

RECLAMATION

Managing Water in the West

Draft FINDING OF NO SIGNIFICANT IMPACT

Kern-Tulare Water District Oil Field Water Reuse Project

FONSI-15-006



Mission Statements

The Department of the Interior protects and manages the Nation's natural resources and cultural heritage; provides scientific and other information about those resources; and honors its trust responsibilities or special commitments to American Indians, Alaska Natives, and affiliated island communities.

The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

BUREAU OF RECLAMATION
South-Central California Area Office, Fresno, California

FONSI-15-006

**Kern-Tulare Water District Oil Field Water
Reuse Project**

Prepared by: Jennifer L. Lewis
Natural Resources Specialist

Date

Concurred by: Shauna McDonald
Wildlife Biologist

Date

Concurred by: Rain L. Emerson
Supervisory Natural Resources Specialist

Date

Approved by: Michael P. Jackson, P.E.
Area Manager

Date

Introduction

Background

The Kern-Tulare Water District (District) relies upon surface water for a significant percentage of its water supply and the remaining portion of the District's water supply is from groundwater pumped from privately-owned wells. Because of recently enacted groundwater regulations, surface water supply uncertainty, and anticipated reduction in available water supplies, the District is pursuing opportunities to reduce its reliance upon these supplies. To address these challenges, the District released on May 20, 2016 an Environmental Impact Report (EIR) (SCH# 2015021024) pursuant to the California Environmental Quality Act to evaluate the use of "produced water" for agricultural use under its Oil Field Water Reuse Project.

Produced water is a byproduct of oil production and if oil producers are not able to dispose of their produced water, their operations can become limited. The current method of produced water disposal is to inject treated water back into an underground geologic formation with unusable (i.e., non-potable) groundwater. This disposal method requires considerable electrical energy and the construction of wastewater injection wells. A method to utilize produced oil field water for agriculture irrigation purposes has been conducted by the Cawelo Water District and individual landowners within the District for about 30 years. Currently, individual landowners within the District have received produced water from an oil producer under a State Regional Water Quality Control Board-approved Waste Discharge Requirements (WDR) permit (Order No. 98-205). Under this WDR permit, the District began receiving produced water into its existing Big 4 Reservoir beginning in January 2015.

The District's project site is located in the north-central portion of unincorporated Kern County, California, near the Kern County/Tulare County border. To date the District has partnered with local oil producers located in the Jasmin, Dyer Creek, and Mount Poso oil fields. Although the District's EIR analyzed a larger footprint and proposed action, because of reduced oil production from local oil producers, the District decided to separate the larger project into two phases, Phase I partnering with Jasmin Oil field (the Project or Proposed Action analyzed here), and Phase II partnering with Dyer Creek and Mount Poso. The Phase I project includes the construction of a produced water delivery and storage system from the nearby oil field and this project has independent utility from Phase II. The District has decided not to move forward with Phase II at this time, and it is unknown if and when they will pursue that phase. Reclamation does not have a federal action associated with Phase II and is, therefore, only assessing Phase I.

Proposed Action

Reclamation proposes to provide partial funding to the District to construct the Project and to approve an inclusion of approximately 100 acres of private lands into the District's Central Valley Project (CVP) service area, as described in Section 2.2 of EA-15-006.

Environmental Commitments

In addition to the environmental commitments presented in the District's EIR, the District would also implement the environmental protection measures included in Table 2 of Environmental Assessment (EA)-15-006 in order to avoid and/or reduce environmental consequences associated with the development of the Project. Environmental consequences for resource areas assume the measures specified would be fully implemented. Copies of all environmental compliance reports shall be submitted to Reclamation.

Findings

Reclamation's finding that implementation of the Proposed Action will result in no significant impact to the quality of the human environment is supported by the following findings:

Resources Eliminated from Detailed Analysis

As described in Table 3 of EA-15-006, Reclamation analyzed the affected environment and determined that the Proposed Action does not have the potential to cause direct, indirect, or cumulative adverse effects to the following resources: environmental justice, Indian Sacred Sites, or Indian Trust Assets.

Air Quality

The District completed an air quality analysis for the larger footprint (Phases I and II) in their EIR. Construction emissions for the larger project were found to not exceed the San Joaquin Valley Air Pollution Control District *de minimus* thresholds. As the footprint analyzed in EA-15-006 is smaller, the estimated emissions under the Proposed Action would be less, and would also not exceed *de minimus* thresholds. Therefore, a federal general conformity analysis report is not required.

The Proposed Action would not have any long-term (operation) effects, and in fact would result in beneficial impacts on air quality because of reduced air pollutant emissions from other existing activities. For example, with implementation of the Project, the Jasmin oil fields would not dispose of produced water by underground injection. Also, the Project would reduce landowner need to pump groundwater from private water wells for irrigation purposes.

It is anticipated that the Proposed Action would save approximately 781,000 kilowatt hours (kWh) of electricity annually by reducing existing water injection in oil fields. In addition, there would be a savings of 1,200,000 kWh per year from reduced water pumping of private wells for irrigation and 664,000 kWh per year from reduced District distribution system pumping charges. Thus the Proposed Action would save a combined total of approximately 2,645,000 kWh per year. This savings results in a reduction of 17.2 tons/year of sulfur dioxide and 7.9 tons/year

nitrogen oxides. Therefore, operation of the Project would have a beneficial impact on air quality in the San Joaquin Valley Air Basin.

Biological Resources

The Bald Eagle is at a very low risk of take from the Proposed Action, as it is believed to only use the area for foraging. The Environmental Commitments in Table 2 of EA-15-006 would protect Bald Eagles and any other raptors from take.

Reservoir construction would not impact any suitable habitat for the San Joaquin kit fox, as the area is so regularly disced that kit foxes and their prey cannot burrow or den there. Similarly, the areas that would be subject to ground disturbance for installation of pipelines provide at best very marginal habitat, and the implementation of the Environmental Commitments in Table 2 of EA-15-006 would protect the species and further ensure that no impacts would occur to this species.

Operation of the pipeline alignments would not affect special-status wildlife species because they would be placed underground and areas disturbed by construction of these facilities would be returned to their baseline condition and revegetation would be allowed to occur. Therefore, no operational effect would occur as a result of the Proposed Action.

The proposed reservoir would impound treated produced water that was extracted from Jasmin oilfield. Discharges, blended water quality of the reservoir seepage, and percolation below the crop root zone as a result of the Proposed Action would not exceed proposed water quality objectives (WQOs). Environmental commitments require that the District obtain approved WDR from the Central Valley Regional Water Quality Control Board that includes WQOs. This would protect foraging birds, such as the Bald Eagle, from take as a result of contaminated water or prey.

Cultural Resources

The Proposed Action is the type of activity that has the potential to affect historic properties, and the records search, cultural resources survey, and Tribal consultation identified historic properties within the area of potential effects.

Reclamation determined the Magunden-Vestal No.1 and No. 2 Transmission Lines as eligible for inclusion in the National Register. Reclamation considers it eligible under Criterion A as being associated with the early development of electrical power distribution in California that profoundly influenced California's economic landscape; and under Criterion C because of significant technical innovations in its engineering and construction methods. The system as a whole has retained integrity of location, setting, feeling, and association. The system still functions for the original purpose for which it was constructed.

Reclamation applied the criteria of adverse effect [36 CFR § 800.5(a)] and found that the Proposed Action would result in no significant alterations to the historic characteristics that make the Magunden-Vestal No.1 and No. 2 Transmission Lines eligible for the National Register. The proposed actions of installing new pipelines and a reservoir would not substantially alter any physical characteristics of the transmission line system.

Utilizing these identification efforts, Reclamation entered into consultation with the State Historic Preservation Officer on November 30, 2016, seeking their concurrence on a finding of “no adverse effect to historic properties pursuant to 36 CFR § 800.5(b).” A response from the State Historic Preservation Officer is pending. This FONSI will not be signed until the National Historic Preservation Act Section 106 process is complete.

Global Climate Change

The District’s estimated construction and operational greenhouse gas emissions for the larger footprint are 592 metric tons carbon dioxide equivalents. Greenhouse gas emissions are assumed to be less for the Proposed Action as the footprint is smaller. The Proposed Action would also result in a reduction of approximately 1,859 metric tons of carbon dioxide equivalents per year. Therefore, the Proposed Action would have a beneficial impact on greenhouse gas emissions.

Land Use and Mineral Resources

Construction and operation of the proposed pipelines would not convert farmland to a non-agricultural use as the pipelines would be installed within existing road right-of-ways and/or in actively farmed areas that would be returned to existing conditions.

The construction and operation of the Guzman Reservoir would prohibit future agricultural use on the portion of the reservoir site designated as prime farmland and unique farmland. However, the Guzman Reservoir is part of a proposed water delivery and storage system to be used to store irrigation water for agricultural use. Water facilities, such as those proposed by the District, are considered compatible uses for agricultural lands and would therefore not convert prime farmland, unique farmland, or farmland of statewide importance to non-agricultural use.

The Project would provide treated produced water to existing agriculture within Section 17 and Cameo Agricultural Service Areas in the District. This would benefit approximately 3,500 acres of irrigated agriculture that might otherwise become fallowed if an alternative water source were not obtained.

The 12-inch pipeline alignment and northeast portion of Guzman Reservoir are located on land designated for mineral and petroleum resources; however, there are no known extraction wells in the Proposed Action area. The District has coordinated and collaborated with Hathaway LLC to ensure that placement of the pipelines and reservoir would not be in areas that are actively being drilled for oil and would, therefore, not impede oil pumping to the greatest extent practicable. In addition, the Proposed Action area has a limited footprint within the area of oil production. As Hathaway LLC has the ability to utilize flexible drilling methodologies, such as directional drilling, the Project’s placement would not impede oil production in those areas that are currently drilled and/or would be drilled in the future.

The Proposed Action would not preclude access to mineral resources that would result in the loss of availability of petroleum reserves. The ability of mineral rights’ holders to exercise their legal rights to access the sites for the exploration and/or extraction of underlying oil or other natural resources would not change as a result of the Proposed Action. Therefore, construction and operation of the Proposed Action would not result in the loss of availability of a known mineral resource and there would be no impact.

Water Resources

Construction of the Proposed Action could result in temporary effects to local water resources from erosion. However, as per the Environmental Commitments in Table 2 of EA-15-006, the District would obtain a National Pollutant Discharge Elimination System (NPDES) Permit from the Central Valley Regional Water Quality Control Board to control for stormwater discharge during land disturbance activities.

Under the Proposed Action, the District would “blend” treated produced water and CVP water from the Friant-Kern Canal within the existing Big 4 Reservoir. This water would then be used within the District’s service area. There would be no impact to federal facilities because the treated produced water would not touch federal facilities or impact operation.

The water quality that would service the District’s two service areas depends on the individual blends of treated produced water, groundwater, and surface water by water-season type (wet-year, dry-year, and normal year conditions). This blended water could impact groundwater quality through seepage from the reservoir and as water percolating through the crop root zone. However, as shown in Table 10 of EA-15-006, the overall average seepage and percolate water quality for all service areas are below the Basin Plan standards and proposed WQOs for the Proposed Action. In addition, the seepage and percolate water quality are comparable to groundwater wells within the District. Therefore, seepage and percolation from the Proposed Action would not adversely impact groundwater quality.

With the District implementing the Environmental Commitments listed in Table 2 of EA-15-006, the operation of the Proposed Action would minimize the potential for impacts to water resources. As a result of the Proposed Action, up to 56,000 barrels per day of oil field produced water would be recycled, which would otherwise be returned into underground geologic formations with unusable groundwater through deep well injection. The Proposed Action would convey and store up to 2,640 acre-feet of treated produced water annually. This would reduce reliance on groundwater extraction within the District from private groundwater wells during periods of reduced surface water deliveries in order to improve sustainable groundwater levels that underlie the District.

Cumulative Impacts

Cumulative impacts result from incremental impacts of the Proposed Action when added to other past, present, and reasonably foreseeable future actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment.

Air Quality

The Proposed Action would not contribute to an exceedance of applicable air quality standards and thresholds via emissions. The emissions would be temporary, and would not substantially contribute to a cumulative impact within the San Joaquin Valley Air Basin.

Biological Resources

As the Proposed Action would not result in any direct or indirect impacts to Federally protected species, it would not result in any cumulative contribution toward impacts to these species.

Cultural Resources

The Proposed Action area has been identified to have a low to moderate sensitivity for cultural resources. The pedestrian survey conducted for this Project did not locate any archaeological resources. However, excavation activities associated with the Proposed Action in conjunction with other actions in the area could contribute to the progressive loss of as-yet unrecorded cultural resources. Although unlikely, construction activities associated with the Project's development could contribute to the cumulative loss of historical or archaeological resources and result in adverse cumulative effects. With implementation of Environmental Commitments in Table 2 of EA-15-006, cumulative effects on historical or archaeological resources and buried human remains, including those interred outside of formal cemeteries, would be unlikely.

Global Climate Change

The Proposed Action would result in a reduction of 1,859 tons/year of carbon dioxide (equivalent of taking 393 vehicles off the road each year) in comparison to the No Action Alternative. By reducing the energy intensity and emissions associated with nearby water pumping for irrigation and water injection for the disposal of produced water, the Proposed Action would result in offsetting cumulative impacts as a result of other past, present, and reasonable foreseeable future projects in the area.

Land Use and Mineral Resources

The Proposed Action provides the District with water supply reliability that could allow farmers to maintain their existing crops. Also, construction and operation of the Proposed Action would not preclude access to oil resources. Therefore, the Proposed Action, when added to other past, present, and future actions, would not contribute to cumulative impacts to land use or mineral resource availability.

Water Resources

Groundwater levels that underlie the District are currently sustainable and stable, and the Project would further assist in this sustainability. While it has been acknowledged that the Proposed Action would deplete groundwater that underlies the Jasmin oil field, this produced water is non-potable. Therefore, the Proposed Action's effects to groundwater would not contribute cumulatively to adverse impacts to groundwater levels.

The Proposed Action would provide a supplemental water supply to serve the District's existing irrigation purposes. The Project would comply with water quality standards to protect groundwater and surface water from degradation. Therefore, the Project would not contribute to cumulative impacts to water resources.