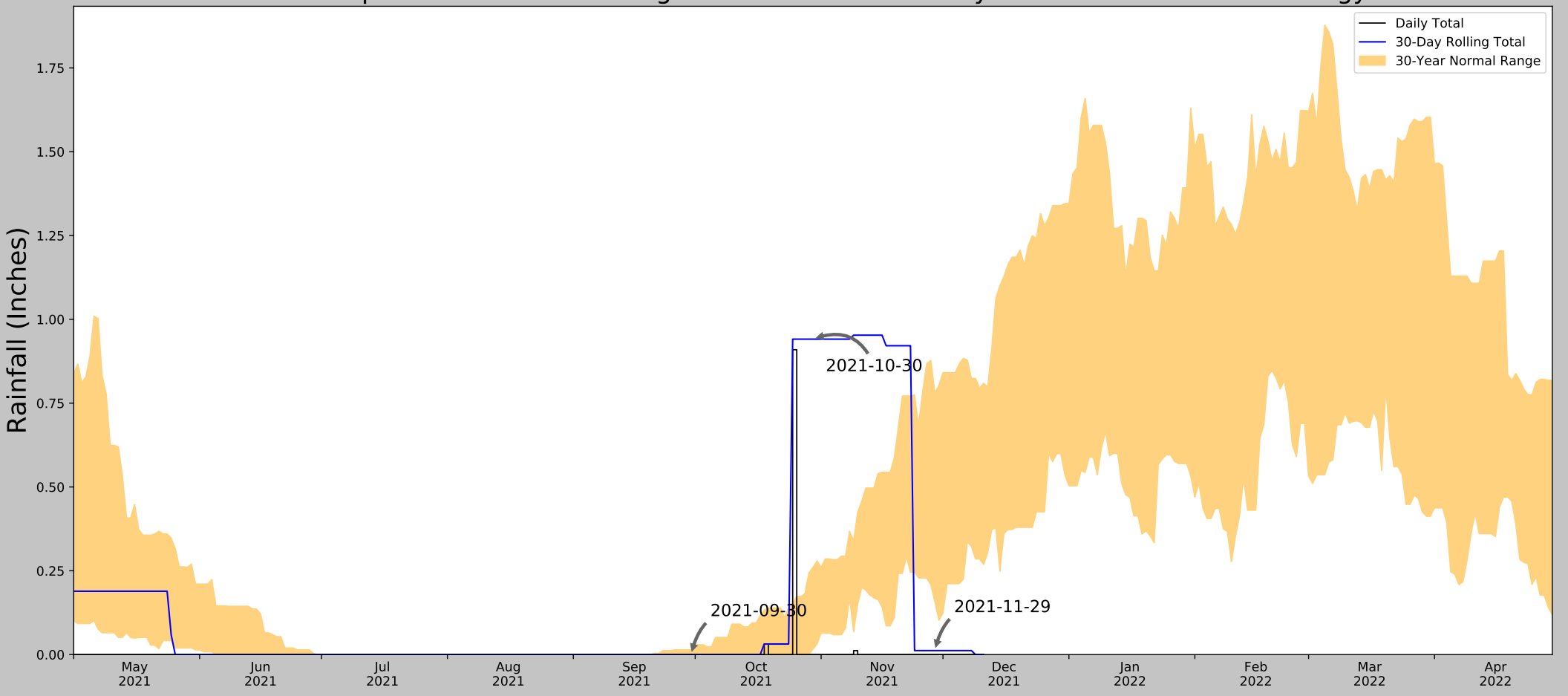
30 Days Ending	30^{th} %ile (in)	70^{th} %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2021-11-29	0.15748	0.780709	0.011811	Dry	1	3	3
2021-10-30	0.016535	0.260236	0.940945	Wet	3	2	6
2021-09-30	0.0	0.014173	0.0	Normal	2	1	2
Result							Normal Conditions - 11

Figure and tables made by the **Antecedent Precipitation Tool** Version 1.0

Written by Jason Deters
U.S. Army Corps of Engineers

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days (Normal)	Days (Antecedent)
BAKERSFIELD AP	35.4344, -119.0542	488.845	12.069	776.885	14.807	11353	90

Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



Coordinates	35.543534, -119.048619
Observation Date	2021-11-29
Elevation (ft)	677.85
Drought Index (PDSI)	Extreme drought
WebWIMP H_2O Balance	Dry Season

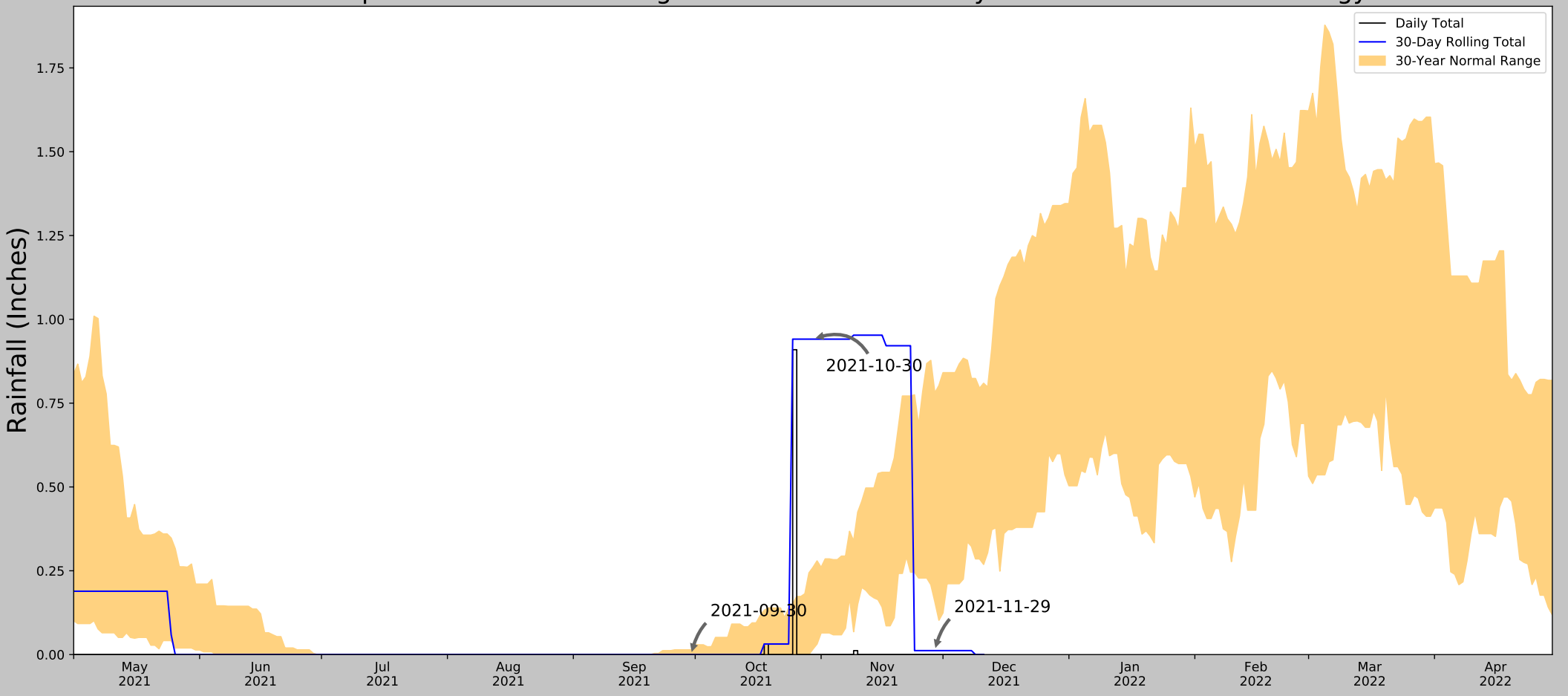
30 Days Ending	30^{th} %ile (in)	70^{th} %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2021-11-29	0.15748	0.780709	0.011811	Dry	1	3	3
2021-10-30	0.016535	0.260236	0.940945	Wet	3	2	6
2021-09-30	0.0	0.014173	0.0	Normal	2	1	2
Result							Normal Conditions - 11

Figure and tables made by the **Antecedent Precipitation Tool** Version 1.0

Written by Jason Deters
U.S. Army Corps of Engineers

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days (Normal)	Days (Antecedent)
BAKERSFIELD AP	35.4344, -119.0542	488.845	7.547	189.005	4.823	11353	90

Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



Coordinates	35.59779, -119.064693
Observation Date	2021-11-29
Elevation (ft)	847.36
Drought Index (PDSI)	Extreme drought
WebWIMP H_2O Balance	Dry Season

30 Days Ending	30^{th} %ile (in)	70^{th} %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2021-11-29	0.15748	0.780709	0.011811	Dry	1	3	3
2021-10-30	0.016535	0.260236	0.940945	Wet	3	2	6
2021-09-30	0.0	0.014173	0.0	Normal	2	1	2
Result							Normal Conditions - 11

Figure and tables made by the **Antecedent Precipitation Tool** Version 1.0

Written by Jason Deters
U.S. Army Corps of Engineers

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days (Normal)	Days (Antecedent)
BAKERSFIELD AP	35.4344, -119.0542	488.845	11.305	358.515	9.14	11353	90

Appendix B
Data Sheets

Project: CAMELO COLLECTION BASIN PIPELINE
Project Number: D20210096 4
Stream: UNNAMED ED-1
Investigator(s): A. FRENCH

Date: 11/29/21
Town: KERN COUNTY
Photo begin file# COLLECTOR

Time: 10 AM
State: CA
Photo end file# COLLECTOR

Y ☒ / N ☐ Do normal circumstances exist on the site?

Y ☐ / N ☒ Is the site significantly disturbed?

Location Details: WITHIN GRAZING AREA WITH OIL FIELDS

Projection: **Datum:**
Coordinates: COLLECTOR

Notes: THIS DRAINAGE FLOWS EAST-WEST THROUGH GRAZING LANDS INTO AN OIL FIELD. HUMAN DISTURBANCE EXISTS IN THE FORM OF CHANNEL MODIFICATION AS THE EIGHT BANK HAS BEEN BUILT UP LIKELY TO REDUCE EROSION. ADDITIONALLY, CATTLE WALK THROUGH THE DRAINAGE FOR GRAZING.

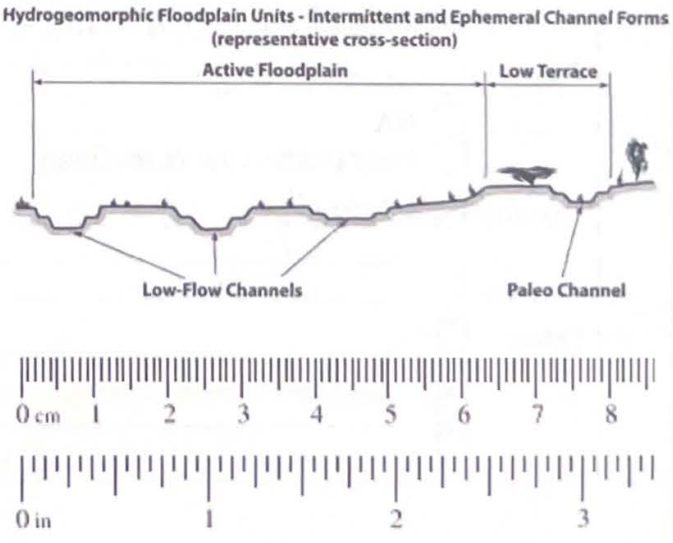
Brief site description: THE SURROUNDING LAND IS DOMINATED BY NON-NATIVE HERBACEOUS COVER. THE DRAINAGE IS LOCATED SOUTH OF THE PROPOSED RESERVOIR DOWNSLOPE OF THE PROJECT AREA.

Checklist of resources (if available):

- ☒ Aerial photography
  Dates: 1985 - PRESENT
- ☒ Topographic maps
  Scale:
- ☐ Geologic maps
- ☐ Vegetation maps
- ☒ Soils maps
- ☐ Rainfall/precipitation maps
- ☐ Existing delineation(s) for site
- ☒ Global positioning system (GPS)
- ☐ Other studies
- ☐ Stream gage data
  Gage number:
  Period of record:
- ☐ Clinometer / level
- ☐ History of recent effective discharges
- ☐ Results of flood frequency analysis
- ☐ Most recent shift-adjusted rating
- ☐ Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event

The dominant Wentworth size class that imparts a characteristic texture to each zone of a channel cross-section is recorded in the average sediment texture field under the characteristics section for the zone of interest.

Millimeters (mm)	Inches (in)	Wentworth size class	
10.08	256	Boulder	
2.56	64	Cobble	Gravel
0.157	4	Pebble	
0.079	2.00	Granule	
0.039	1.00	Very coarse sand	
0.020	0.50	Coarse sand	
1/2 0.0098	0.25	Medium sand	Sand
1/4 0.005	0.125	Fine sand	
1/8 0.0025	0.0625	Very fine sand	
1/16 0.0012	0.031	Coarse silt	
1/32 0.00061	0.0156	Medium silt	Silt
1/64 0.00031	0.0078	Fine silt	
1/128 0.00015	0.0039	Very fine silt	
		Clay	Mud



☒ **Walk the channel and floodplain within the study area to get an impression of the vegetation and geomorphology present at the site. Record any potential anthropogenic influences on the channel system in "Notes" above.**

☒ **Locate the low-flow channel (lowest part of the channel). Record observations.**

Characteristics of the low-flow channel:

Average sediment texture: VERY COARSE SAND

Total veg cover: 1 % Tree: 0 % Shrub: 0 % Herb: 1 %

Community successional stage:

- ☐ NA
- ☒ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Dominant species present: RED BROME, ARABIAN SCHISMOS, ERODIUM SP.

Other:

- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____

☒ **Walk away from the low-flow channel along cross-section. Record characteristics of the low-flow/active floodplain boundary.**

Characteristics used to delineate the low-flow/active floodplain boundary:

- ☒ Change in total veg cover
- ☐ Tree
- ☐ Shrub
- ☒ Herb
- ☐ Change in overall vegetation maturity
- ☐ Change in dominant species present
- ☐ Other
  - ☒ Presence of bed and bank
  - ☐ Drift and/or debris
  - ☐ Other: _____
  - ☐ Other: _____

☐ **Continue walking the channel cross-section. Record observations below.**

Characteristics of the low-flow channel:

Average sediment texture: _____

Total veg cover: _____ % Tree: _____ % Shrub: _____ % Herb: _____ %

Community successional stage:

- ☐ NA
- ☐ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Dominant species present: _____

Other:

- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____

☐ **Continue walking the channel cross-section. Record indicators of the active floodplain/low terrace boundary.**

Characteristics used to delineate the active floodplain/ low terrace boundary:

- ☐ Change in average sediment texture
- ☐ Change in total veg cover ☐ Tree ☐ Shrub ☐ Herb
- ☐ Change in overall vegetation maturity
- ☐ Change in dominant species present
- ☐ Other ☐ Presence of bed and bank
  - ☐ Drift and/or debris
  - ☐ Other: _____
  - ☐ Other: _____

☒ **Walk the active floodplain/low terrace boundary both upstream and downstream of the cross-section to verify that the indicators used to identify the transition are consistently associated the transition in both directions.**

Consistency of indicators used to delineate the active floodplain/low terrace boundary:

- Y ☒ N ☐ Change in average sediment texture
- Y ☒ N ☐ Change in total veg cover ☐ Tree ☐ Shrub ☒ Herb
- Y ☐ N ☐ Change in overall vegetation maturity
- Y ☐ N ☐ Change in dominant species present
- Y ☐ N ☐ Other: Y ☒ N ☐ Presence of bed and bank
  - Y ☐ N ☐ Drift and/or debris
  - Y ☐ N ☐ Other: _____
  - Y ☐ N ☐ Other: _____

☐ **If the characteristics used to delineate the active floodplain/low terrace boundary were NOT consistently associated with the transition in both the upstream and downstream directions, repeat all steps above.**

☐ **Continue walking the channel cross-section. Record characteristics of the low terrace.**

Characteristics of the low terrace:

Average sediment texture: _____

Total veg cover: _____ % Tree: _____% Shrub: _____% Herb: _____%

Community successional stage:

- ☐ NA
- ☐ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Dominant species present: _____

_____

_____

Other:

- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____

☒ **If characteristics used to delineate the active floodplain/low terrace boundary were deemed reliable, acquire boundary.**

Active floodplain/low terrace boundary acquired via:

- ☐ Mapping on aerial photograph
- ☒ GPS
- ☐ Digitized on computer
- ☐ Other: _____

Appendix C
Representative Site Photographs

Photo 1. North end of concrete-lined channel (C-1) that flows west to east through the survey area.

Photo 2. South end of concrete-lined channel (C-1) that flows north to south through the survey area.

Photo 3. Bend in ED-1 located adjacent to the southeast corner of the survey area.

Photo 4. MD-1 located within the western portion of the survey area facing north toward the survey area.

Photo 5. MD-2 from southeast corner facing northwest within the western portion of the survey area.

Photo 6. SW-1 from the south facing northwest into the survey area.

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Appendix C
Flora Compendium

TABLE C-1
FLORA COMPENDIUM

Family	Scientific Name	Common Name	Nativity	Status
ASTERACEAE		**SUNFLOWER FAMILY**		
	Centaurea solstitialis	yellow star thistle	Naturalized	
	Isocoma acradenia var. *bracteosa*	bracted alkali goldenbush	Native	
BORAGINACEAE		**BORAGE FAMILY**		
	Amsinckia menziesii	common fiddleneck, small-flowered fiddleneck	Native	
BRASSICACEAE		**MUSTARD FAMILY**		
	Brassica nigra	black mustard	Naturalized	
	Sisymbrium irio	London rocket	Naturalized	
CHENOPODIACEAE		**GOOSEFOOT FAMILY**		
	Atriplex polycarpa	allscale saltbush	Native	
	Salsola tragus	Russian thistle, tumbleweed	Naturalized	
EUPHORBIACEAE		**SPURGE FAMILY**		
	Croton setiger	turkey-mullein	Native	
FABACEAE		**LEGUME FAMILY**		
	Astragalus oxyphysus	Stanislaus milkvetch	Native	
GERANIACEAE		**GERANIUM FAMILY**		
	Erodium cicutarium	redstem filaree	Naturalized	
LAMIACEAE		**MINT FAMILY**		
	Marrubium vulgare	white horehound	Naturalized	
MALVACEAE		**LOOSESTRIFE FAMILY**		
	Malva parviflora	cheeseweed	Naturalized	
POACEAE		**GRASS FAMILY**		
	Bromus diandrus	ripgut grass	Naturalized	
	Bromus rubens	Red brome	Naturalized	
	Bromus tectorum	cheat grass, downy chess	Naturalized	
	Schismus arabicus	Arabian schismus	Naturalized	
SOLANACEAE		**NIGHTSHADE FAMILY**		
	Datura wrightii	jimsonweed	Native	
	Solanum elaeagnifolium	white horse-nettle	Naturalized	

Key to Species Listing Status Codes

FE	Federally Endangered	SE	State Listed as Endangered
FT	Federally Threatened	ST	State Listed as Threatened
FC	Federal Candidate	SCE	State Candidate for Endangered
FPE	Federally Proposed as Endangered	SCT	State Candidate for Threatened
FPT	Federally Proposed as Threatened	SFP	State Fully Protected
FPD	Federally Proposed for Delisting		

California Native Plant Society (CNPS)

Rank 1A: Presumed extirpated in California and either Rare or Extinct elsewhere.
Rank 1B: Rare, threatened, or endangered throughout their range.
Rank 2A: Presumed extirpated in California, but more common elsewhere.
Rank 2B: Rare, threatened, or endangered in California, but more common in other states.
Rank 3: Plant species for which additional information is needed before rarity can be determined.
Rank 4: Species of limited distribution in California (i.e., naturally rare in the wild), but whose existence does not appear to be susceptible to threat.

New Threat Code extensions and their meanings:

1 Seriously endangered in California (over 80% of occurrences threatened / high degree and immediacy of threat)
2 Fairly endangered in California (20-80% occurrences threatened
3 Not very endangered in California (<20% of occurrences threatened or no current threats known)

SOURCE: ESA 2021.

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Appendix D

Special-Status Plant Species – Potential to Occur within the Biological Study Area

TABLE D-1
SPECIAL-STATUS PLANT SPECIES – POTENTIAL TO OCCUR WITHIN THE BIOLOGICAL STUDY AREA

Scientific Name	Common Name	Flowering Period	CNPS	State	Federal	Preferred Habitat	Potential for Occurrence[1]
Angiosperms (Dicotyledons)							
Astragalus hornii var. *hornii*	Horn's milk-vetch	May–Oct	1B.1	None	None	Meadows and seeps, Playas. Lake margins, alkaline sites. Elevation range: 195–2,790 feet.	**Not Expected.** Suitable habitat is not present within the BSA. There are no Calflora or CNDDB records of this species within 5 miles of the BSA.
Atriplex cordulata var. *erecticaulis*	Earlimart orache	Aug–Sep(Nov)	1B.2	None	None	Valley and foothill grassland. Elevation range: 130–330 feet.	**Not Expected.** Suitable habitat is not present within the BSA. There are no Calflora or CNDDB records of this species within 5 miles of the BSA.
Caulanthus californicus	California jewelflower	Feb–May	1B.1	CE	FE	Chenopod scrub, Pinyon and juniper woodland, Valley and foothill grassland in sandy soils. Elevation range: 200–3,280 feet.	**Not Expected.** Limited suitable chenopod habitat exists within the BSA. However, chenopod habitat present is highly disturbed. There are no Calflora or CNDDB records of this species within 5 miles of the BSA.
Chloropyron molle *ssp.* hispidum	hispid salty bird's-beak		1B.1	None	None	Alkali playa; meadow & seep; wetland. Meadows and seeps, playas, valley and foothill grassland in damp alkaline soils, especially in alkaline meadows and alkali sinks with Distichlis. Elevation range: 16–508 feet.	**Not Expected.** No suitable alkali habitat is present within the BSA.
Delphinium recurvatum	recurved larkspur	Mar–Jun	1B.2	None	None	Chenopod scrub, Cismontane woodland, Valley and foothill grassland. On alkaline soils; often in valley saltbush or valley chenopod scrub. Elevation range: 10–2,590 feet.	**Not Expected.** Limited suitable chenopod habitat exists within the BSA. However, chenopod habitat present is highly disturbed. There are no Calflora or CNDDB records of this species within 5 miles of the BSA.
Diplacus pictus	calico monkeyflower	Mar–May	1B.2	None	None	Broadleaved upland forest; cismontane woodland in bare ground around gooseberry bushes or around granite rock outcrops. Elevation range: 180–1,280 m.	**Not Expected.** No suitable forest or woodland habitat is present within the BSA.

[1] **Present:** Species was observed or detected during Program-specific biological surveys. **High:** Species identified in the literature search and/or known to occur in the region and suitable habitat is present on the Program site. These species are generally common and/or widespread in the Program area and vicinity. **Moderate:** Species identified in the literature search and/or known to occur in the region and suitable habitat is present within the Program site. These species are generally less common and/or widespread than species considered to have "high" potential to occur. **Low:** Species identified in the literature search or known to occur in the region, but the habitat on site is of low or marginal quality and/or the Program site occurs outside the species known geographic or elevational range. Distance to nearest known occurrence and the age of last reported local occurrence are also considered. **Not Expected:** Species identified in the literature search or known to occur in the region, but the habitat on site is not suitable for the species.

Scientific Name	Common Name	Flowering Period	CNPS	State	Federal	Preferred Habitat	Potential for Occurrence[1]
Eremalche parryi *ssp.* kernensis	Kern mallow	Jan(Feb)Mar–May	1B.2	None	FE	Chenopod scrub, Pinyon and juniper woodland, Valley and foothill grassland. On dry, open, sandy to clay soils; usually within valley saltbush scrub; often at edge of balds. Elevation range: 230–4,230 feet.	**Not Expected.** Limited suitable chenopod habitat exists within the BSA. However, chenopod habitat present is highly disturbed. There are no Calflora or CNDDB records of this species within 5 miles of the BSA.
Eriastrum hooveri	Hoover's eriastrum	Mar–Jul	4.2	None	FD	Chenopod scrub, Pinyon and juniper woodland, Valley and foothill grassland On sparsely vegetated alkaline alluvial fans; also in the Temblor Range on sandy soils. Elevation range: 165–3,000 feet.	**Not Expected.** Limited suitable chenopod habitat exists within the BSA. However, chenopod habitat present is highly disturbed. There are no Calflora or CNDDB records of this species within 5 miles of the BSA.
Eryngium spinosepalum	spiny-sepaled button celery	Apr–Jun	1B.2	None	None	Valley and foothill grassland, vernal pools. Elevation range: 260–3,200 feet.	**Not Expected.** No suitable vernal pool habitat is present within the BSA.
Eschscholzia lemmonii *ssp.* kernensis	Tejon poppy	(Feb)Mar–May	1B.1	None	None	Chenopod scrub, Valley and foothill grassland. Little information available on habitat. Elevation range: 525–3,280 feet.	**Not Expected.** Limited suitable chenopod habitat exists within the BSA. However, chenopod habitat present is highly disturbed. There are no Calflora or CNDDB records of this species within 5 miles of the BSA.
Layia leucopappa	Comanche Point layia	Mar–Apr	1B.1	None	None	Chenopod scrub, Valley and foothill grassland. Elevation Range: 330–1,150 feet.	**Not Expected.** Limited suitable chenopod habitat exists within the BSA. However, chenopod habitat present is highly disturbed. There are no Calflora or CNDDB records of this species within 5 miles of the BSA.
Monolopia congdonii	San Joaquin woollythreads	Feb–May	1B.2	None	FE	Chenopod scrub, valley and foothill grassland in alkaline or loamy plains, sandy soils, often with grasses and within chenopod scrub. Elevation range: 195–2,625 feet.	**Not Expected.** Limited suitable chenopod habitat exists within the BSA. However, chenopod habitat present is highly disturbed. There are no Calflora records of this species within 5 miles of the BSA. A single CNDDB record from 1988 classified as possibly extirpated is located 3.2 miles to the west of the BSA.
Opuntia basilaris var. *treleasei*	Bakersfield cactus	Apr–May	1B.1	SE	FE	Chenopod scrub, Cismontane woodland, Valley and foothill grassland. Elevation range: 330–4,755 feet.	**Not Expected**. Limited suitable chenopod habitat exists within the BSA. However, chenopod habitat present is highly disturbed. There are no Calflora records of this species within 5 miles of the BSA. The closest CNDDB record dated 2018 is located 2.8 miles southeast of the BSA. This species was not observed during the field assessment and is considered highly detectable.
Pseudobahia peirsonii	San Joaquin adobe sunburst	Feb–Apr	1B.1	SE	FT	Cismontane woodland; valley and foothill grassland in adobe clay. Elevation range: 295–2,625 feet.	**Not Expected.** Limited suitable habitat and no suitable soils present within the BSA.

Scientific Name	Common Name	Flowering Period	CNPS	State	Federal	Preferred Habitat	Potential for Occurrence[1]
Stylocline citroleum	oil neststraw	Mar–Apr	1B.1	None	None	Chenopod scrub; coastal scrub; valley & foothill grassland. Flats, clay soils in oil-producing areas. Elevation range: 164–1,312 feet.	**Not Expected.** Limited suitable habitat is present within the BSA. There are no Calflora or CNDDB records of this species within 5 miles of the BSA.
Stylocline masonii	Mason's neststraw	Mar–May	1B.1	None	None	Chenopod scrub, pinyon and juniper woodland in sandy washes. Elevation range: 328–3,937 feet.	**Not Expected.** Limited suitable chenopod scrub habitat is present within the BSA. However, no suitable sandy washes occur within the BSA.
Angiosperms (Monocotyledons)							
Fritillaria striata	striped adobe-lily	Feb–Apr	1B.1	ST	None	Cismontane woodland, valley and foothill grassland. Elevation range: 445–4,775 feet.	**Not Expected.** Limited suitable habitat is present within the BSA. There are no Calflora or CNDDB records of this species within 5 miles of the BSA.
Imperata brevifolia	California satintail	Sep–May	2B.1	None	None	Chaparral, coastal sage scrub, Mojavean desert scrub, meadows and seeps (often alkali), riparian scrub/mesic. Elevation range extends 0–3,986 feet.	**Not Expected.** No suitable mesic or riparian habitat is present within the BSA.
Bryophytes							
Tortula californica	California screw moss	—	1B.2	None	None	Chenopod scrub, valley and foothill grassland. Moss growing on sandy soil. Elevation range: 147–2,460 feet.	**Not Expected.** Limited suitable chenopod scrub habitat present within the BSA. Additionally, the BSA is highly disturbed.

Key to Species Listing Status Codes

FE	Federally Endangered	FD	Federally Delisted
FT	Federally Threatened	SE	State Listed as Endangered
FC	Federal Candidate	ST	State Listed as Threatened
FPE	Federally Proposed as Endangered	SCE	State Candidate for Endangered
FPT	Federally Proposed as Threatened	SCT	State Candidate for Threatened
FPD	Federally Proposed for Delisting	SFP	State Fully Protected

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New Threat Code extensions and their meanings:

1 Seriously endangered in California (over 80% of occurrences threatened / high degree and immediacy of threat)
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3 Not very endangered in California (<20% of occurrences threatened or no current threats known)

SOURCES:

Calflora. 2024. Information on Wild California Plants. Accessed July 16, 2024. https://www.calflora.org/.

CDFW. 2024. California Natural Diversity Database (CNDDB). RareFind, Version 5.0 (Commercial Subscription). Sacramento, California: CDFW, Biogeographic Data Branch. Accessed July 16, 2024. https://www.wildlife.ca.gov/Data/CNDDB/Maps-and-Data.

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Appendix E

Special-Status Wildlife Species – Potential to Occur within the Biological Study Area

TABLE E-1
SPECIAL-STATUS WILDLIFE SPECIES – POTENTIAL TO OCCUR WITHIN THE BIOLOGICAL STUDY AREA

Common Name *Scientific Name*	Sensitivity Status	Preferred Habitat/Known Elevational Range	Presence/Potential to Occur within Biological Study Area
Invertebrates			
Crotch bumble bee *Bombus crotchii*	—/SCE	Open grassland and scrub habitats that support potential nectar sources such as plants within the Fabaceae, Apocynaceae, Asteraceae, Lamiaceae, and Boraginaceae families.	**Low.** Limited suitable nectar source plants present within the BSA. Two CNDDB records exist within 5-miles of the Project Site with the most recent dated 1979.
vernal pool fairy shrimp *Branchinecta lynchi*	FT/—	Limited to vernal pools in Oregon and California. Occasionally will be found in habitats other than vernal pools, such as artificial pools created by roadside ditches.	**Not Expected.** No vernal pools present within the BSA. The closest known critical habitat is located approximately 29 miles northwest of the BSA within Pixley National Wildlife Refuge.
monarch - California overwintering population *Danaus plexippus plexippus* pop. 1	FC/—	Wintering sites in California are associated with wind-protected groves of large trees (primarily eucalyptus or pine [Pinus spp.]) with nectar and water sources nearby that are generally near the coast.	**Not Expected.** No suitable large tree grove habitat present within the BSA. The closest known occurrence is from 2015 and is located approximately 9.56 miles southeast of the BSA adjacent to the south of the Kern River.
valley elderberry longhorn beetle *Desmocerus californicus dimorphus*	FT/—	Require elderberry host plant. Foothill oak woodlands and riparian areas. Found in Sacramento, Yolo, and Merced County as well as Central Valley.	**Not Expected**. No suitable foothill oak woodland habitat or riparian areas with elderberry present within the BSA. The closest known occurrence is from 1991 and is located approximately 7.85 miles southeast of the BSA along the Kern River.
western ridged mussel *Gonidea angulata*	—/CSA	Primarily creeks and rivers and occasionally lakes	**Not Expected.** Now extirpated from Central and Southern California.
Kern shoulderband *Helminthoglypta callistoderma*	—/CSA	Aquatic; Sacramento/San Joaquin flowing waters. Known only from Tulare and Kern counties, along the lower Kern River Canyon. Has been collected from dead vegetation along the water's edge.	**Not Expected.** No suitable aquatic habitat present within the BSA. The closest known occurrence is from 1916 and is located approximately 8.38 miles south of the BSA along the Kern River.
Amphibians			
western spadefoot *Spea hammondii*	FPT/SSC	Mixed woodland, grasslands, chaparral, sandy washes, lowlands, river floodplains, alluvial fans, playas, alkali flats, foothills, and mountains. Prefers washes and other sandy areas with patches of brush and rocks. Rain pools or shallow temporary pools, which do not contain bullfrogs, fish, or crayfish are necessary for breeding. Perennial plants necessary for its major food-termites.	**Not Expected.** No suitable breeding habitat present within the BSA. The closest known occurrence is located approximately 8.18 miles southwest of the BSA within Rosedale and is from 1968.

Common Name *Scientific Name*	Sensitivity Status	Preferred Habitat/Known Elevational Range	Presence/Potential to Occur within Biological Study Area
Reptiles			
northwestern pond turtle *Actinemys marmorata*	FPT/SSC	Known to occur in slow-moving permanent or intermittent streams, ponds, small lakes, rivers, streams, marshes, irrigation ditches with abundant vegetation, reservoirs with emergent basking sites, and either rocky or muddy bottoms. In woodland, forest, or grassland habitats. In creeks that pool to shallower areas and with logs, rocks, cattail mats, and/or exposed banks for basking are required. Could enter brackish or even seawater. Adjacent uplands used during winter.	**Low.** Limited suitable aquatic habitat present within the Cawelo Distribution Canal. The closest known occurrence is from 2000 and is located approximately 8.11 miles southeast of the BSA along the Kern River.
Bakersfield legless lizard *Anniella grinnelli*	—/SSC	Lives mostly underground, burrowing in loose sandy soil. Forages in loose soil, sand, and leaf litter during the day. Sometimes found on the surface at dusk and at night. Apparently active mostly during the morning and evening when they forage beneath the surface of loose soil or leaf litter which has been warmed by the sun. Habitat information for *Anniella* spp. below also applies.	**Low.** Limited suitable riparian habitat or moist soils present within the BSA. The closest known occurrence is from 2017 is located approximately 7.27 miles south of the BSA along the Calloway Canal.
California legless lizard *Anniella* spp.	—/SSC	Occurs in moist warm loose soil with plant cover. Moisture is essential. Occurs in sparsely vegetated areas of beach/coastal dunes, chaparral, pine-oak woodlands, desert scrub, sandy washes, and stream terraces with sycamores, cottonwoods, or oaks. Leaf litter under trees and bushes in sunny areas and dunes stabilized with bush lupine and mock heather often indicate suitable habitat. Often can be found under surface objects such as rocks, boards, driftwood, and logs. Can also be found by gently raking leaf litter under bushes and trees. Sometimes found in suburban gardens in California.	**Not Expected.** No suitable riparian habitat or moist soils present within the BSA. The closest known occurrence is from 1958 is located approximately 13.35 miles northeast of the BSA within the foothills of the Sierra Nevada Mountains.
California glossy snake *Arizona elegans occidentalis*	—/SSC	Inhabits arid scrub, rocky washes, and grasslands, and chaparral habitats. Appears to prefer microhabitats of open areas with friable soils for burrowing.	**Not Expected.** Limited suitable grassland habitat present within the BSA. Three CNDDB records exist within 5-miles of the Project Site with the most recent dated 1973.
blunt-nosed leopard lizard *Gambelia sila*	—/SSC	Scattered in undeveloped lands of the San Joaquin Valley and Coast Range foothills. This species prefers to inhabit open, sparsely vegetated areas of low relief on the San Joaquin Valley floor. The most important aspect of any potential habitat is sparse vegetation. Found in association with other burrowing animals. Known to occur in valley and foothill grassland, chenopod scrub, iodine bush grassland and flats.	**Low.** Limited suitable grassland and chenopod scrub habitat present within the BSA. This species is not known to use agricultural or disturbed lands. One occurrence from 1974 is located within the central portion of the BSA.
San Joaquin coachwhip *Masticophis flagellum ruddocki*	—/SSC	Occurs in open, dry, treeless areas with little or no cover, including valley grassland and saltbush scrub.	**Present.** Observed within the western portion of the BSA.

Common Name *Scientific Name*	Sensitivity Status	Preferred Habitat/Known Elevational Range	Presence/Potential to Occur within Biological Study Area
Birds			
burrowing owl *Athene cunicularia*	BCC/SSC	Inhabits coastal prairie, coastal scrub, Great Basin scrub, Mojavean desert scrub, Sonoran desert scrub, annual and perennial grasslands, bare ground, and disturbed habitats characterized by low-growing vegetation. A subterranean nester dependent upon burrowing mammals, particularly the California ground squirrel.	**Moderate.** Suitable disturbed grassland habitat is located throughout the BSA. Throughout the entire BSA there is a dense population of California ground squirrels and associated burrow complexes. The closest known occurrence is from 2002 and is located approximately 3.18 miles south of the BSA at Meadows Field Airport.
Swainson's hawk *Buteo swainsoni*	BCC/ST	Found in Great Basin grassland, riparian forest, riparian woodland, valley and foothill grassland. Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, and agricultural or ranch lands with groves or lines of trees. Requires adjacent suitable foraging areas such as grasslands, or alfalfa or grain fields supporting rodent populations.	**Low (Foraging).** Limited suitable foraging habitat is present within the BSA. No suitable riparian areas used for nesting are present within the BSA. The closest known occurrence is from 1935 and is located approximately 8.60 miles south of the BSA within the city of Bakersfield.
western yellow-billed cuckoo *Coccyzus americanus occidentalis*	FT, BCC/SE	Riparian forest nester, along the broad, lower flood-bottoms of larger river systems. Nests in riparian jungles of willow, often mixed with cottonwoods, with lower story of blackberry nettles, or wild grape.	**Not Expected.** No suitable riparian habitat is present within the BSA. No known occurrences are located within the 9 quad search conducted for the BSA.
California horned lark *Eremophila alpestris actia*	—/WL	Found from grasslands along the coast and deserts near sea level to alpine dwarf-shrub habitat above the tree line. During the winter, this species typically flocks in desert lowlands.	**Moderate.** Suitable grassland habitat is found throughout the BSA. The closest known occurrence is from 2006 and is located approximately 10.09 miles southwest of the BSA
California condor *Gymnogyps californianus*	FE/SE, FP	Scavenge for carrion in habitats ranging from Pacific beaches to mountain forests and meadows. They nest in caves on cliff faces in mountains up to 6,000 feet in elevation.	**Not Expected.** No suitable habitat is present within the BSA. Additionally, no known occurrences are located within or surrounding the BSA. The closest known occurrence is located in the Tehachapi Mountains.
loggerhead shrike *Lanius ludovicianus*	—/SSC	Found in woodlands, riparian woodlands, open scrub habitats and washes.	**Present.** Observed foraging within the eastern portion of the BSA.
tricolored blackbird *Agelaius tricolor*	—/ST, SSC	Known to occur in freshwater marsh, marsh, swap, and wetland. Highly colonial species, most numerous in Central Valley and vicinity. Requires open water, protected nesting substrate, and foraging area with insect prey within a few kilometers of the colony.	**Not Expected.** Limited suitable foraging habitat is present within the BSA. No suitable wetland vegetation used for nesting is present within the BSA. The closest known occurrence from 2009 is approximately 9.92 miles northeast of the BSA along Little Creek in the foothills of the Sierra Nevada Mountains.
Mammals			
Nelson's (=San Joaquin) antelope squirrel *Ammospermophilus nelsoni*	—/ST	Chenopod scrub in western San Joaquin Valley from 200-1200 feet in elevation. On dry, sparsely vegetated loam soils. Species dig burrows or use kangaroo rat burrows. Need widely scattered shrubs, forbs and grasses in broken terrain with gullies and washes.	**Low.** Limited chenopod scrub (allscale scrub) habitat is present within the BSA. Additionally, majority of the species occurrences are located west of the BSA near Buttonwillow. The closest known occurrence is from 1911 and is located approximately 9.16 miles southeast of the BSA along the Kern River.

Common Name ***Scientific Name***	**Sensitivity Status**	**Preferred Habitat/Known Elevational Range**	**Presence/Potential to Occur within Biological Study Area**
giant kangaroo rat *Dipodomys ingens*	FE/—	Inhabit annual grassland communities in western Kern County with few or no shrubs, well drained, sandy-loam soils located on gentle slopes in areas with low annual precipitation.	**Not Expected.** The BSA is located outside of the species known critical habitat.
Tipton kangaroo rat *Dipodomys nitratoides nitratoides*	FE/SE	Chenopod scrub. Saltbrush scrub and sink scrub communities in the Tulare Lake Basin of the southern San Joaquin Valley. Needs soft friable soils which escape seasonal flooding. Digs burrows in elevated soil mounds at bases of shrubs.	**Low.** Limited chenopod scrub (allscale scrub) habitat is present within the BSA. The closest known occurrence is from 1911 and is located approximately 9.41 miles southeast of the BSA along the Kern River. Additionally, the majority of the species occurrences are located west of the BSA and are associated with valley saltbush scrub sensitive habitat.
western mastiff bat *Eumops perotis californicus*	—/SSC	Known to occur in habitat consisting of extensive open areas within dry desert washes, flood plains, chaparral, cismontane oak woodland, coastal scrub, open ponderosa pine forest, and grasslands. Roosts primarily in crevices in rock outcrops and buildings.	**Low (Foraging).** Limited suitable foraging habitat is present within the BSA. No suitable roosting habitat within rock outcrops and limited buildings are present within the BSA. The closest known occurrences are located approximately 8.93 miles south of the BSA.
hoary bat *Lasiurus cinereus*	—/CSA	Inhabits broadleaved upland forest, cismontane woodland, lower montane coniferous forest, and north coast coniferous forest.	**Not Expected**. No suitable forest habitat is present within the BSA. The closest known occurrence is from 1894 and is located approximately 7.00 miles south of the BSA along the Kern River.
Tulare grasshopper mouse *Onychomys torridus tularensis*	—/SSC	Found primarily in shrubland habitat on sandy or gravelly soils in open and semi-open habitats. Found in the southern San Joaquin Valley, Carrizo Plain, Cuyama Valley, and nearby foothills of the Sierra Nevada and Tehachapi Mountains.	**Low.** Limited shrubland habitat is present within the BSA. The closest known occurrence is from 1891 and is located approximately 4.89 miles south of the BSA.
San Joaquin pocket mouse *Perognathus inornatus*	—/CSA	Found on flat ground and low hills. Seeds of Atriplex and artemisia are primary foods of this species. Also eats soft-bodies insects.	**Moderate.** Limited suitable chenopod scrub habitat (food source) is present within the BSA. However, two occurrences from 2002 were located within the BSA. There are a total of eight CNDDB records all dated in 2002 located within the quadrangle search area.
Buena Vista Lake ornate shrew *Sorex ornatus relictus*	FE/—	Lives in wetlands and riversides in protective groundcover like deep leaf litter, cattails and fallen logs in southern California. The species is mainly found near agricultural fields, where it burrows. This subspecies can also sometimes be found in drier grassland and desert scrub within a few hundred feet of water sources, or where water is close to the surface and their prey can be found. The shrew lives in areas covered with leaves and plants, where they can hide and find insects to eat.	**Not Expected.** No suitable aquatic habitat is present within or near the BSA. The closest known critical habitat is located approximately 20 miles southwest of the BSA within Tule Elk State Reserve.
American badger *Taxidea taxus*	—/SSC	Found in a variety of habitats, including alkali marsh, desert wash, Great Basin scrub, marsh and swamp, meadow and seep, Mojavean desert scrub, riparian scrub, riparian woodland, valley and foothill grassland. Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Needs sufficient food, friable soils, and open, uncultivated ground to dig burrows. Preys on burrowing rodents.	**Not Expected.** No suitable habitat located within the BSA. There is a single CNDDB record from 1989 located 3 miles northwest of the BSA.

Common Name ***Scientific Name***	**Sensitivity Status**	**Preferred Habitat/Known Elevational Range**	**Presence/Potential to Occur within Biological Study Area**
San Joaquin kit fox *Vulpes macrotis mutica*	FE/ST	San Joaquin kit foxes occur in several San Joaquin Valley native plant communities. In the southernmost portion of the range, these communities include valley sink scrub, valley saltbush scrub, upper Sonoran subshrub scrub, and annual grassland.	**Moderate.** Suitable grassland habitat and limited suitable scrub habitat exist within the BSA. The BSA is located within a CNDDB record from 1978. The BSA is also adjacent a CNDDB record from 1975. There are 16 CNDDB records within 5-miles of the Project Site with the most recent in 2007.

KEY:

Federal Listings

FE = Listed as endangered under the FESA
FT = Listed as threatened under the FESA
FPT = Federally proposed threatened
FC = Federal candidate species
BCC = Birds of Conservation Concern (USFWS)

State Listings

SE = Listed as endangered under the CESA
ST= Listed as threatened under the CESA
SCE = State candidate endangered
FP = Fully Protected
SSC = Species of Special Concern (CDFW)
WL = Watch List (CDFW)
CSA = California Special Animal

SOURCES:

CDFW (California Department of Fish and Wildlife). 2024. California Natural Diversity Database (CNDDB). RareFind, Version 5.0 (Commercial Subscription). Sacramento, California: CDFW, Biogeographic Data Branch. Accessed July 16, 2024. https://www.wildlife.ca.gov/Data/CNDDB/Maps-and-Data.

USFWS (U.S. Fish and Wildlife Service). 2021. IPaC Information for Planning and Consultation (IPaC). Accessed July 17, 2024. https://ecos.fws.gov/ipac/location/index.

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Appendix B
Tribal Outreach

ESA

626 Wilshire Boulevard
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Los Angeles, CA 90017
213.599.4300 phone
213.599.4301 fax

esassoc.com

March 11, 2022

The Honorable Delia Dominguez, Chairperson
Kitanemuk & Yowlumne Tejon Indians
115 Radio Street
Bakersfield, CA, 93305

Subject: Cawelo Collection Basin and Pipeline Project, Kern County, California

Dear Chairperson Dominguez:

Environmental Science Associates (ESA) is preparing a cultural resources assessment in support of an Environmental Assessment/Initial Study- Mitigated Negative Declaration (EA/ISMND) pursuant to the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA) in connection with the Cawelo Collection Basin and Pipeline Project (Project) in unincorporated Kern County, California. CWD is proposing to install approximately 2 miles of an 18-inch water transmission pipeline and construct a 13- acre foot collection basin that would serve to store and transfer oil produced water from Trio Petroleum LLC in the vicinity of Bakersfield, California. In addition, the Project includes three staging areas with locations yet to be determined. The Project may receive Federal funding from the United States Bureau of Reclamation and as such is subject to Section 106 of the National Historic Preservation Act (Section 106).

The Area of Potential Effects (APE) is located in Kern County, northeast of the unincorporated community of Cawelo, within Sections 3, 4, 5, 8, 9, and 10 of Township 28 South, Range 27 East on the North of Oildale, CA U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle. The enclosed maps depict the Project vicinity, Project location, and APE (**Figures 1-3).**

The Native American Heritage Commission (NAHC) conducted a Sacred Lands File search for this Project on February 25, 2022. The search returned negative results. The NAHC also provided a list of Tribes who are traditionally and culturally affiliated with the Project Site, include the Kitanemuk & Yowlumne Tejon Indians (Tribe). ESA requested a records search from the California Historical Resources Information System-Southern San Joaquin Valley Information Center, which did not identify any indigenous archaeological resources within the APE or a 0.5-mile radius.

In anticipation of the Project receiving federal funding and as part of the background information gathering process, ESA is reaching out to Tribes on the NAHC contact list to identify potential historic properties that could be affected by the Project, including those that may be of religious and cultural significance to your Tribe. We would appreciate the Tribe's assistance in identifying any Tribal resources that we should be aware of, or any concerns or issues that the Tribe may have regarding this Project.

We kindly request a response within 30 days of receipt of this letter. Your Tribe's participation in the early identification of potential historic properties will ensure their consideration during the Project planning phase. If you have any questions or require additional information, please contact me at SBocchieriyan@esassoc.com or 949-870-1518.

Sincerely,

Salpi Bocchieriyan
Senior Cultural Resources Specialist

Enclosures: Figure 1: Project Vicinity Map
Figure 2: Project Location Map
Figure 3: APE Map

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March 11, 2022

The Honorable Octavio Escobedo, Chairperson
Tejon Indian Tribe
P.O. Box 640
Arvin, CA, 93203

Subject: Cawelo Collection Basin and Pipeline Project, Kern County, California

Dear Chairperson Escobedo:

Environmental Science Associates (ESA) is preparing a cultural resources assessment in support of an Environmental Assessment/Initial Study- Mitigated Negative Declaration (EA/ISMND) pursuant to the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA) in connection with the Cawelo Collection Basin and Pipeline Project (Project) in unincorporated Kern County, California. CWD is proposing to install approximately 2 miles of an 18-inch water transmission pipeline and construct a 13- acre foot collection basin that would serve to store and transfer oil produced water from Trio Petroleum LLC in the vicinity of Bakersfield, California. In addition, the Project includes three staging areas with locations yet to be determined. The Project may receive Federal funding from the United States Bureau of Reclamation and as such is subject to Section 106 of the National Historic Preservation Act (Section 106).

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Salpi Bocchieriyan
Senior Cultural Resources Specialist

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Cc: Colin Rambo, Cultural Resource Management Technician

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March 11, 2022

Joey Garfield, Tribal Archaeologist
Tule River Indian Tribe
P. O. Box 589
Porterville, CA, 93258

Subject: Cawelo Collection Basin and Pipeline Project, Kern County, California

Dear Mr. Garfield:

Environmental Science Associates (ESA) is preparing a cultural resources assessment in support of an Environmental Assessment/Initial Study- Mitigated Negative Declaration (EA/ISMND) pursuant to the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA) in connection with the Cawelo Collection Basin and Pipeline Project (Project) in unincorporated Kern County, California. CWD is proposing to install approximately 2 miles of an 18-inch water transmission pipeline and construct a 13- acre foot collection basin that would serve to store and transfer oil produced water from Trio Petroleum LLC in the vicinity of Bakersfield, California. In addition, the Project includes three staging areas with locations yet to be determined. The Project may receive Federal funding from the United States Bureau of Reclamation and as such is subject to Section 106 of the National Historic Preservation Act (Section 106).

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Sincerely,

Salpi Bocchieriyan
Senior Cultural Resources Specialist

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Cc: The Honorable Neil Peyron, Chairperson
Kerri Vera, Environmental Department

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March 11, 2022

Danelle Gutierrez, Tribal Historic Preservation Officer
Big Pine Paiute Tribe of the Owens Valley
P.O. Box 700
Big Pine, CA, 93513

Subject: Cawelo Collection Basin and Pipeline Project, Kern County, California

Dear Ms. Gutierrez:

Environmental Science Associates (ESA) is preparing a cultural resources assessment in support of an Environmental Assessment/Initial Study- Mitigated Negative Declaration (EA/ISMND) pursuant to the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA) in connection with the Cawelo Collection Basin and Pipeline Project (Project) in unincorporated Kern County, California. CWD is proposing to install approximately 2 miles of an 18-inch water transmission pipeline and construct a 13- acre foot collection basin that would serve to store and transfer oil produced water from Trio Petroleum LLC in the vicinity of Bakersfield, California. In addition, the Project includes three staging areas with locations yet to be determined. The Project may receive Federal funding from the United States Bureau of Reclamation and as such is subject to Section 106 of the National Historic Preservation Act (Section 106).

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Sincerely,

Salpi Bocchieriyan
Senior Cultural Resources Specialist

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Figure 3: APE Map

Cc: The Honorable James Rambeau, Chairperson
Sally Manning, Environmental Director

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March 11, 2022

Sally Manning, Environmental Director
Big Pine Paiute Tribe of the Owens Valley
P.O. Box 700
Big Pine, CA, 93513

Subject: Cawelo Collection Basin and Pipeline Project, Kern County, California

Dear Ms. Manning:

Environmental Science Associates (ESA) is preparing a cultural resources assessment in support of an Environmental Assessment/Initial Study- Mitigated Negative Declaration (EA/ISMND) pursuant to the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA) in connection with the Cawelo Collection Basin and Pipeline Project (Project) in unincorporated Kern County, California. CWD is proposing to install approximately 2 miles of an 18-inch water transmission pipeline and construct a 13- acre foot collection basin that would serve to store and transfer oil produced water from Trio Petroleum LLC in the vicinity of Bakersfield, California. In addition, the Project includes three staging areas with locations yet to be determined. The Project may receive Federal funding from the United States Bureau of Reclamation and as such is subject to Section 106 of the National Historic Preservation Act (Section 106).

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Senior Cultural Resources Specialist

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Cc: The Honorable James Rambeau, Chairperson
Danelle Gutierrez, Tribal Historic Preservation Officer

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March 11, 2022

The Honorable Neil Peyron, Chairperson
Tule River Indian Tribe
P. O. Box 589
Porterville, CA, 93258

Subject: Cawelo Collection Basin and Pipeline Project, Kern County, California

Dear Chairperson Peyron:

Environmental Science Associates (ESA) is preparing a cultural resources assessment in support of an Environmental Assessment/Initial Study- Mitigated Negative Declaration (EA/ISMND) pursuant to the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA) in connection with the Cawelo Collection Basin and Pipeline Project (Project) in unincorporated Kern County, California. CWD is proposing to install approximately 2 miles of an 18-inch water transmission pipeline and construct a 13- acre foot collection basin that would serve to store and transfer oil produced water from Trio Petroleum LLC in the vicinity of Bakersfield, California. In addition, the Project includes three staging areas with locations yet to be determined. The Project may receive Federal funding from the United States Bureau of Reclamation and as such is subject to Section 106 of the National Historic Preservation Act (Section 106).

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Cc: Joey Garfield, Tribal Archaeologist
Kerri Vera, Environmental Department

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Los Angeles, CA 90017
213.599.4300 phone
213.599.4301 fax

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March 11, 2022

The Honorable Julio Quair, Chairperson
Chumash Council of Bakersfield
729 Texas Street
Bakersfield, CA, 93307

Subject: Cawelo Collection Basin and Pipeline Project, Kern County, California

Dear Chairperson Quair:

Environmental Science Associates (ESA) is preparing a cultural resources assessment in support of an Environmental Assessment/Initial Study- Mitigated Negative Declaration (EA/ISMND) pursuant to the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA) in connection with the Cawelo Collection Basin and Pipeline Project (Project) in unincorporated Kern County, California. CWD is proposing to install approximately 2 miles of an 18-inch water transmission pipeline and construct a 13- acre foot collection basin that would serve to store and transfer oil produced water from Trio Petroleum LLC in the vicinity of Bakersfield, California. In addition, the Project includes three staging areas with locations yet to be determined. The Project may receive Federal funding from the United States Bureau of Reclamation and as such is subject to Section 106 of the National Historic Preservation Act (Section 106).

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The Native American Heritage Commission (NAHC) conducted a Sacred Lands File search for this Project on February 25, 2022. The search returned negative results. The NAHC also provided a list of Tribes who are traditionally and culturally affiliated with the Project Site, include the Chumash Council of Bakersfield (Tribe). ESA requested a records search from the California Historical Resources Information System-Southern San Joaquin Valley Information Center, which did not identify any indigenous archaeological resources within the APE or a 0.5-mile radius.

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March 11, 2022

The Honorable James Rambeau, Chairperson
Big Pine Paiute Tribe of the Owens Valley
P.O. Box 700
Big Pine, CA, 93513

Subject: Cawelo Collection Basin and Pipeline Project, Kern County, California

Dear Chairperson Rambeau:

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Cc: Danelle Gutierrez, Tribal Historic Preservation Officer
Sally Manning, Environmental Director

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March 11, 2022

Colin Rambo, Cultural Resource Management Technician
Tejon Indian Tribe
P.O. Box 640
Arvin, CA, 93203

Subject: Cawelo Collection Basin and Pipeline Project, Kern County, California

Dear Mr. Rambo:

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March 11, 2022

Kerri Vera, Environmental Department
Tule River Indian Tribe
P. O. Box 589
Porterville, CA, 93258

Subject: Cawelo Collection Basin and Pipeline Project, Kern County, California

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Senior Cultural Resources Specialist

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Figure 2: Project Location Map
Figure 3: APE Map

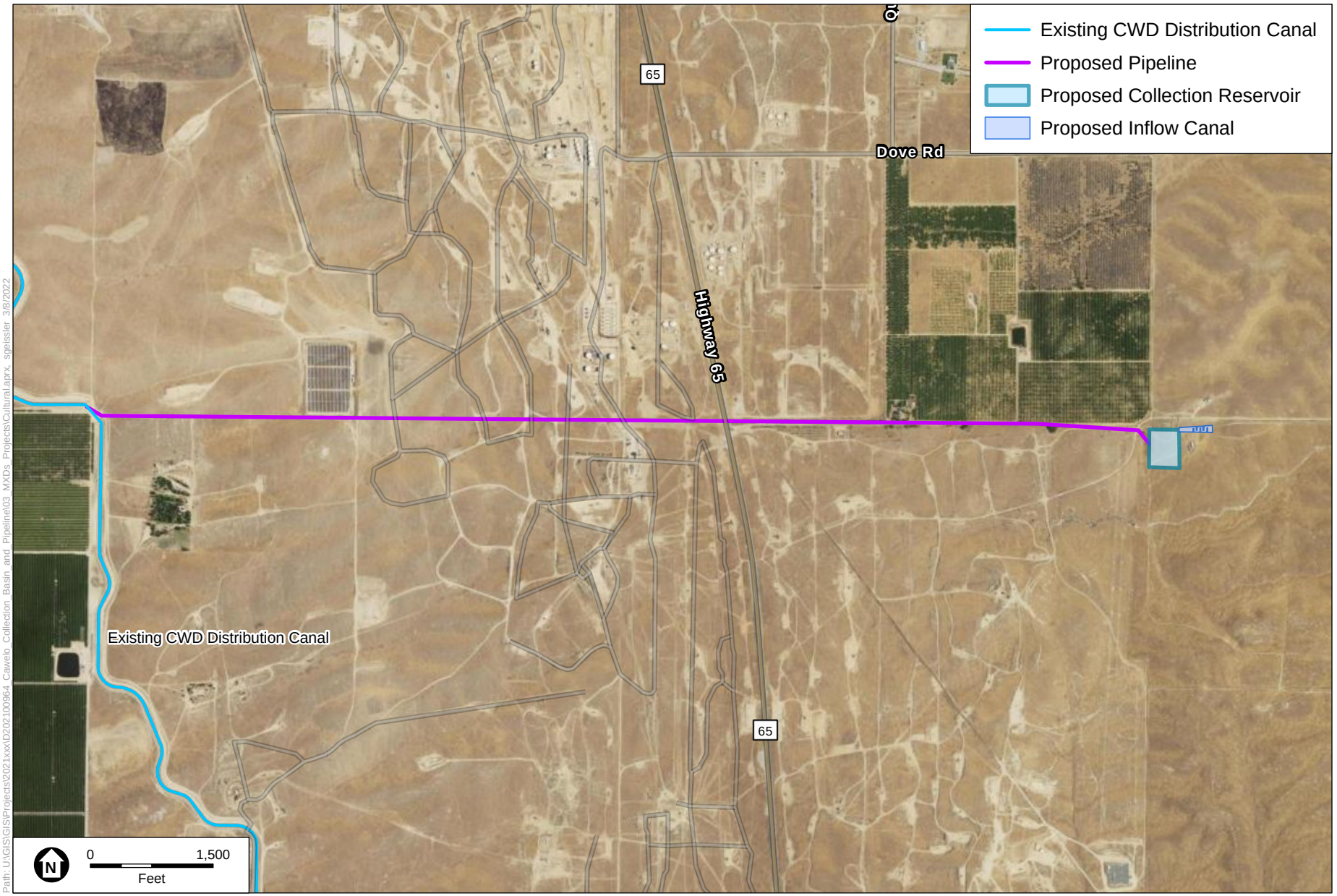
Cc: The Honorable Neil Peyron, Chairperson
Joey Garfield, Tribal Archaeologist

SOURCE: ESRI; National Hydrography Dataset; DWR

Cawelo Collection Basin and Pipeline Project

Figure 1
Project Vicinity

ESA



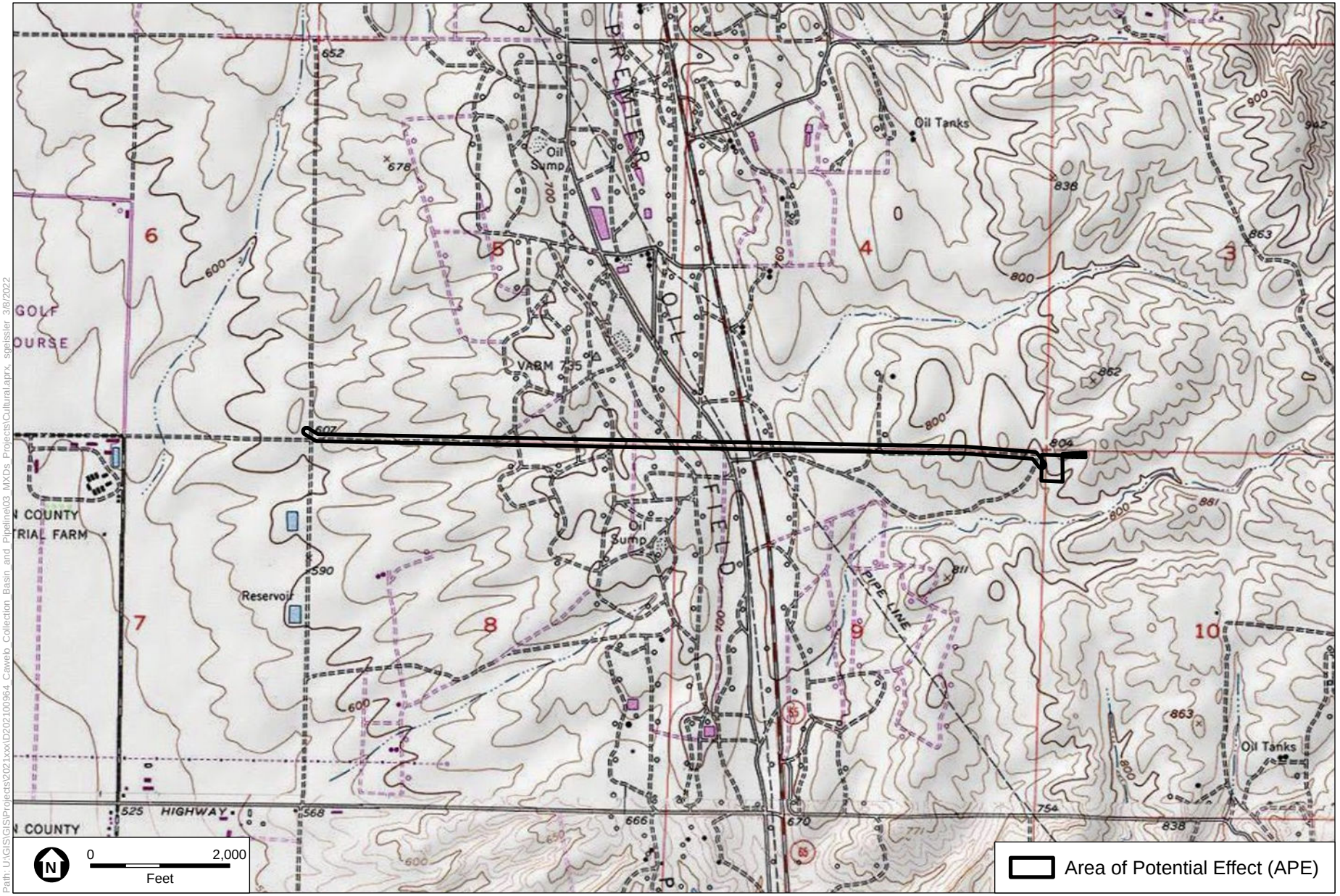
SOURCE: USDA, 2019; CWD, 2021; ESA, 2022.

Cawelo Collection Basin and Pipeline Project

Figure 2

Project Location

ESA



Path: U:\GIS\GIS\Projects\2021xxx\D202100964_Cawelo_Collection_Basin_and_Pipeline\03_MXDs_Projects\Cultural.aprx, sgeissler 3/8/2022

SOURCE: USGS Topographic Series (North of Oildale, CA); ESA, 2022

Cawelo Collection Basin and Pipeline Project

Figure 3

APE Map

ESA