

RECLAMATION

Managing Water in the West

Draft FINDING OF NO SIGNIFICANT IMPACT

James Irrigation District's Water Banking Expansion Project

FONSI-08-081



Mission Statements

The mission of the Department of the Interior is to protect and manage the Nation's natural resources and cultural heritage; provide scientific and other information about those resources; and honor 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-08-081

**James Irrigation District's Water Banking
Expansion Project**

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Introduction

In accordance with section 102(2)(c) of the National Environmental Policy Act of 1969, as amended, the South-Central California Area Office of the Bureau of Reclamation (Reclamation) has determined that the proposed awarding of grant(s) to James Irrigation District (James ID) for their proposed Water Banking Augmentation Project (Project) will significantly affect the quality of the human environment and an environmental impact statement is not required. This Finding of No Significant Impact (FONSI) is supported by Reclamation's Environmental Assessment (EA)-08-081, *James Irrigation District's Water Banking Expansion Project*, and is hereby incorporated by reference.

Background

James ID has applied for federal funding from the Reclamation for their Project which includes modification and expansion of existing regulation/ recharge basins within the James Bypass/Fresno Slough Bypass (hereafter referred to as the James Bypass) located northeast and adjacent to the James ID Main Canal (Figure 1 in EA-08-081).

Proposed Action

Reclamation proposes to award grant(s) to James ID for its' proposed Project in order to partially fund the modification and expansion of an existing regulation/ recharge/banking area within the James Bypass. The proposed Project includes excavation of an existing basin, construction of new levees with associated canals and turnouts, enhancement of existing levees, installation of booster pumps, installation of control structures, installation of interconnecting pipelines, installation of siphons to cross underneath the James Bypass Main Channel, installation of up to five new wells with associated pipelines, installation of new gates to the existing E Booster check structure (located within James ID's Main Canal), construction of an earthen water control structure, and various appurtenances (see Figure 2 in EA-08-081). In addition to the proposed Project, James ID would construct a 154.7 acre San Joaquin kit fox conservation area/preserve located in the James Bypass north of Placer Avenue. Specific construction activities are described in Section 2.2 of EA-08-081.

Environmental Commitments

James ID shall implement the environmental protection measures listed in Table 1 of EA-08-081 to avoid and/or reduce environmental consequences associated with the Proposed Action. In addition, James ID has prepared a Mitigation Monitoring and Reporting Program pursuant to the California Environmental Quality Act (see

Appendix B in EA-08-081) that would be implemented for the Project. Environmental consequences for resource areas assume the measures specified would be fully implemented.

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 Section 3.1 of EA-08-081, 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: Indian Sacred Sites, Indian Trust Assets, land use, socioeconomic resources, environmental justice, or global climate change.

Water Resources

Under the Proposed Action, James ID would be able to increase the recharge area within the James Bypass allowing the district to recharge more of its available surface water supplies for later use consistent with its conjunctive use policies. As groundwater generally makes up nearly 50 percent of James ID's available water supply, additional recharge is needed and would be beneficial to the area. The Proposed Action would not generate a new supply of water; rather, it would improve the reliability of James ID's existing surface water supplies by increasing the recharge area within the James Bypass allowing for greater recharge. Greater recharge would be beneficial to local groundwater levels and may prevent localized subsidence within the area from increased groundwater pumping due to the current drought and regulatory curtailments.

Construction within the James Bypass could impact water quality. As described in Table 2, James ID would implement environmental commitments to minimize potential adverse impacts to water resources, such as: limiting construction to times when the channel is dry. In addition, James ID would acquire, as needed, a Streambed Alteration Agreement from California Department of Fish and Wildlife, an encroachment permit from the Central Valley Flood Protection Board, as well as all permits required under the Clean Water Act for work within the James Bypass. Any measures or best management practices required by the permits for minimization of potential impacts would be implemented further reducing the potential for impacts to water resources.

Biological Resources

The Proposed Action may adversely affect the San Joaquin kit fox as the project would result in the loss of 154.7 acres of grassland habitat (152.4 acres in the recharge area and 2.3 acres of existing embankment earthwork upstream of the water control structure along the auxiliary channel embankment) which is

potential kit fox habitat. Under the Proposed Action, the grassland habitat would be converted to recharge basins (seasonal ponds); however, avoidance and minimization measures have been incorporated into the Project in order to reduce the potential for death, injury, interference with movement, loss of reproduction, reproductive impairments, and decrease in survivorship. These potential impacts would be compensated for by the creation of a 154.7-acre kit fox conservation area/preserve located in the James Bypass north of Placer Avenue, which would be placed under a conservation easement and funded with a non-wasting endowment. Reclamation initiated formal consultation with the U.S. Fish and Wildlife Service on December 19, 2013. This EA will not be finalized until consultation is complete.

Temporary, but minor, impacts would occur from noise and dust in and near construction work areas. The construction of the siphon crossing under the western (main) channel would cause a temporary and minor impact to the channel. After installation, the site would be contoured back to its pre-project condition. The work in the channel is estimated to take less than one month to complete.

Although the bottom of the basins and new recharge cells would not be subject to ground disturbance during operation, they would periodically be affected by inundation and operation of the basins. The berms for the basins would be a permanent structure and would impact the grassland habitat. Minimization measures would prevent death of kit foxes, but there would still be a loss of foraging and denning habitat. To minimize the adverse effects on kit foxes the majority of construction activities would occur on previously developed land.

The western burrowing owl uses the same habitat type as the San Joaquin kit fox, so the owls in the Proposed Action area would also be subject to a loss of foraging habitat, and to minor disturbance during construction. Minimization measures would prevent any injury, death, or nest abandonment. The land preserved for kit foxes would also provide habitat for burrowing owls. The effects are similar for the American badger. Raptors such as the red-tailed hawk would also have an impact to their foraging habitat, but nests would be avoided to avoid take.

The Proposed Action would be beneficial with regard to wetlands, because the recharge cells, which would be constructed within the James Bypass, would replace part of the existing uplands areas with wetlands that have a higher ecological value.

Cultural Resources

Only one prehistoric site identified in the project area is potentially eligible for listing on the National Register of Historic Places. However, there would be no direct impacts from the Proposed Action on this unevaluated prehistoric site as it will be avoided during construction and operation activities. In addition to the Proposed Action, James ID has proposed creating a 154.7-acre kit fox conservation area/preserve located in the James Bypass north of Placer Avenue.

Within this area the following has been proposed: 1) installation of 17 artificial, above-ground, escape dens within the Proposed Action area; 2) installation of 8 multi-entranced, sub-surface artificial dens at the conservation area; and 3) installation of 11 artificial, above-ground, escape dens within a proposed conservation area. Reclamation consulted with the California State Historic Preservation Officer under 36 CFR Part 800 on a determination of no adverse effect for the Proposed Action, including the proposed conservation area/preserve. On October 23, 2014, the State Historic Preservation Officer concurred with Reclamation's determination (see Appendix D in EA-08-081).

Air Quality

Operation of the Project would not contribute to criteria pollutants as delivery of water to the recharge area would be done via gravity. In addition, the extraction of recharged water for later delivery by James ID would be done with electrical pumps. As air quality emissions from electrical power were previously considered in environmental documentation for the generating power plant and are part of the existing baseline conditions, there would be no additional impacts associated with operation of the electrical pumps.

There would be temporary emissions during construction and modification of the Proposed Action area. As shown in Table 7 of EA-08-081, calculated unmitigated annual emissions for construction and operations are each well below the *de minimis* thresholds for the San Joaquin Valley Air Pollution Control District. Although calculated emissions are below San Joaquin Valley Air Pollution Control District thresholds, environmental protection measures have been incorporated into the Proposed Action in order to minimize emissions from construction activities. Consequently, the Proposed Action would not result in substantial adverse impacts upon air quality and a conformity analysis pursuant to the Clean Air Act is not required.

Cumulative Impacts

Cumulative impacts result from incremental impacts of the Proposed Action or No Action alternative 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. To determine whether cumulatively significant impacts are anticipated from the Proposed Action or the No Action alternative, the incremental effect of both alternatives were examined together with impacts from past, present, and reasonably foreseeable future actions in the same geographic area.

Water Resources

The Proposed Action would be consistent with James ID's current conjunctive use program. Additional groundwater recharge would be cumulatively beneficial to James ID's water supply reliability. The Proposed Action would also have cumulatively beneficial impacts to groundwater levels in the area which may help

with overdraft issues related to increased groundwater pumping due to the current ongoing drought and regulatory curtailments. As such, the Proposed Action would not have cumulative adverse impacts to water resources.

Biological Resources

Historically, a great deal of habitat has been lost for the San Joaquin kit fox, and to some extent, also for the western burrowing owl and American badger. Other past, present and reasonably foreseeable future impacts include routine farming activities, such as ground disturbance from tilling, use of pesticides and poisoning of rodents, and the generation of dust and noise associated with the use of farm equipment. These impacts would occur with or without the Proposed Action. As such, there would be no cumulative adverse impacts as a result of the Proposed Action.

Cultural Resources

As there would be no adverse impacts to historic properties or cultural resources, there would be no cumulative adverse impacts as a result of the Proposed Action.

Air Quality

Construction, operation and maintenance emissions for the Proposed Action are well below the *de minimis* thresholds established by the San Joaquin Valley Air Pollution Control District and are expected to be temporary in duration. In addition, environmental protection measures have been incorporated into the Proposed Action in order to minimize emissions from construction activities. As a result, the Proposed Action will not contribute to cumulative adverse impacts to air quality.

RECLAMATION

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Draft Environmental Assessment

James Irrigation District's Water Banking Expansion Project

EA-08-081



U.S. Department of the Interior
Bureau of Reclamation

February 2015

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Section 1 Introduction

1.1 Background

The James Irrigation District (James ID) has applied for federal funding from the Bureau of Reclamation (Reclamation) for a Water Banking Augmentation Project (Project) which includes modification and expansion of existing regulation/recharge basins within the James Bypass/Fresno Slough Bypass (hereafter referred to as the James Bypass) located northeast and adjacent to the James ID Main Canal (Figure 1).

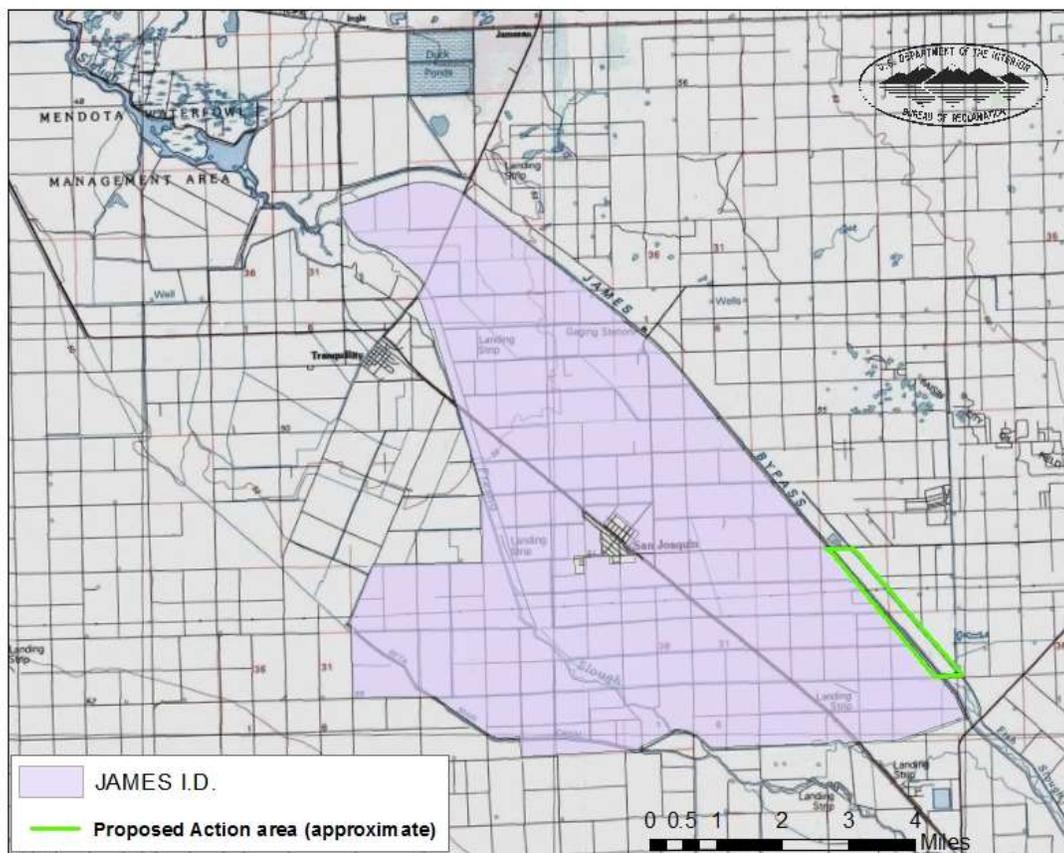


Figure 1 Proposed Action Area

In 2009, James ID prepared an Initial Study and Mitigated Negative Declaration pursuant to the California Environmental Quality Act for the Project which was adopted by the James ID Board of Directors July 14, 2009 (Provost & Pritchard 2009).

As the Project would entail the discharge of dredged or fill material into Waters of the U.S., James ID is requesting a permit from the U.S. Army Corps of Engineers (Corps) pursuant to section 404 of the Clean Water Act.

1.2 Need for the Proposed Action

The State of California is currently experiencing unprecedented water management challenges due to severe drought in recent years. Both the State and Federal water projects are forecasting very low storage conditions in all major reservoirs. In addition, South-of-Delta (SOD) CVP contractors experienced reduced water supply allocations from 2007 to 2014 due to hydrologic conditions and regulatory requirements. James ID needs to find ways to maximize its available water supplies in order to supplement their CVP supply especially during potential water shortage years.

The purpose of the Proposed Action is to provide partial federal funding to James ID for its Project which would allow James ID to better manage water supplies through regulation, water conservation, recharge, banking, and recovery of water for a largely groundwater dependent irrigation district.

Section 2 Alternatives Including the Proposed Action

This EA considers two possible actions: the No Action Alternative and the Proposed Action. The No Action Alternative reflects future conditions without the Proposed Action and serves as a basis of comparison for determining potential effects to the human environment.

2.1 No Action Alternative

Under the No Action Alternative, Reclamation would not award grant(s) to James ID. James ID would continue to manage their water supplies as they have in the past. Without federal funding assistance (the Proposed Action), construction of the proposed Project would, at a minimum, be delayed. It is James ID's intent to eventually construct the Project; however, absent federal funding the timing is speculative and it is possible that the proposed Project would never be built. Consequently, the No Action Alternative could have two possible scenarios: A) no change from existing conditions as the proposed Project would not be built; or B) no change from existing conditions for at least a period of time, where the length of time is unknown, after which the proposed Project would be built as described in Section 2.2 below and the impacts analyzed in Section 3 and 4 of this EA would be realized. However, any other subsequent actions caused by scenario B of the No Action Alternative not already covered under Section 2.2 of this EA is speculative at best, is outside the scope of this EA, and may require additional environmental analysis. As a result, scenario A of the No Action Alternative will be analyzed from this point forward in order to reduce repeating information since scenario B mirrors the Proposed Action (but at a later date).

2.2 Proposed Action

Reclamation proposes to award grant(s) to James ID for its' proposed Project in order to partially fund the modification and expansion of an existing regulation/recharge/banking area within the James Bypass. The proposed Project includes excavation of an existing basin, construction of new levees with associated canals and turnouts, enhancement of existing levees, installation of booster pumps, installation of control structures, installation of interconnecting pipelines, installation of siphons to cross underneath the James Bypass Main Channel, installation of up to five new wells with associated pipelines, installation of new gates to the existing E Booster check structure (located within James ID's Main Canal), construction of an earthen water control structure, and various appurtenances (Figure 2). See Appendix A for proposed Project designs. In

addition to the proposed Project, James ID would create a 154.7 acre San Joaquin kit fox conservation area/preserve located in the James Bypass north of Placer Avenue.

2.2.1 Existing Regulation/Recharge Basins and Proposed Siphons

As shown in Figure 2, there are three existing regulation/recharge basins (Basin 1, 2, and 3) that are currently used by James ID for recharge and regulation of Kings River flows, CVP supplies, groundwater, and other existing eastside water well field supplies. The following modifications of these facilities would occur under the proposed Project:

- No changes would occur within Basin 1. At a future date a pipeline may be installed to connect the existing booster pump at Basin 1 to the pipeline installed within Basin 2. Although installation of the pipeline is not funded under the Proposed Action, the pipeline would be used to recover recharged or banked water from this area and is therefore included under the Proposed Action.
- The southwesterly embankment of Basin 2 would be widened, and pipelines, structures, and booster pumps would be installed within its embankments.
- Basin 3 would be further excavated to a depth of up to approximately 27 feet in order to store approximately 300 acre-feet (AF) of water. Initial excavation is estimated to be approximately 254,000 cubic yards (up to 20 feet deep) but eventually may require an additional 130,000 cubic yards (an additional 7 feet for a total of 27 feet).
- An existing Pacific Gas and Electric (PG&E) power line crosses over Basin 3. It is unknown at this time whether or not the power line and associated poles would need to be relocated during construction. This would be determined by PG&E and James ID. If they are moved, it is likely they would be placed within the existing embankments. If located outside the embankments, additional environmental review would be required.
- Pump structures would be constructed within a 50-foot by 50-foot area in or on the side of the levee and/or within Basins 2 and 3.
- Two 60-inch diameter concrete pipeline siphons would be built to cross underneath the James Bypass Main Channel between Basin 2 connecting to a new control structure that would be built on the side of the James Main Canal (Figure 2).

An existing barbed wire fence located between Basin 3 and the beginning of the recharge area would be removed during construction. Once construction is complete, the fence would be relocated approximately 30 to 40 feet southeast of its current location along the edge of the embankment to the recharge area.

2.2.2 New Recharge Area

Material removed from excavation of Basin 3 would be used to construct levees for four low-lying recharge cells within the non-irrigated pasture land/grassland located northwest and adjacent to Basin 3 (generally between Huntsman Avenue extension and Manning Avenue). The recharge cells would be located in the uplands area (non-wetlands area) between the Main (westerly) and Auxiliary (easterly) channels of the James Bypass (Figure 2-1). Levees would typically be up to 5 feet high with 15-foot top widths. Side slopes would be 5:1 on the water side and 3:1 on the dry side of the embankments. Each recharge cell floor dimensions would vary from approximately 2,200 feet long and 250 feet wide up to about 2,200 feet long and 750 feet wide. Each individual basin floor area would vary between about 22 to 37 acres. Cell 1 would be approximately 21.9 acres in size. Cell 2 would be approximately 28.1 acres in size. Cell 3 would be approximately 26.9 acres in size. Cell 4 would be approximately 37.2 acres in size. Total basin area would be approximately 114 acres. The distribution canal and low-lying berms/ embankments would cover approximately 38.4 acres.

An earthen water control structure is proposed to be constructed across the auxiliary (easterly) bypass channel, with a footprint area of approximately 120 feet by 160 feet. The structure top width would be 20 feet and have 5:1 side slopes. Total fill height would be about 15 feet at the tallest point. Starting at the earthen water control structure and going for approximately 4,150 linear feet upstream to near the start of Basin 1, the easterly embankment of the Eastern Channel would be filled in some areas up to a six foot in depth and 40-feet in width, covering about 2.3 acres.

The individual recharge cells would receive water from a new separate distribution canal that would be located along the northeasterly side of the recharge area (Figure 2). The distribution canal would be 5-foot deep with a 5-foot bottom width and 5:1 side slopes. The distribution canal would allow from one to all of the cells to be in operation at a given time when flows are available. Flow within the distribution canal would be controlled by the installation of check structures and turnouts within the canal.

Location of the distribution canal and the northeastern levees of the recharge area would be placed to avoid existing vernal pools and identified cultural sites as shown in Figure 2.

2.2.3 Wells and Associated Infrastructure

Up to five new wells and associated pumps, motors, and pipelines have been proposed for future construction along the northeastern levees of existing Basins 1, 2, 3, and the proposed recharge area (Figure 2). Each well is estimated to have between 16- to 20-inch casings, be 500 to 600 feet deep and produce flows between 3 to 5.5 cubic feet per second.

Timing of well and associated infrastructure construction is unknown at this time. Although these wells are not funded under the Proposed Action, the wells would be used to recover recharged or banked water from this area and are therefore included under the Proposed Action.

2.2.4 Construction Equipment and Staging

Likely construction equipment needed for the Proposed Action would include equipment for excavation and trenching such as backhoes, excavators, scrapers and earth-moving equipment, cranes, and drill rigs, as well as water trucks, service trucks, compactors, motor graders, and bull dozers. The actual size and mix of equipment would be contractor-dependent and is unknown at this time. Staging and laydown areas would occur within the existing Basins 2 and 3, along existing roads, along areas where levees would be constructed, and in front of the corrals located south of Manning Avenue within the proposed recharge area.

2.2.5 Timing of Construction

Currently, the dates of the start, end, and duration of construction for the Project are unknown and dependent on availability of financing. Major construction activities such as dirt excavation and recharge basin levee building are estimated to occur over approximately a 6-month period or longer. Other Project activities such as well, pump, and siphon construction would occur periodically within a 2 to 3 year period.

2.2.6 Facility Operation

Once operational, the recharge/banking facilities would be operated by James ID in perpetuity. Basins 1, 2, and 3 would be filled and drained multiple times during the year for recharge or regulation of James ID's CVP water, Kings River flows, groundwater, and other eastside water sources. The recharge area would be filled primarily with high flows from the Kings River unless a banking partner had water to place in James ID. Recharged groundwater would be pumped from the proposed wells and delivered to James ID's Main Canal through the proposed siphon (Figure 2).

In the future, James ID plans to use the Project area for water conservation, groundwater recharge, groundwater banking, and water marketing to other CVP contractors. Banking of CVP water that is not part of James ID's contracted supply is not part of the Proposed Action and would require Reclamation approval and separate environmental review.

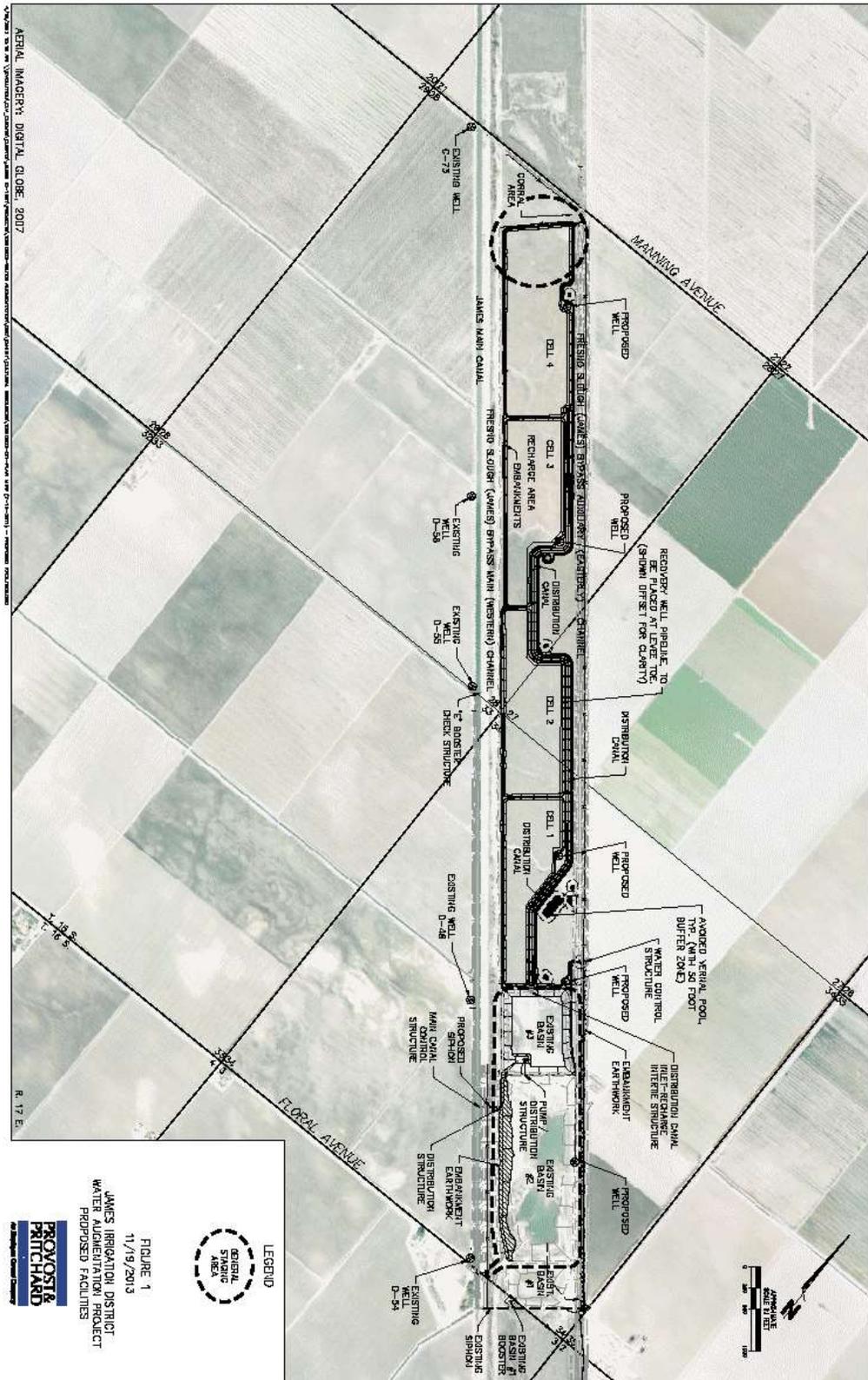


Figure 2 Proposed Action Overview

2.2.7 Permitting for the Proposed Action

Prior to construction within the James Bypass, James ID would submit, to the extent necessary, all appropriate applications for working within a waterway including:

- California Department of Fish and Wildlife (CDFW) Streambed Alteration Agreement
- Central Valley Flood Protection Board encroachment permit
- Corps Clean Water Act Sections 10 and 404
- California Regional Water Quality Control Board Clean Water Act Section 401

Copies of all permits shall be provided to Reclamation.

2.2.8 Environmental Protection Measures

James ID shall implement the following environmental protection measures to avoid and/or reduce environmental consequences associated with the Proposed Action (see Table 1). However, as consultation with the USFWS is still pending, the biological resource measures in Table 1 are subject to change and will not be finalized until consultation is complete. The Final EA would include any new measures required as part of the ESA consultation. In addition to the environmental protection measures described in Table 1, James ID has proposed the following compensation for the potential affects to the San Joaquin kit fox: 1) installation of 17 artificial, above-ground, escape dens within the Proposed Action area; 2) installation of 8 multi-entranced, sub-surface artificial dens at the conservation area; and 3) installation of 11 artificial, above-ground, escape dens within a proposed conservation area. Any new measures, beyond those described in Table 1, would be subject to Section 106 National Historic Preservation Act (NHPA) review and compliance to ensure that effects to cultural resources are avoided, minimized, or mitigated prior to implementation.

James ID has also prepared a Mitigation Monitoring and Reporting Program pursuant to the California Environmental Quality Act (Appendix B) that would be implemented for 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.

Table 1 Environmental Protection Measures

Resource	Protection Measure
Biological Resources	The following general measures will be implemented: <ul style="list-style-type: none"> • A biological monitor will be on site during all construction or ground disturbing activities. • An educational program shall be conducted by the biological monitor for all project managers, engineers, contractors, and construction crews prior to them engaging in any work to inform them of the sensitive habitat and wildlife resources on and adjacent

Resource	Protection Measure
	<p>to the project site, the need to avoid damaging sensitive habitats, and the possible penalties for not complying with the measures.</p> <ul style="list-style-type: none"> • Biological monitors shall have the authority to halt construction activities. If any federally-listed species are observed within the action area at any time, the biological monitor will immediately halt construction activities and consult with the Service to obtain further instructions. If at any time any of the conservation measures proposed in this EA are not being followed, the biological monitor will immediately order a halt to all work until the issues are resolved. • Construction activities shall occur only during daylight hours as to not disturb sensitive, night-active species. • After construction, the channels of the bypass shall be contoured back to their existing grade to maintain the hydrology and integrity of flood bypass channel. • Compacted haul roads and construction staging areas in the non-native grassland habitat shall be plowed or disced and then rough graded upon the completion of construction activities. This work shall be supervised, inspected, and approved by the biological monitor. Ingress and egress to the subchannels and nonnative grassland habitat by vehicles and equipment shall be restricted to the fewest number and smallest size of roads that are practical. <p>The following Best Management Practices will be implemented at all times during construction or ground disturbing activity:</p> <ul style="list-style-type: none"> • Standard dust reduction practices (such as water application, vehicle speed limits, proper road crowning and drainage, vehicle access restrictions, work hour restrictions, and compaction of materials) shall be enacted during all construction or ground disturbing activities. • Standard noise reduction practices (such as proper and functioning mufflers, engine idling minimization, compressor and generator shielding with portable barriers or blankets, no amplified speaker systems, and no loud amplified radio music) shall be enacted during all construction or ground disturbing activities. • Equipment, materials and supplies, and substances such as fuels, oil, fluids, chemicals, and other such substances which could cause contamination shall not be stored in or near the bypass subchannels. • Runoff from construction zones shall be captured via trenches or other structures (such as silt fencing and straw wattle), and drained away from the bypass subchannels (and their riparian and wetland habitats) to prevent their contamination. • Any contaminated soils and materials will be excavated and removed from the site and disposed of appropriately in accordance with disposal regulations for the substances. • Areas temporarily disturbed by construction activities will be restored to their original condition prior to completion of the project. • A California native seed mix will be applied to all disturbed areas upon completion of the project. • A post-construction monitoring survey will be conducted by the biological monitor and will describe and evaluate all of the protection measures described in this EA. A post construction monitoring report will be prepared and sent to Reclamation and the Service upon completion of construction.
Biological Resources	<p>The following standard vernal pool and Fairy shrimp preventative avoidance measures would be implemented:</p> <ul style="list-style-type: none"> • The six vernal pools located within the Proposed Action area would be completely avoided and would be flagged on at least four sides with a strip of yellow 4-inch caution flagging prior to ground-

Resource	Protection Measure
	<p>disturbing construction activities. The flagging would be conducted by a qualified biologist and the flagging is to remain around the pool during the entire construction period. Upon completion of construction, all flagging and fencing would be removed from around the pool.</p> <ul style="list-style-type: none"> • In addition to the flagging a 50-foot buffer zone would be designated outward from the edge of the pools by a qualified biologist. The zone would be fenced with at least 2-foot tall Geo-webbing or silt-fencing during the entire construction period. • Project engineers, managers, contractors, work crews, and landowners would be briefed and instructed by a qualified biologist on the status of the pools and their potential shrimp, the need to avoid damaging the pools, and the possible penalties for not complying with these measures. This educational briefing shall occur prior to ground-disturbing construction activities. • Construction and work areas in the recharge basin area would be enclosed with lath and colored caution tape to prevent driving on sensitive lands. The flagging would be sited and overseen by the project biologist and project engineer. • Signs would be erected along the fencing near the pools with the following information: "This area is sensitive habitat for vernal pool wetlands and the Vernal Pool Fairy Shrimp, and must not be disturbed. These resources are protected by the State and Federal Laws. Violators are subject to prosecution, fines, and imprisonment." The signs would be clearly readable from a distance of 20 feet and would be maintained for the duration of the construction period. • Heavy equipment would not be operated within the 50-foot buffer zone. • The pools would not be flooded by project operations.
<p>Biological Resources</p>	<p>The following measures would also be implemented for the San Joaquin kit fox:</p> <p>Pre- and During-Constriction Measures:</p> <ul style="list-style-type: none"> • All biologists performing any biological work in regards to this project, e.g. training, biological surveys, biological monitoring, or handling of San Joaquin kit foxes or disturbing their dens or habitat will be approved by the Service prior to engaging in any biological work. • A preconstruction survey following the Service's Standardized Recommendations For Protection Of The Endangered San Joaquin Kit Fox Prior To Or During Ground Disturbance (USFWS 2011), or the Service's most recent survey protocols, shall be conducted not more than seven days prior to construction activities for each construction area. Results of the preconstruction survey shall be prepared in a report and provided to Reclamation for their review prior to the initiation of any construction activities. If any occupied dens are discovered, construction will halt, and the Service will be contacted to coordinate implementation of the Service's Standardized Recommendations for Protection of the San Joaquin Kit Fox Prior to or During Ground Disturbance (USFWS 2011) (2011 Protection Measures). • Prior to and during construction, the James Irrigation District will adhere to the Service's 2011 Protection Measures. Inspections described under Items 2 and 3, under Standard Recommendations on Page 5 of the Service's 2011 Protection Measures will be performed daily. Item 7 under the Service's 2011 Protection Measures will be altered for the USFWS' biological opinion and this EA. It will now read "7. Use of rodenticides in the action area will

Resource	Protection Measure
	<p>be prohibited.” If vegetation control is needed, herbicides or mechanical mowing with a small tractor will be conducted. All other text under item 7 shall be considered to be deleted for this environmental assessment.</p> <ul style="list-style-type: none"> • Construction and work areas in the recharge basin area will be enclosed during construction with lath and colored caution tape to prevent driving on sensitive lands. The installation of the flagging will be overseen by the biological monitor and project engineer. Upon completion of construction, all flagging and fencing will be removed. • Signs will be erected approximately every 1,000 feet along the above fencing with the following information: “This area is habitat of the San Joaquin Kit Fox, an endangered species, and must not be disturbed. This species is protected by both State and Federal Endangered Species Acts. Violators are subject to prosecution, fines, and imprisonment.” The signs will be clearly readable from a distance of 20 feet and will be maintained for the duration of the construction period. • To avoid impacts to kit fox foraging habitat in the James Bypass within the recharge basins, the bed of the bypass will not be leveled or graded within the basins, and will remain in its current state except where berms are constructed. • Each day, prior to the starting of any vehicles or moving of any equipment, the biological monitor will search beneath vehicles and other equipment, as well as stationary items such as shipping containers, wooden pallets, dumpsters, for San Joaquin kit foxes. • To compensate for the loss of 154.7 acres of suitable San Joaquin kit fox denning and foraging habitat, prior to engaging in any ground breaking or construction activity, James ID will establish a preserve by means of a conservation easement over a 154.7-acre area of land in the James Bypass north of Placer Avenue to protect that eased land into perpetuity. This easement will be approved by the Service prior to its being permanently recorded. To ensure the proper management of this preserve, prior to engaging in any construction or ground disturbing activity, James ID will submit a preserve management plan to the Service for approval, and will establish a non-wasting endowment in the amount of \$56,000 to provide for the management of the preserve. In February 2013, H&A examined a preserve site located in the James Bypass just north of Placer Avenue that was selected by the James ID Board of Directors. This site is approximately five miles northwest of the Action Area. Upon the H&A evaluation of the potential preserve, they determined that the parcel will be a suitable kit fox preserve to mitigate for project impacts (see evaluation memo and location map in Appendix O). <p>Post Construction (Operation) Measures:</p> <ul style="list-style-type: none"> • To prevent the flooding and take of kit foxes potentially occurring in the recharge area cells, a pre-activity survey shall be conducted for each recharge area cell 2 to 3 days prior to its filling. If a den is found in a cell, the cell will not be flooded and the Service will be consulted for further instructions. The James ID would then fill and utilize other cells for the project purposes.

Resource	Protection Measure
<p>Biological Resources</p>	<p>The following migratory bird protection measures would be implemented:</p> <ul style="list-style-type: none"> • Preconstruction/preactivity surveys for nesting birds (USFWS 2000) would be completed if construction occurs within the nesting season (February 1-August 31). If any active nests are observed, the nests shall be designated as an Environmentally Sensitive Area and protected (while occupied) during the construction activities. The CDFW shall be contacted, consulted, and avoidance measures, specific to each incident, shall be developed in cooperation with the project proponent, and a qualified biologist. No birds or their nests (including migratory birds covered under the Migratory Bird Treaty Act) would be impacted and no take would occur. • A preconstruction survey shall be conducted by a qualified biologist to determine the existence of burrowing owl nesting sites on project construction areas. The survey shall be conducted not more than 30 days prior to any construction activities for each construction area. Results of the preconstruction survey shall be prepared in a report and given to the CDFW and Reclamation for their review prior to any construction activities. If nesting sites are found, James ID shall implement the CDFW's Staff Report on Burrowing Owl Mitigation guidelines (CDFG 1995) and CDFW shall be consulted. In addition, James ID shall select one of the following measures for implementation by a qualified biologist: <ul style="list-style-type: none"> ○ Destroy vacant burrows prior to March 1 and/or after August 31st. ○ Redesign the project temporarily or permanently to avoid occupied burrows or nest sites until after the nesting/fledgling season. ○ Delay the project construction until after the nesting/fledgling season (March 1 thru August 31). ○ Install artificial burrows in open space areas of the project site and wait for passive relocation of the owl. ○ Active relocation of the owl with conditions. The project proponent shall fund relocation of the owl to unoccupied, suitable property which is permanently preserved (up to 6.5 acres per nesting pair) in the open space on or near the project site or offsite at a recognized burrowing owl mitigation bank (see CDFG 1995 for specific details). • To avoid burying of owls during construction, all potential burrows in construction and work areas would be monitored for three nights using tracking medium at the burrow entrance to determine the current use. If no owl activity is observed during this period, the burrow would be destroyed immediately to preclude subsequent use. If owl activity is observed at the burrow during this period, a one-way door would be installed at the burrow entrance. Additional monitoring would occur to ensure all owls are excluded from the burrow. Only when the burrow is determined to be unoccupied would it be filled under the direction of a qualified biologist. Burrow monitoring and filling activities would be conducted outside the nesting period (March thru August), if possible. • Construction and work areas in the recharge basin area would be enclosed with lath and colored caution tape to prevent driving on sensitive lands. The flagging would be sighted and overseen by the project biologist and project engineer. • Signs would be erected approximately every 1,000 feet along the above fencing with the following information: "This area is habitat of the burrowing owl, a sensitive species, and must not be disturbed. This species is protected by both State and Federal law. Violators are subject to prosecution, fines, and imprisonment." The signs would be clearly readable from a distance of 20 feet and would be maintained for the duration of the construction period.

Resource	Protection Measure
	<ul style="list-style-type: none"> • Upon completion of construction, all flagging and fencing would be removed. • To avoid impacts to owl foraging habitat in the Fresno Slough Bypass where the recharge area berms would be built, the bed of the recharge cells would not be leveled or graded, and would remain in its current state. The sides of the berm would be allowed to naturally re-vegetate to provide habitat for the owl and its prey. • To prevent the flooding and take of owls potentially occurring during operation of the recharge basins during the breeding season (March thru August), a preconstruction type survey would be conducted for each recharge area cell prior to its filling. If an owl nesting burrow is found in a cell, the cell would not be filled and the CDFW and USFWS would be consulted.
Biological Resources	<p>The following measures would be implemented to protect riparian habitat:</p> <ul style="list-style-type: none"> • Any project construction in the bypass channels shall occur when the channel is dry (i.e. not flowing) to incur as few impacts to riparian vegetation/wetlands as possible. • James ID would comply with standard measures included in the CDFW Streambed Alteration Agreement for protection of riparian habitat and water quality, if required. • Riparian habitat would be avoided. If trees larger than four inches in diameter are removed, their loss would be mitigated by planting like species at suitable sites along the bypass. If required, other re-vegetation requirements may be specified in the CDFW Stream Alteration Agreement.

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Section 3 Affected Environment and Environmental Consequences

This section identifies the potentially affected environment and the environmental consequences involved with the Proposed Action and the No Action Alternative, in addition to environmental trends and conditions that currently exist.

3.1 Resources Eliminated from Further Analysis

Reclamation analyzed the affected environment and determined that the Proposed Action did not have the potential to cause direct, indirect, or cumulative adverse effects to the resources listed in Table 2.

Table 2 Resources Eliminated from Further Analysis

Resource	Reason Eliminated
Indian Sacred Sites	The Proposed Action would not limit access to ceremonial use of Indian Sacred Sites on federal lands by Indian religious practitioners or significantly adversely affect the physical integrity of such sacred sites. Therefore, there would be no impacts to Indian Sacred Sites as a result of the Proposed Action.
Indian Trust Assets	The Proposed Action would not impact Indian Trust Assets as there are none in the Proposed Action area. See Appendix C for Reclamation's determination.
Land Use	There would be no conversion of agricultural lands associated with the Proposed Action. Use of the recharge area for groundwater banking and recharge would be in compliance with its current zoning, Agriculture Exclusive-20 acres. Therefore, the Proposed Action area would maintain current land uses and would have no impacts to land use.
Socioeconomic Resources	The ability to bank or recharge any groundwater within this area from surplus surface water supplies would increase water supply reliability which could be used to help meet summertime peak demands, therefore, improving the viability of farm labor jobs. Construction activities would also have a slight beneficial effect as additional, but temporary, jobs are created.
Environmental Justice	The Proposed Action would not cause dislocation, changes in employment, or increase flood, drought, or disease nor would it disproportionately impact economically disadvantaged or minority populations.
Global Climate Change	Under the Proposed Action, construction emissions would occur only during a short period of time which would not impact global climate change trends. Water under the Proposed Action would be pumped by electric pumps which would not result in the power plant exceeding operating capacity or its' emissions permit. As such, the Proposed Action would not result in a substantial change in greenhouse gases emissions, and there would be no adverse effect to global climate.

3.2 Water Resources

3.2.1 Affected Environment

James ID, an entirely agricultural district, conjunctively uses surface water and groundwater to meet irrigation water requirements. James ID's conveyance system consists of three major components: Eastside Canals, the Main Canal, and Lateral Canals. The Eastside Canals convey and collect groundwater pumped from 35 James ID wells located outside the district boundary into the district. James ID also operates 29 groundwater wells within the district's boundaries. The Eastside Canals merge and connect to the south end of the Main Canal through concrete pipelines that flow under the James Bypass. The James ID Main Canal functions as a lift canal for surface water pumped from the Mendota Pool. Groundwater and high flows from the Kings River are gravity-fed into the south end of the Main Canal for delivery within the district. There are also 17 miles of unlined lateral canals within the district. James ID's total conveyance system includes 91.2 miles of unlined canals, 14.5 miles of lined canals, and 6.25 miles of pipelines. James ID also has three regulation reservoirs totaling 33 acres that are used for groundwater recharge and collection of spillwater. James ID's annual water sources can be found in Table 3.

Table 3 James ID's Annual Water Sources

Water Source	Amount (AF)
SOD CVP water via Delta-Mendota Canal and Mendota Pool (Contract No. 14-06-200-700A-LTR1)	Up to 35,300
Schedule 2 SOD Mendota Pool Exchange Contract water (CVP Contract No. 14-06-200-700-A)	9,700 (normal/wet years) 7,600 (dry years)
Kings River High Flow and Fresno Irrigation District spillwater	Varies from 0-40,000
Groundwater	6,000-49,000
Total	Typically 77,000
Source: James ID 2010	

When available, excess surface water is stored by James ID within the underlying groundwater basin through their recharge basins. When needed stored groundwater is pumped by James ID and its landowners to meet irrigation water requirements. On average nearly 50 percent of James ID's agricultural needs are met by groundwater supplies (Table 4). Between 2004 and 2013, groundwater supplies exceeded 50 percent of James ID's overall water supplies six times (Table 4).

Table 4 James ID's Water Supplies between 2004 and 2013

Year	Surface Water (all sources)		Groundwater	
	Volume (AF)	%	Volume (AF)	%
2013	16,600	24	51,900	76
2012	28,000	39	44,300	61
2011	74,000	95	3,900	5
2010	27,400	44	34,400	56
2009	15,000	21	57,100	79
2008	21,300	27	56,900	73

Year	Surface Water (all sources)		Groundwater	
	Volume (AF)	%	Volume (AF)	%
2007	39,500	45	48,700	55
2006	67,400	91	6,300	9
2005	50,300	69	22,500	31
2004	38,600	47	43,000	53
Average	37,810	51	36,900	49

Source: James ID Operations Report, 2004-2013

Groundwater Resources

James ID is located above the northwest portion of the Kings subbasin. The Kings subbasin, with a surface area of approximately 640,000 acres, is one of seven subbasins designated by the California Department of Water Resources as being within the San Joaquin Valley Basin of the Tulare Lake Hydrologic Region (California Department of Water Resources 2006). The Kings groundwater subbasin has been identified as being critically overdrafted (California Department of Water Resources 2005, 2006) in large part due to the heavy reliance on groundwater pumping for irrigation. By definition, “a basin is subject to critical conditions of overdraft when continuation of present water management practices would probably result in significant adverse overdraft-related environmental, social, or economic impacts” (California Department of Water Resources 2005).

Subsidence

Land subsidence is caused by subsurface movement of earth materials. Principal causes of subsidence within the San Joaquin Valley include: aquifer compaction due to groundwater pumping, hydrocompaction caused by application of water to dry soils, and oil mining. The majority of historical subsidence due to water level decline has occurred from pumping beneath confining layers like the Corcoran Clay. Withdrawal of groundwater within the San Joaquin Valley between the 1920s and 1960s for agricultural irrigation caused significant overdraft within the central west side of the valley and most of the southern valley, causing substantial land subsidence within those areas. Importation of surface water from the CVP and SWP in the 1970s decreased the rate of groundwater withdrawal, allowing aquifer levels to recover and subsequently reducing subsidence rates (Poland and Lofgren 1984, USGS 2013). Recently, groundwater pumping rates have increased throughout the San Joaquin Valley due to regulatory and drought-related curtailments placed on water deliveries from the CVP and State Water Project, resulting in water level declines and renewed compaction.

Various entities, including Reclamation, the U.S. Geological Survey, California Department of Water Resources (DWR), San Luis and Delta-Mendota Water Authority, and the San Joaquin River Exchange Contractors have been monitoring subsidence trends within the Central Valley. In 2011, Reclamation established the San Joaquin River Restoration Program (SJRRP) Geodetic Control Network to begin monitoring subsidence with the SJRRP Restoration Area. In addition, due to significant subsidence rates along the flood control bypasses that parallel

the San Joaquin River (some localized areas showing rates of more than 1 foot per year), DWR has collected levee survey data to help further refine the estimated annual subsidence rates along the levees of the flood bypasses (Reclamation 2014).

In 2014, DWR issued a summary of historical and projected future subsidence trends in the state (DWR 2014). The analysis showed that the areas with greatest potential for subsidence are those areas where demand on groundwater is the highest, such as the San Joaquin Valley.

As shown in Figure 3, the Proposed Action area lies within areas of historic and recent subsidence. However, James ID has not observed subsidence within the District (E. Abrahamsen pers. comm. 2015) and nearly all wells within James ID pump above the Corcoran Clay (e-clay).

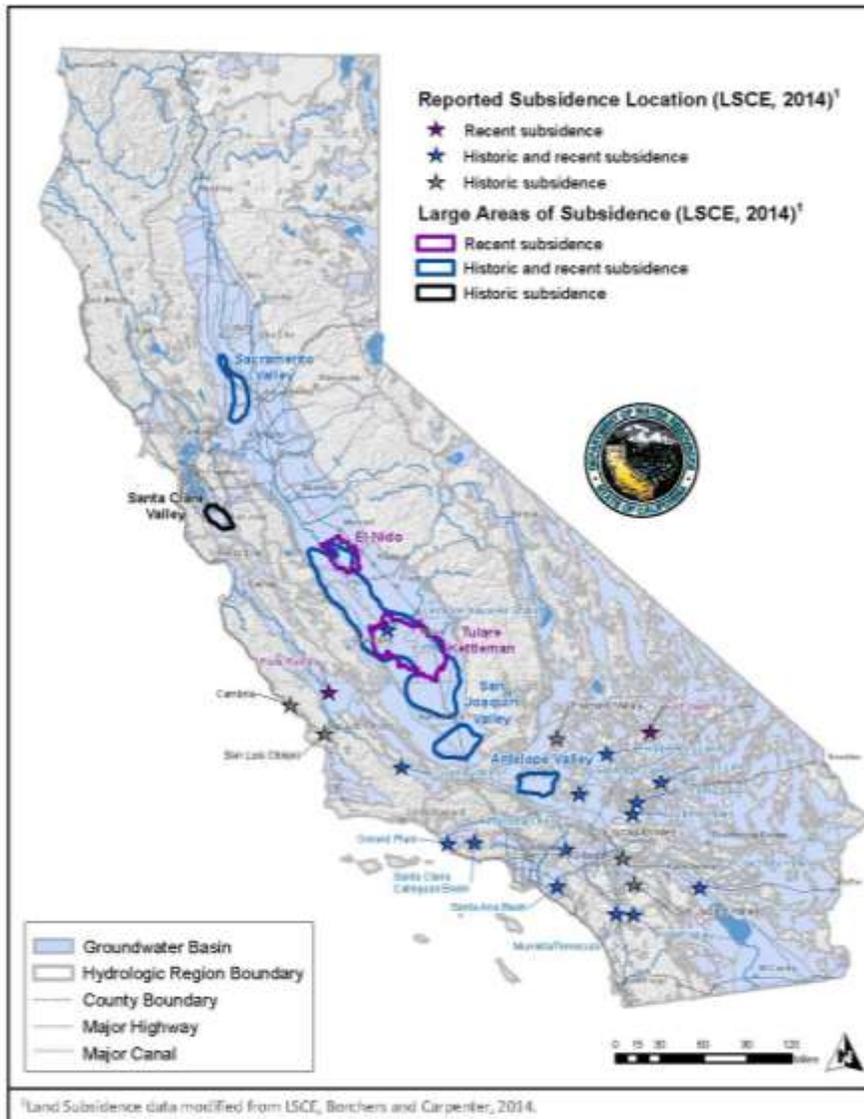


Figure 3 Land Subsidence from Groundwater Use in California

James Bypass

The James Bypass is an artificial 1,200-foot-wide flood channel for the Kings River drainage that is part of the historic natural floodplain. The bypass originates from the North Fork of the Kings River at the James Weir, and flows northwest where it merges with the Fresno Slough near the Mendota Wildlife Area. Flows from the Bypass and Fresno Slough continue north until they release into the San Joaquin River and eventually into the Sacramento-San Joaquin River Delta near Stockton. The bypass has deep channels that run along each side of the action area which conveys all but the greatest flows. On an average annual basis, high flow events have occurred every 2.3 years and last for up to approximately 40 days.

3.2.2 Environmental Consequences

No Action

Under the No Action Alternative, Reclamation would not partially fund James ID's Project which includes the modification and expansion of an existing regulation/recharge/banking area within the James Bypass. James ID would not be able to increase the recharge area within the James Bypass allowing for additional groundwater recharge in this area. Use of available groundwater and surface water supplies would continue, as it has in the past, which would mean that farmers would continue to meet demand with additional groundwater pumping without increased recharge capabilities potentially exacerbating local groundwater level decline in the area. Therefore, there would be an adverse impact to groundwater levels as a result of the No Action Alternative. There would be no impact on surface water supplies as they would be the same as previous conditions which are dependent on historic hydrologic conditions.

Proposed Action

Under the Proposed Action, James ID would be able to increase the recharge area within the James Bypass allowing the district to recharge more of its available surface water supplies for later use consistent with its conjunctive use policies. As groundwater generally makes up nearly 50 percent of James ID's available water supply, additional recharge is needed and would be beneficial to the area. The Proposed Action would not generate a new supply of water; rather, it would improve the reliability of James ID's existing surface water supplies by increasing the recharge area within the James Bypass allowing for greater recharge. Greater recharge would be beneficial to local groundwater levels and may prevent localized subsidence within the area from increased groundwater pumping due to the current drought and regulatory curtailments.

Construction within the James Bypass could impact water quality. As described in Table 2, James ID would implement environmental commitments to minimize potential adverse impacts to water resources, such as: limiting construction to times when the channel is dry. In addition, James ID would acquire, as needed, a Streambed Alteration Agreement from CDFW, an encroachment permit from the

Central Valley Flood Protection Board, as well as all permits required under the Clean Water Act for work within the James Bypass. Any measures or best management practices required by the permits for minimization of potential impacts would be implemented further reducing the potential for impacts to water resources.

Cumulative Impacts

The Proposed Action would be consistent with James ID's current conjunctive use program. Additional groundwater recharge would be cumulatively beneficial to James ID's water supply reliability. The Proposed Action would also have cumulatively beneficial impacts to groundwater levels in the area which may help with overdraft issues related to increased groundwater pumping due to the current ongoing drought and regulatory curtailments. As such, the Proposed Action would not have cumulative adverse impacts to water resources.

3.3 Biological Resources

3.3.1 Affected Environment

The portion of James Bypass in the Proposed Action area is mainly dry, non-native annual grassland habitat that receives occasional high flows of the Kings River. During heavy flood flows, large portions or the entire bypass may be filled with flood waters; however, in most years it is dry. The eastern (auxiliary) channel has weedy upland vegetation and an occasional willow tree. The western (main) channel has reaches of vegetation that range from upland weedy plants, to sparse riparian trees, to thick and lush marshy wetland with riparian trees. Lands adjacent to the bypass include leveled and actively farmed agricultural lands such as vineyards, almond orchards, and alfalfa and corn fields. This information and the information below was compiled by reports prepared by Halstead & Associates (2011 and references therein). Biological surveys for sensitive plants, animals, wetlands, and other waters were conducted for the project from 2008 through 2010 by Halstead & Associates. A summary of findings from these surveys are included below.

A wetland and waters evaluation was conducted in August 2008, an "Ordinary High Water Mark Survey and Findings Memo" was prepared in August 2014, and a "Wetlands & Waters Delineation Report" was prepared in December 2014. Results from these evaluations are summarized herein. Seasonal wetland habitat (marshy pools) occurs in the western (main) channel of the bypass, mainly downstream of the existing regulation Basin 2 where the adjacent Main Canal leaks into the channel. The location for the proposed siphon is in an upland area of the western (main) bypass channel approximately 300 feet upstream of the wetland habitat. The proposed area for the recharge basins has six small seasonal wetlands that occur in the grassland habitat of the bypass. The configuration of the recharge basins has been modified to avoid these seasonal wetlands and a 50-foot protective buffer zone has been placed around them. Riparian habitat occurs in the western (main) channel of the bypass, mainly downstream of existing

regulation Basin 2. The eastern (auxiliary) channel has weedy upland vegetation and an occasional willow tree but does not have riparian habitat. The incised channels on each side of the James Bypass, some side channels and overflow areas off of the main Bypass channel are “waters of the State” and a “waters of the United States”. **LEDPA**

Burrowing owl surveys were conducted in August 2008 and two families were observed nesting and foraging in the Project’s proposed recharge basins area. Additional sites in the recharge basins were observed being used by owls during the pre-nesting season in March 2010.

Three raptor nests were found adjacent to the Project along the western (main) channel of the bypass in large Goodding’s willow trees. In spring 2009 nesting red-tailed hawks produced two young.

A protocol kangaroo rat live-trapping survey was conducted in August 2008. No Fresno kangaroo rats were captured. Species captured throughout the project footprint included Heermann’s kangaroo rat and deer mouse.

Protocol surveys for the San Joaquin kit fox involving spotlighting, dens searches, and scent stations were conducted in August 2008. According to Halstead & Associates, a family of kit foxes was observed on and adjacent to the project site during several nights of spotlighting. Kit foxes were identified at close range with binoculars and both adults and young foxes were observed; however, despite extensive and intensive searches, a natal or pupping den of kit fox could not be located on the project site. Additional den surveys were conducted in December 2009 and March 2010. There was a question on this identification and the U.S. Fish and Wildlife Service (USFWS) requested Dr. Brian Cypher’s review on the reported kit fox occurrence in the Proposed Action area. Dr. Cypher (pers. comm. to S. McDonald) indicated that he thought the observed canids were more likely a litter of coyote pups based on the following: (1) lack of a nearby source population of kit foxes; (2) kit fox pups are normally weaned and disperse by August; and (3) kit fox families have not been observed foraging as a group.

Sensitive plant surveys were conducted in late summer and fall of 2008 and also in spring of 2009 at the time when sensitive species would have been visible. No sensitive plants were observed.

A species list was obtained from the USFWS on April 11, 2013 (document number 130411114230) for the San Joaquin and Helm U.S. Geological Survey 7.5 minute quadrangles (see Table 5). The Proposed Action area does not fall within any proposed or designated critical habitat.

Table 5 Federally Listed Species Considered for the Project

Species	Listed Status	Effects Determination
MAMMALS		

Fresno Kangaroo Rat (<i>Dipodomys nitratoides exilis</i>)	FE, SE	No Effect
Giant Kangaroo Rat (<i>Dipodomys ingens</i>)	FE, SE	No Effect
San Joaquin Kit Fox (<i>Vulpes macrotis mutica</i>)	FE, ST	May Adversely Affect
REPTILES		
Blunt-nosed Leopard Lizard (<i>Gambelia sila</i>)	FE, SE	No Effect
Giant Garter Snake (<i>Thamnophis gigas</i>)	FT, ST	No Effect
Amphibians		
California Red-legged Frog (<i>Rana draytonii</i>)	FT, CSC	No Effect
FISH		
Central Valley Steelhead (<i>Oncorhynchus mykiss</i>)	FT	No Effect
Central Valley Spring-run Chinook Salmon (<i>Oncorhynchus tshawytscha</i>)	FT, ST	No Effect
Delta Smelt (<i>Hypomesus transpacificus</i>)	FE, ST	No Effect
North American Green Sturgeon (<i>Acipenser medirostris</i>)	FT	No Effect
Sacramento River Winter-run Chinook Salmon (<i>Oncorhynchus tshawytscha</i>)	FE, SE	No Effect
INVERTEBRATES		
Valley Elderberry Longhorn Beetle (<i>Desmocerus californicus dimorphus</i>)	FT	No Effect
Vernal Pool Fairy Shrimp (<i>Branchinecta lynchi</i>)	FT	No Effect
PLANTS		
Palmate-bracted Bird's-beak (<i>Cordylanthus palmatus</i>)	FE, SE	No Effect
San Joaquin Woollythreads (<i>Monolopia congdonii</i>)	FE	No Effect
Status codes: FE - Federally Endangered FT - Federally Threatened SE - State Endangered ST - State Threatened CSC – California Species of Concern		

Table 6 contains a list of other special-status species compiled for the same quads using records from the California Natural Diversity Database (CNDDDB 2013).

Table 6 Other Special-Status Species Considered for the Proposed Action

Species	Listed Status	Effects Determination
MAMMALS		
American Badger (<i>Taxidea taxus</i>)	CSC	May Adversely Affect
Nelson's Antelope Squirrel (<i>Ammospermophilus nelsoni</i>)	ST	No Effect
San Joaquin Pocket Mouse (<i>Perognathus inornatus inornatus</i>)	S2/S3	No Effect
Western Mastiff Bat (<i>Eumops perotis californicus</i>)	S3, CSC	No Effect
Western Red Bat (<i>Lasiurus blossevillei</i>)	S3, CSC	No Effect
Yuma Myotis (<i>Myotis yumanensis</i>)	S4	No Effect
BIRDS		
American Peregrine Falcon (<i>Falco peregrinus</i>)	S2, MBTA	No Effect
Bald Eagle (<i>Haliaeetus leucocephalus</i>)	SE, MBTA	No Effect
Merlin (<i>Falco columbarius</i>)	S3, MBTA	No Effect
Mountain Plover (<i>Charadrius montanus</i>)	S2, FPT, MBTA	No Effect

Species	Listed Status	Effects Determination
Swainson's Hawk (<i>Buteo swainsoni</i>)	ST, MBTA	May Adversely Affect ¹
Tricolored Blackbird (<i>Agelaius tricolor</i>)	S2, CSC, MBTA	No Effect
Western Burrowing Owl (<i>Athene cunicularia</i>)	S2, CSC, MBTA	May Adversely Affect
White-faced Ibis (<i>Plegadis chihi</i>)	S1, MBTA	No Effect
REPTILES		
Coast Horned Lizard (<i>Phrynosoma blainvillii</i>)	S3/S4, CSC	No Effect
San Joaquin Whipsnake (<i>Masticophis flagellum ruddocki</i>)	S2, CSC	No Effect
Western Pond Turtle (<i>Clemmys marmorata</i>)	S3, CSC	No Effect
AMPHIBIANS		
Western Spadefoot (<i>Spea hammondi</i>)	S3, CSC	No Effect
PLANTS		
Brittlescale (<i>Atriplex depressa</i>)	S2/1B.2	No Effect
Heartscale (<i>Atriplex cordulata</i>)	S2/1B.2	No Effect
Hoover's Eriastrum (<i>Eriastrum hooveri</i>)	S3/4.2	No Effect
Lesser Saltscale (<i>Atriplex miniscula</i>)	S2/1B.2	No Effect
Lost Hills Crownscale (<i>Atriplex coronata</i> var. <i>vallicola</i>)	S2/1B.2	No Effect
Munz's Tidy-tips (<i>Layia munzii</i>)	S1/1B.2	No Effect
Recurved Larkspur (<i>Delphinium recurvatum</i>)	S3/1B.2	No Effect
Sanford's Arrowhead (<i>Sagittaria sanfordii</i>)	S3/1B.2	No Effect
Subtle Orache (<i>Atriplex subtilis</i>)	S2/1B.2	No Effect
<p>Status codes FE - Federally Endangered, FT - Federally Threatened SE - State Endangered, ST - State Threatened FPT - Federally Proposed Threatened S1 – Fewer than 6 Viable Element Occurrences, S2 - 6-20 Element Occurrences S3 - 1-100 Element Occurrences, S4 - Apparently secure within California S5 - Population demonstrably secure to ineradicable due to being commonly found in the world CSC – California Species of Concern</p> <p>Rare Plant Ranks 1B.2 Plant species that are rare, threatened, or endangered in California and elsewhere. 4 Plant species that have a limited distribution or that are infrequent throughout a broader area in California Threat Extension Codes: .1 – Seriously endangered in CA .2 – Fairly endangered in CA .3 - Not very endangered in CA</p>		

3.3.2 Environmental Consequences

No Action

Under the No Action Alternative, the San Joaquin kit fox, western burrowing owl, American badger, and red-tailed hawk would not lose 154.7 acres of potential foraging habitat (or burrows or dens in the case of all but the hawks). No disturbance from construction or operations of the recharge basins would occur. However, the condition of the area of the James Bypass, where the recharge basins would occur under the Proposed Action, would not be improved by an increase in higher-quality wetlands.

¹ Foraging habitat might be affected. Although the 2008 survey found no nesting activity, another survey would be conducted prior to construction. If nests are found, they would be avoided.

Proposed Action

The Proposed Action may adversely affect the San Joaquin kit fox as the project would result in the loss of 154.7 acres of grassland habitat (152.4 acres in the recharge area and 2.3 acres of existing embankment earthwork upstream of the water control structure along the auxiliary channel embankment) which is potential kit fox habitat. Under the Proposed Action, the grassland habitat would be converted to recharge basins (seasonal ponds); however, avoidance and minimization measures have been incorporated into the Project in order to reduce the potential for death, injury, interference with movement, loss of reproduction, reproductive impairments, and decrease in survivorship. These potential impacts would be compensated for by the creation of a 154.7-acre kit fox conservation area/preserve located in the James Bypass north of Placer Avenue, which would be placed under a conservation easement and funded with a non-wasting endowment. Reclamation initiated formal consultation with the USFWS on December 19, 2013. This EA will not be finalized until consultation is complete.

Temporary, but minor, impacts would occur from noise and dust in and near construction work areas. The construction of the siphon crossing under the western (main) channel would cause a temporary and minor impact to the channel. After installation, the site would be contoured back to its pre-project condition. The work in the channel is estimated to take less than one month to complete.

Although the bottom of the basins and new recharge cells would not be subject to ground disturbance during operation, they would periodically be affected by inundation and operation of the basins. The berms for the basins would be a permanent structure and would impact the grassland habitat. Minimization measures would prevent death of kit foxes, but there would still be a loss of foraging and denning habitat. To minimize the adverse effects on kit foxes the majority of construction activities would occur on previously developed land.

The western burrowing owl uses the same habitat type as the San Joaquin kit fox, so the owls in the Proposed Action area would also be subject to a loss of foraging habitat, and to minor disturbance during construction. Minimization measures would prevent any injury, death, or nest abandonment. The land preserved for kit foxes would also provide habitat for burrowing owls. The effects are similar for the American badger. Raptors such as the red-tailed hawk would also have an impact to their foraging habitat, but nests would be avoided to avoid take.

The Proposed Action would be beneficial with regard to wetlands, because the recharge cells, which would be constructed within the James Bypass, would replace part of the existing uplands areas with wetlands that have a higher ecological value.

Cumulative Impacts

Historically, a great deal of habitat has been lost for the San Joaquin kit fox, and to some extent, also for the western burrowing owl and American badger. Other

past, present and reasonably foreseeable future impacts include routine farming activities, such as ground disturbance from tilling, use of pesticides and poisoning of rodents, and the generation of dust and noise associated with the use of farm equipment. These impacts would occur with or without the Proposed Action. As such, there would be no cumulative adverse impacts as a result of the Proposed Action.

3.4 Cultural Resources

Cultural resources is a broad term that includes prehistoric, historic, architectural, and traditional cultural properties. The NHPA of 1966 is the primary Federal legislation that outlines the Federal Government's responsibility to cultural resources. Section 106 of the NHPA requires the Federal Government to take into consideration the effects of an undertaking on cultural resources listed on or eligible for inclusion in the National Register of Historic Places (National Register). Those resources that are on or eligible for inclusion in the National Register are referred to as historic properties.

The Section 106 process is outlined in the Federal regulations at 36 CFR Part 800. These regulations describe the process that the Federal agency (Reclamation) takes to identify cultural resources and the level of effect that the proposed undertaking will have on historic properties. In summary, Reclamation must first determine if the undertaking is the type of action that has the potential to affect historic properties. If the action is the type of action to affect historic properties, Reclamation must identify the area of potential effects (APE), determine if historic properties are present within that APE, determine the effect that the undertaking will have on historic properties, and consult with the State Historic Preservation Office (SHPO), to seek concurrence on its findings. In addition, Reclamation is required through the Section 106 process to consult with Indian Tribes concerning the identification of sites of religious or cultural significance, and consult with individuals or groups who are entitled to be consulting parties or have requested to be consulting parties.

3.4.1 Affected Environment

Reclamation coordinated cultural resources identification with James ID who contracted a consulting firm to conduct cultural resources inventory for the proposed project. Initial surveys for the proposed project were conducted in 2008 with subsequent surveys intended for prehistoric site relocation and historic built environment recordation conducted in 2012 and 2013. Three previously recorded prehistoric sites could not be relocated, most likely due to changes to ground surfaces since the time that the sites were identified and erroneous plotting of the site locations. Two previously recorded prehistoric sites (light lithic scatters) were relocated, one in the project area and one outside the project area. The site within the project area was not evaluated for eligibility to the National Register as it will be avoided during project construction and would, therefore, not be affected.

As part of the built environment recordation effort, four resources were identified. These include: Levee No.1, the Western Channel, a portion of the Eastern channel, and the Main Canal, all of which are part of the James ID water conveyance system. Reclamation evaluated these resources and found that none of them meet any of the criteria for listing on the National Register.

3.4.2 Environmental Consequences

No Action

Under the No Action Alternative, existing conditions would persist and the proposed project would not be implemented. As a result, the No Action alternative would result in no impacts to cultural resources.

Proposed Action

Only one prehistoric site identified in the project area is potentially eligible for listing on the National Register. However, there would be no direct impacts from the Proposed Action on this unevaluated prehistoric site as it will be avoided during construction and operation activities. In addition to the Proposed Action, James ID has proposed creating a 154.7-acre kit fox conservation area/preserve located in the James Bypass north of Placer Avenue. Within this area the following has been proposed: 1) installation of 17 artificial, above-ground, escape dens within the Proposed Action area; 2) installation of 8 multi-entranced, sub-surface artificial dens at the conservation area; and 3) installation of 11 artificial, above-ground, escape dens within a proposed conservation area. Reclamation consulted with the California SHPO under 36 CFR Part 800 on a determination of no adverse effect for the Proposed Action, including the proposed conservation area/preserve. On October 23, 2014, SHPO concurred with Reclamation's determination (see Appendix D).

Cumulative Impacts

As there would be no adverse impacts to historic properties or cultural resources, there would be no cumulative adverse impacts as a result of the Proposed Action.

3.5 Air Quality

Section 176 (C) of the Clean Air Act (42 U.S.C. 7506 (C)) requires any entity of the federal government that engages in, supports, or in any way provides financial support for, licenses or permits, or approves any activity to demonstrate that the action conforms to the applicable State Implementation Plan required under Section 110 (a) of the Federal Clean Air Act (42 U.S.C. 7401 [a]) before the action is otherwise approved. In this context, conformity means that such federal actions must be consistent with State Implementation Plan's purpose of eliminating or reducing the severity and number of violations of the National Ambient Air Quality Standards and achieving expeditious attainment of those standards. Each federal agency must determine that any action that is proposed

by the agency and that is subject to the regulations implementing the conformity requirements would, in fact conform to the applicable State Implementation Plan before the action is taken.

On November 30, 1993, the Environmental Protection Agency (EPA) promulgated final general conformity regulations at 40 CFR 93 Subpart B for all federal activities except those covered under transportation conformity. The general conformity regulations apply to a proposed federal action in a non-attainment or maintenance area if the total of direct and indirect emissions of the relevant criteria pollutants and precursor pollutant caused by the Proposed Action equal or exceed certain *de minimis* amounts thus requiring the federal agency to make a determination of general conformity.

3.5.1 Affected Environment

The Proposed Action area lies within the San Joaquin Valley Air Basin under the jurisdiction of the San Joaquin Valley Air Pollution Control District. The pollutants of greatest concern in the San Joaquin Valley are carbon monoxide, ozone, ozone precursors such as reactive organic gases (ROG) or volatile organic compounds (VOC), inhalable particulate matter between 2.5 and 10 microns in diameter (PM₁₀) and particulate matter less than 2.5 microns in diameter (PM_{2.5}). The San Joaquin Valley Air Basin has reached Federal and State attainment status for carbon monoxide, nitrogen dioxide, and sulfur dioxide. Although Federal attainment status has been reached for PM₁₀ the State standard has not been met and both are in non-attainment for ozone and PM_{2.5} (San Joaquin Valley Air Pollution Control District 2014). There are no established standards for nitrogen oxides (NO_x); however, they do contribute to nitrogen dioxide standards and ozone precursors (San Joaquin Valley Air Pollution Control District 2014).

3.5.2 Environmental Consequences

No Action

There would be no impacts to air quality as conditions would remain the same as existing conditions under this alternative.

Proposed Action

Operation of the Project would not contribute to criteria pollutants as delivery of water to the recharge area would be done via gravity. In addition, the extraction of recharged water for later delivery by James ID would be done with electrical pumps. As air quality emissions from electrical power were previously considered in environmental documentation for the generating power plant and are part of the existing baseline conditions, there would be no additional impacts associated with operation of the electrical pumps.

There would be temporary emissions during construction and modification of the Proposed Action area. James ID estimated construction emissions using the Road Construction Emissions Model V5.2 for their California Environmental Quality

Act analysis (Provost & Pritchard 2009). A summary of estimated emissions can be found in Table 7.

Table 7 Estimated Emissions

	VOC/ROG (tons/year)	NO_x (tons/year)	PM₁₀ (tons/year)
Total Emissions	1.22	5.57	0.58
Thresholds of Significance ¹	10	10	15
¹ Based on the San Joaquin Valley Air Pollution Control District's adopted thresholds of significance for construction emissions of criteria pollutants adopted July 2014.			

As shown in Table 7, calculated unmitigated annual emissions for construction and operations are each well below the *de minimis* thresholds for the San Joaquin Valley Air Pollution Control District. Although calculated emissions are below San Joaquin Valley Air Pollution Control District thresholds, environmental protection measures have been incorporated into the Proposed Action in order to minimize emissions from construction activities. Consequently, the Proposed Action would not result in substantial adverse impacts upon air quality and a conformity analysis pursuant to the Clean Air Act is not required.

Cumulative Impacts

Construction, operation and maintenance emissions for the Proposed Action are well below the *de minimis* thresholds established by the San Joaquin Valley Air Pollution Control District and are expected to be temporary in duration. In addition, environmental protection measures have been incorporated into the Proposed Action in order to minimize emissions from construction activities. As a result, the Proposed Action will not contribute to cumulative adverse impacts to air quality.

Section 4 Consultation and Coordination

4.1 Public Review Period

Reclamation intends to provide the public with an opportunity to comment on the Draft FONSI and Draft EA during a 30-day public review period.

4.2 Fish and Wildlife Coordination Act (16 U.S.C. § 661 et seq.)

FWCA requires that Reclamation consult with fish and wildlife agencies (federal and state) on all water development projects that could affect biological resources. The amendments enacted in 1946 require consultation with the Service and State fish and wildlife agencies “whenever the waters of any stream or other body of water are proposed or authorized to be impounded, diverted, the channel deepened, or the stream or other body of water otherwise controlled or modified for any purpose whatever, including navigation and drainage, by any department or agency of the United States, or by any public or private agency under Federal permit or license”. Consultation is to be undertaken for the purpose of “preventing the loss of and damage to wildlife resources”.

Reclamation’s Proposed Action involves funding of the project. Reclamation is not constructing or permitting the project. As such, FWCA does not apply to Reclamation’s Proposed Action. The Corps is permitting the action and would be responsible for ensuring compliance with FWCA.

4.3 Endangered Species Act (16 U.S.C. § 1531 et seq.)

Section 7 of the ESA requires Federal agencies, in consultation with the Secretary of the Interior and/or Commerce, to ensure that their actions do not jeopardize the continued existence of endangered or threatened species, or result in the destruction or adverse modification of the critical habitat of these species.

Section 7 consultation, in cooperation with the Corps, has been initiated by Reclamation as the lead federal agency for the Project. A biological assessment was submitted on December 19, 2013 to the USFWS for Reclamation’s Proposed Action. The Proposed Action includes the Corps’ action area and is being covered by Reclamation’s consultation. This EA will not be finalized until consultation is complete.

4.4 National Historic Preservation Act (16 U.S.C. § 470 et seq.)

The NHPA of 1966, as amended (16 U.S.C. 470 et seq.), requires that federal agencies give the Advisory Council on Historic Preservation an opportunity to comment on the effects of an undertaking on historic properties, properties that are eligible for inclusion in the National Register. The 36 CFR Part 800 regulations implement Section 106 of the NHPA.

Section 106 of the NHPA requires federal agencies to consider the effects of federal undertakings on historic properties, properties determined eligible for inclusion in the National Register. Compliance with Section 106 follows a series of steps that are designed to identify interested parties, determine the APE, conduct cultural resource inventories, determine if historic properties are present within the APE, and assess effects on any identified historic properties.

Reclamation consulted with the California SHPO under 36 CFR Part 800 on a determination of no adverse effect for the Proposed Action. The Project includes the Corps' action area and was covered by Reclamation's consultation. On October 23, 2014, SHPO concurred with Reclamation's determination (see Appendix D).

4.5 Clean Water Act (33 U.S.C. § 1251 et seq.)

Section 401 of the Clean Water Act (33 U.S.C. § 1311) prohibits the discharge of any pollutants into navigable waters, except as allowed by permit issued under sections 402 and 404 of the Clean Water Act (33 U.S.C. § 1342 and 1344). If new structures (e.g., treatment plants) are proposed, that would discharge effluent into navigable waters, relevant permits under the Clean Water Act would be required for the project applicant(s). Section 401 requires any applicant for an individual Corps dredge and fill discharge permit to first obtain certification from the state that the activity associated with dredging or filling will comply with applicable state effluent and water quality standards. This certification must be approved or waived prior to the issuance of a permit for dredging and filling. Section 404 of the Clean Water Act authorizes the Corps to issue permits to regulate the discharge of "dredged or fill materials into waters of the United States" (33 U.S.C. § 1344)

James ID has applied for a Section 404 permit from the Corps for activities associated with the Proposed Action. James ID is in the process of obtaining a California Regional Water Quality Control Board Clean Water Act Section 401 permit for the Project.

Reclamation and the Corps have been coordinating on the Proposed Action since its inception. The Corps has designated Reclamation the lead federal agency for

Section 7 ESA and Section 106 NHPA consultations as described above. At this time a least environmentally damaging practicable alternative has not been identified by the Corps in lieu of the Proposed Action covered in this EA. If such an alternative is determined to be outside the scope of the analysis covered in this EA, then additional environmental review will be necessary.

4.6 Executive Order 11988 – Floodplain Management

Executive Order 11988 requires that all Federal agencies take action to reduce the risk of flood loss, to restore and preserve the natural and beneficial values served by floodplains, and to minimize the impact of floods on human safety, health, and welfare.

As described in Section 2 of this EA, the Project would modify and expand an existing regulation/recharge/banking area within the James Bypass. The Project would be consistent with its current use and would not impact flood management. In addition, James ID would implement avoidance measures as described in Section 2.2.3 that would reduce potential impacts to the floodplain. Therefore, the Proposed Action would be consistent with Executive Order 11988.

4.7 Executive Order 11990 – Protection of Wetlands

Executive Order 11990 requires Federal agencies to follow avoidance, mitigation, and preservation procedures with public input before proposing new construction in wetlands.

As described in 2.2.3, James ID would implement avoidance measures to prevent impacts to wetlands within the James Bypass. In addition, the draft EA will be released for public comment. Therefore, the Proposed Action would be consistent with Executive Order 11990.

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