

# RECLAMATION

## *Managing Water in the West*

### FINDING OF NO SIGNIFICANT IMPACT

### Long-term Contract for the Exchange of Water between the Bureau of Reclamation and Byron-Bethany Irrigation District – Delta Division and San Luis Unit

**FONSI-09-149**

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Date: 12/10/2013

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See Appendix I of EA-09-149  
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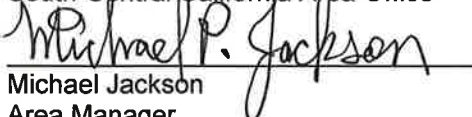
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# Introduction

In accordance with section 102(2)(c) of the National Environmental Policy Act (NEPA) of 1969, as amended, the South-Central California Area Office of the Bureau of Reclamation (Reclamation), has determined that an Environmental Impact Statement (EIS) is not required to approve the execution of a long-term (up to 40-year) exchange contract and a long-term (up to 40-year) license with Byron-Bethany Irrigation District (BBID). This Finding of No Significant Impact (FONSI) is supported by Reclamation's Environmental Assessment (EA)-09-149 *Long-term Contract for the Exchange of Water between the Bureau of Reclamation and Byron-Bethany Irrigation District – Delta Division and San Luis Unit*, and is hereby incorporated by reference.

Reclamation provided the public with an opportunity to comment on the Draft FONSI and Draft EA between October 1, 2012 and October 31, 2012. No comment letters were received. Changes from the draft EA that are not minor editorial changes are indicated by vertical lines in the left margin of the EA.

## Background

BBID is a multicounty special district, established under state law primarily to provide water to lands in Alameda, Contra Costa, and San Joaquin Counties. BBID has two water service areas: a Central Valley Project (CVP) water service area (approximately 5,800 acres) that receives CVP water and the Byron Service area (approximately 16,300 acres) which is served by non-CVP water. BBID is located in the vicinity of the City of Tracy (City) and portions of the district overlap with the current City boundaries as well as the City's sphere of influence. Although BBID is primarily an agricultural district, urban development has increased conversion of land use from agriculture to municipal and industrial (M&I). Since the 1990s, approximately 6,000 acres of land in BBID have been converted to M&I use. Under agreements with the City, BBID provides raw water for treatment and retail delivery to a portion of BBID's M&I customers located within the area of overlapping City and BBID boundaries.

The approximately 6,000 acre Tracy Hills Development (Tracy Hills) has been proposed for construction in the southwest portion of the City. The development will include up to 5,499 dwelling units, ranging from estate lots to apartments (Tracy Hills Specific Plan Environmental Impact Report 1997). In 1998, the City annexed Tracy Hills and in 1999, 2,006 acres of Tracy Hills was annexed into BBID's Raw Water Service Area 2 (RWSA2). As RWSA2 is located within BBID's Byron Service area, BBID intends to use a portion of their pre-1914 water right entitlement to meet the water needs of the development. Buildout of Tracy Hills is expected to occur over a period of 30 years, beginning in 2014.

The 1999 BBID annexation agreement identified a potential need in RWSA2 for up to 6,000 acre-feet (AF) per year (AFY) of water. However, the annexation agreement was amended in 2003 in order to clarify the financial terms and water delivery options for Tracy Hills. Included among the changes to the annexation agreement was a reduction in the Tracy Hills water demand and, thus, a reduction in the maximum BBID allocation of water needed in

RWSA2. In accordance with the 2003 amended BBID annexation agreement, a maximum of 4,500 AFY of raw water is required to meet M&I purposes within RWSA2.

On May 28, 2003, BBID and the California Department of Water Resources (DWR) executed an agreement addressing their respective operations, including an acknowledgement by DWR of BBID's right to divert up to 50,000 AFY of water from the San Joaquin-Sacramento River Delta [Delta] (BBID and DWR 2003). The 2003 agreement reaffirms BBID's current point of diversion in the Intake Channel (Milepost [MP] 1.83) to the Harvey O. Banks Pumping Plant. The 2003 agreement acknowledges that BBID may "furnish water...to the Tracy Hills portion of the District" (BBID and DWR 2003). Pursuant to the 2003 agreement with DWR, delivery of water under BBID's pre-1914 water right to Tracy Hills is limited to months during the historic irrigation season (March through October). In order to deliver water to the development over a 12-month period, BBID has requested that Reclamation enter into a long-term exchange contract for introduction of up to 4,500 AF of their pre-1914 water right water (non-CVP water), plus up to an additional 225 AFY to cover conveyance losses, at MP 3.32R on the Delta-Mendota Canal (DMC). BBID has also requested a long-term license for placement, maintenance, and operation of a pipeline within Reclamation's rights-of way (ROW).

## **Proposed Action**

Reclamation proposes to execute a long-term (up to 40-year) exchange contract and a long-term (up to 40-year) license with BBID for introduction of up to 4,500 AFY, plus up to an additional 225 AFY to cover conveyance losses, of its non-CVP water at MP 3.32R between March and October to meet Tracy Hills demand. All introduced water will be exchanged with Reclamation at the point of introduction. Exchanged water will either be delivered to MP 15.88L for treatment at the City's water treatment plant prior to delivery to Tracy Hills or will be stored within San Luis Reservoir for later delivery. Exchanged water may only be used within the Consolidated Place of Use as shown in Appendix A of EA-09-149. As the exchanged water stored in San Luis Reservoir cannot be pumped upstream for delivery to MP 15.88L when called upon, the stored exchanged water will be used by Reclamation to meet CVP demands and a like amount of CVP water will be delivered to MP 15.88L.

Introduction of BBID's non-CVP water and storage of exchanged water will be scheduled annually with Reclamation and will be subject to excess capacity, operational constraints, and environmental requirements, as applicable. No Project Use Power will be used for the Proposed Action.

The license will allow BBID to access federal land to install an aboveground pipeline at the DMC as well as maintain and operate the structure on Reclamation's ROW. No construction or modifications to the DMC are required for the Proposed Action; however, improvements to existing BBID facilities as well as a new underground pipeline will be required for introduction of BBID's non-CVP water to the DMC as described in EA-09-149.

## **Environmental Commitments**

BBID shall implement the following environmental protection measures to reduce environmental consequences associated with the Proposed Action (Table 1).

Environmental consequences for resource areas assume the measures specified will be fully implemented. Copies of all reports and monitoring shall be submitted to Reclamation.

**Table 1 Environmental Protection Measures and Commitments**

<b>Resource</b>	<b>Protection Measure</b>
Water Resources	Prior to construction, a Qualified Storm Water Pollution Prevention Plan (SWPPP) Developer would prepare a SWPPP and a Qualified SWPPP Practitioner would implement the SWPPP in order to minimize the amount of pollutants discharged in storm water from the site.
Water Resources	BBID must comply with Reclamation's then current water quality standards (see Appendix C of EA-09-149 for Reclamation's most recent standards).
Biological Resources	At least 30 calendar days prior to ground disturbance, BBID shall (a) purchase 8.49 acres compensation land for the loss of habitat, place a U.S. Fish and Wildlife Service (Service) approved conservation easement on that land, and arrange for Service approved management and endowment, or (b) purchase and endow compensation land with a Service approved conservation bank.
Biological Resources	At least 15 days prior to any ground disturbing activities; the applicant will submit to the Service, for review, the qualifications of the proposed biological monitor(s). Upon Service approval, the biologist(s) will be given the authority to stop any work that may result in the take of listed species. If the on-site biologist(s) exercises this authority, the Service and Reclamation will be notified by telephone and electronic mail within 1 working day. The on-site biologist(s) will be the contact for any employee or contractor who might inadvertently kill or injure a California red-legged frog, San Joaquin kit fox or California tiger salamander, or anyone who finds a dead, injured, or entrapped individual of these species. The on-site biologist(s) will possess a working cellular telephone whose number will be provided to the Service. Should take occur of a California red-legged frog, San Joaquin kit fox or California tiger salamander individual, the Service-approved biologist(s) will contact Reclamation, the Service, and the California Department of Fish and Wildlife (CDFW) within 24 hours of the discovered occurrence.
Biological Resources	Preconstruction surveys for the California red-legged frog, San Joaquin kit fox, and the California tiger salamander will be performed immediately prior to groundbreaking activities. A Service-approved biologist will conduct the surveys and results will be provided to Reclamation for review. If, at any point, activities associated with the project cease for more than 15 consecutive days, additional preconstruction surveys will be conducted prior to the resumption of these actions.
Biological Resources	Preconstruction surveys for San Joaquin kit fox dens will be conducted within a minimum of 200 feet of the project area. Results will be provided to Reclamation for review. Any natal dens encountered will be avoided, in consultation with the Service, by a minimum of 100 feet for known dens and a minimum of 50 feet for potential dens. Non-natal dens will be monitored for a minimum of 3 days to determine their current use. If no San Joaquin kit fox activity is observed during this period, the den will be destroyed to prevent future use by San Joaquin kit fox. If San Joaquin kit fox activity is observed at the den during this period, the den will be monitored for at least 5 consecutive days from the time of the observation to allow any resident animal to move to another den during its normal activity. Use of the den will be discouraged during this period by partially plugging its entrance(s) with soil in such a manner that any resident animal can escape easily. Only when the den is determined to be unoccupied will it be excavated under the direction of a Service-approved biologist. If the animal is still present after 5 or more consecutive days of plugging and monitoring, the den will be excavated when, as determined by a Service-approved biologist, it is temporarily vacant (for example, during the San Joaquin kit fox's normal foraging activity). Potential dens will be temporarily marked for avoidance by a minimum of 50 feet and further studied by a Service-approved biologist. Destruction of potential dens will occur only after a Service-approved biologist determines that no San Joaquin kit fox are inside. To determine the presence of San Joaquin kit fox, the potential den will be fully excavated to the end by either hand or machinery. Once determined empty, the den will be filled with dirt and compacted to ensure that San Joaquin kit fox cannot enter or use the den during the construction period. If any potential den is determined to be currently or previously used by San Joaquin kit fox, the measures described above for natal and

Resource	Protection Measure
	non-natal dens (as applicable) will be followed.
Biological Resources	A Service approved biologist will monitor any California tiger salamanders or California red-legged frogs observed during preconstruction surveys and submit a report to Reclamation for review. Any California tiger salamander or California red-legged frog would be allowed to passively leave the site or, if determined necessary by a Service-approved biologist, removed from the work area(s) and relocated to an appropriate location.
Biological Resources	Prior to the start of groundbreaking activities, all construction personnel will receive worker education training on listed species and their habitats by a Service-approved biologist or a video recording of said biologist. The importance of these species and their habitat will be described to all employees as well as the minimization and avoidance measures that are to be implemented as part of the project. An educational brochure containing color photographs of all listed species in the work area(s) will be distributed to all employees working within the project site(s). Workers will also be informed of appropriate measures to take should a toxic materials spill occur. A list of employees who attend the training sessions will be maintained by the applicant to be made available for review by the Service and the CDFW upon request. Contractor training will be incorporated into construction contracts and will be a component of weekly project meetings.
Biological Resources	Wildlife exclusion fencing will be established around the perimeter of the 0.8-acre pump facility, 2-acre laydown area, 0.5-acre access road, and 3.73-acre pipeline corridor. All fencing will be, at minimum, buried 6 inches into the ground and extend 36 inches above ground level to discourage listed animals from entering the site. Exclusion fencing will remain around the specified work areas for the duration of ground disturbing activities.
Biological Resources	A Service-approved biologist will be onsite at all times during initial ground-breaking activities until wildlife exclusion fencing is installed around the pump facility, access road, laydown area, and pipeline corridor. Upon completion of these activities, a Service-approved biologist will inspect all wildlife and wetland exclusion fencing as well as construction zone fencing or flagging associated with the specified areas each week, at minimum, for the duration of construction to ensure fencing integrity. A Service-approved biologist will also survey wildlife exclusion and construction perimeter fencing on a daily basis to look for tears and to ensure no California tiger salamander or California red-legged frog have become trapped along the fence line. BBID will maintain and/or replace these barriers immediately if necessary.
Biological Resources	All work areas and designated temporary travel corridors will be clearly delineated via flagging, signage, or other similar methods to minimize construction disturbances beyond the work area. Vehicles will only enter temporary travel corridors when dry soil conditions exist to avoid the creation of tire ruts or other impacts to the ground surface.
Biological Resources	If vehicles must access temporary travel corridors during wet soil conditions during winter months, then BBID would implement stabilization measures (i.e. construction mats) to prevent rutting in the temporary travel corridors.
Biological Resources	A Service-approved biologist and the construction manager will be notified immediately if a California tiger salamander, California red-legged frog, or San Joaquin kit fox are observed anywhere within the property. If the observed animal is a California tiger salamander or California red-legged frog, a Service-approved biologist will monitor these animals and determine if they are in danger of take from construction activities, predators, or entrapment. If they are, all construction in the immediate area will cease until the animal is allowed to passively leave the site. If this is not possible, a Service-approved biologist will remove the California tiger salamander or California red-legged frog from the property in a cool, moist container and relocate these individuals to an appropriate location. Upon release of these animals, a Service-approved biologist will monitor the individual until it is determined that it is in no imminent danger. If a San Joaquin kit fox is observed on the site, construction activities that will directly affect the individual will cease until the animal passively leaves the site. Field survey forms will be completed for all California tiger salamander, California red-legged frog, or San Joaquin kit fox observations. These forms will be submitted to Reclamation and to the California Natural Diversity Data Base (CNDDB) prior to completion of construction activities.
Biological Resources	To the maximum extent practicable, fossorial mammal burrows that may provide

Resource	Protection Measure
	refugia habitat for California tiger salamander and California red-legged frog will be avoided during the construction and long-term operation of the pipeline. Exclusion fence and/or plywood will be placed around areas with high concentrations of burrows during the course of construction activities to avoid the destruction of these features.
Biological Resources	All potentially occupied small mammal burrows and other refugia suitable for California tiger salamander estivation habitat (e.g., underground holes, cracks, or niches) within fenced construction areas will be excavated in order to salvage and relocate California tiger salamander that would otherwise be harmed. A mini-excavator and hand tools will be used to excavate these burrows, under the supervision of a Service-approved biologist.
Biological Resources	A protocol-level field survey (Appendix F of EA-09-149) for burrowing owls would be completed prior to ground disturbance. Measures for avoiding "take" of burrowing owl as described in Appendix F would be implemented during construction. Specific attention should be provided to project schedule and seasonal constraints associated with clearance of burrows (i.e., passive relocation) that may be occupied by nesting burrowing owls.
Biological Resources	Topsoil removed from the temporary laydown area, access road, pump facility, and pipeline trenching locations will be stockpiled and reserved for the duration of construction activities. Upon completion of these actions, temporarily disturbed areas will be graded and restored with reserved topsoil to facilitate the re-establishment of fossorial mammal populations and upland listed species habitats. Any surplus topsoil will be hauled off site and disposed of at an appropriate facility.
Biological Resources	Potential effects to water quality from contaminated runoff or airborne dust will be avoided by the implementation of standard erosion and/or sedimentation control devices, fugitive dust management, avoidance, and other best management practices (BMPs) prescribed by BBID's approved SWPPP and Fugitive Dust Mitigation Plan. As-needed dust control measures (e.g., wetting dry ground) will minimize airborne transmission of soil particles into aquatic habitats. Equipment fueling, maintenance, and repairs as well as storage of hazardous materials such as fuels and lubricants will be limited to areas 250 feet or greater from any wetlands or drainage areas. Other hazardous material BMPs, including but not limited to secondary containment and not topping off fuel tanks will be enforced to prevent soil contamination. Prior to the start of construction activities, an emergency spill plan will be developed as part of SWPPP requirements and will be readily available to all employees throughout the duration of work activities. This plan will include appropriate prevention and cleanup measures for both upland and aquatic areas.
Biological Resources	Plastic monofilament netting or similar material will not be used for erosion control matting at the project site to avoid the entanglement or entrapment of California tiger salamander or California red-legged frog individuals.
Biological Resources	To prevent the accidental entrapment of listed species during construction, all excavated holes or trenches deeper than 6 inches will be covered at the end of each workday with plywood or similar materials. Foundation trenches or larger excavations that cannot easily be covered will be ramped at the end of the workday to allow trapped animals an escape method. Prior to the filling of such holes, these areas will be thoroughly inspected for listed species by a Service-approved biologist. In the event of a trapped animal is observed, construction will cease until the individual has been relocated to an appropriate location and Reclamation notified.
Biological Resources	All construction pipes, culverts, or similar structures greater than 4 inches in diameter that are stored at the laydown area overnight will be securely capped before storage or will be thoroughly inspected for San Joaquin kit fox and other sensitive species prior to pipe installation or capping to avoid entrapment or injury of this animal. If a San Joaquin kit fox or other sensitive species is discovered inside a pipe, that section of pipe will not be moved until Reclamation, the Service, and CDFW have been contacted by a Service-approved biologist to determine the appropriate course of action.
Biological Resources	No discharge of pollutants from vehicle and equipment cleaning, maintenance, or repair will be allowed into storm drains, wetlands, or watercourses. No discharge of sediment-laden water from project-related activities will be allowed into storm drains, wetlands, or watercourses.

Resource	Protection Measure
Biological Resources	All trash and debris within the work area will be placed in containers with secure lids before the end of each work day in order to reduce the likelihood of predators being attracted to the site by discarded food wrappers and other rubbish that may be left on-site. Containers will be emptied as necessary to prevent trash overflow onto the site and all rubbish will be disposed of at an appropriate off-site location.
Biological Resources	To the maximum extent practicable, construction will only occur between 7 a.m. and 7 p.m. to limit the need for night lighting, which could attract California tiger salamanders or California red-legged frogs into the construction area and/or provide additional light for nighttime predators, increasing mortality of these animals.
Biological Resources	All vehicles entering the work area(s) will be confined to existing roads or approved temporary routes. Speed limits within the work area(s) will be limited to 15 miles per hour. Trash dumping, firearms, and pets will be prohibited in the project area(s).
Biological Resources	Upon completion of construction activities, all debris and materials associated with construction will be removed and areas not needed for the long-term operation of the site will be re-contoured to match adjoining grades. Post construction BMPs (as prescribed in the SWPPP) will be implemented, including reseeding all areas as necessary to facilitate timely vegetative restoration.
Cultural Resources	If cultural resources or materials are discovered during ground-disturbing activities, the work near the discovery would cease. Reclamation's archaeologist would be contacted and the area would be protected until the find is evaluated by a qualified archaeologist.
Cultural Resources	If human remains are encountered, the County Coroner would be notified of the find immediately. If the remains are determined to be Native American, the County Coroner would notify the Native American Heritage Commission, which would determine and notify a most likely descendant. The most likely descendant would complete an inspection within 48 hours of notification by the Native American Heritage Commission. The most likely descendant may recommend scientific removal and analysis of human remains and items associated with Native American burials.
Paleontological Resources	If fossil remains are discovered during ground-disturbing activities, the work near the discovery would cease and the area would be protected until the find is evaluated by a qualified paleontologist. The paleontologist would be responsible for sampling and data recovery, if needed; museum storage coordination for specimens and data recovered; and reporting.
Air Quality and Global Climate	<p>The following measures would be implemented to reduce fugitive dust emissions:</p> <ul style="list-style-type: none"> <li>• Idling times would be minimized by either shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California Airborne Toxics Control Measure Title 13, Section 2485 of California Code of Regulations).</li> <li>• Clear signage would be provided for construction workers at all access points.</li> <li>• Exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) would be watered two times per day.</li> <li>• Haul trucks transporting soil, sand, or other loose material offsite would be covered.</li> <li>• Visible mud or dirt track-out onto adjacent public roads would be removed using wet power vacuum street sweepers at least once per day. Dry power sweeping would be prohibited.</li> <li>• Construction equipment would be maintained and properly tuned in accordance with manufacturer's specifications. Equipment would be checked by a certified mechanic and determined to be running in proper condition prior to operation.</li> <li>• Vehicle speeds on unpaved roads would be limited to 15 mph.</li> </ul>
Hazards and Hazardous Materials	Prior to construction, a Qualified SWPPP developer would prepare a SWPPP that would include best management practices for managing and handling hazardous materials. The SWPPP would define protocol for emergency procedures, handling, and disposal of hazardous materials if an accidental spill occurs during construction.



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:

## Findings

### **Water Resources**

Under the Proposed Action, Reclamation will execute the proposed long-term contract and license with BBID which will allow BBID to construct an aboveground pipeline within Reclamation ROW in order to introduce up to 4,500 AF, plus up to an additional 225 AFY for conveyance losses, of their non-CVP water to the DMC at MP 3.32R. Introduced water, less conveyance losses, will be exchanged with Reclamation at the point of introduction. Exchanged water will either be delivered to MP 15.88L or stored within San Luis Reservoir for later delivery. As the stored water cannot be pumped upstream in the DMC for delivery to MP 15.88L when called upon, stored exchanged water will be used by Reclamation to meet CVP demands and an equivalent amount of CVP water will be delivered to MP 15.88L via the DMC. No additional CVP water will be pumped in order for this to occur as the stored water will be used to meet CVP demands in lieu of CVP water which will then be delivered to MP 15.88L. Introduction and storage of the exchanged water is dependent on available capacity and operational constraints; therefore, the Proposed Action will not interfere with the normal operations of federal facilities nor will it impede any CVP obligations to deliver water to other contractors or to local fish and wildlife habitat nor will the Proposed Action interfere in the quantity or timing of diversions by the CVP from the Delta.

### **Water Quality**

All waters introduced into the DMC must meet Reclamation water quality standards as described in Appendix C of EA-09-149 (currently Title 22 of the California Code of Regulations). If BBID's non-CVP water fails to meet Reclamation's then current criteria for discharging non-CVP water into federal facilities, introductions will cease until BBID's non-CVP water meets this criteria. Surface water quality at the ephemeral water feature and stock pond located east and downslope of the proposed pipeline could be affected as a result of construction related to the Proposed Action due to potential erosion of stockpiles and spoil piles. As described in Section 2.2.2 of EA-09-149 and included in Table 1, a Storm Water Pollution Prevention Plan (SWPPP) will be prepared by a Qualified SWPPP Developer and implemented during construction to minimize these potential impacts. Therefore, there will be no significant impacts to water quality as a result of the Proposed Action.

### **BBID Operations**

The amount of water diverted by BBID for the contract is part of their existing water rights entitlement and will not require any new diversions. This water is only a small percentage of their total entitlement (approximately 9 percent) and will not impact BBID's ability to service other agricultural or M&I users. In addition, construction activities for the Proposed Action that could impact BBID's deliveries will be timed in order to prevent impacts to their existing water users. Therefore, there will be no impacts to water resources within BBID.

### **City of Tracy Operations**

BBID is currently pursuing a wholesale water agreement with the City for treatment and delivery of the exchanged water to Tracy Hills. Exchanged water to be delivered at MP 15.88L for treatment by the City will be coordinated with the City prior to delivery in order to prevent any impacts to the City's water resources and infrastructure. Alternative supplies from existing City supplies will be available for use within the Tracy Hills Development on a temporary basis should the introduction of BBID's non-CVP water and/or the exchanged water be subject to excess capacity or operational constraints; therefore, there will be no significant impacts to the City's water resources.

### **Groundwater**

No groundwater will be pumped under the Proposed Action. The use of surface water within Tracy Hills is not expected to impact groundwater levels as it will be used to meet M&I demands. The proposed improvements at or near Pump Station 3 will not disturb soil below the water level in the intake channel; however, should any groundwater be encountered, portable sump pumps will be used in accordance with best management practices identified in the SWPPP developed for the Proposed Action. In addition, dewatering of trenches along the pipeline route or near the DMC is not anticipated; however, if needed, trenches will also be dewatered using portable sump pumps in accordance with the SWPPP. Therefore, there will be no significant impacts to groundwater resources as a result of the Proposed Action.

### **Land Use**

The existing trend of land use conversion within the San Joaquin Valley from farmland to urban land uses will continue as it has in the past with or without the Proposed Action. The Proposed Action will not conflict with existing zoning for agricultural use or promote the conversion of farmland to non-agricultural use within the Proposed Action area.

The construction of the project will result in the permanent loss of 0.73 acre and temporary loss of 6.3 acres for a total of 7.03 acres. The area of disturbance for the proposed improvements at BBID's Pump Station 3 (see Section 2.2.2 of EA-09-149) is approximately 0.8 acre, of that 0.5 acre will be permanently disturbed and 0.3 will be temporarily disturbed. The laydown and stockpiling area will result in the temporary disturbance of 2.0 acres. Installation of the pipeline requires a total of 3.73 acres, of which 3.5 will be temporarily and 0.23 acre will be permanently disturbed. The access road stabilization will result in the temporary disturbance of 0.5 acre. The Proposed Action will not conflict with existing zoning for agricultural use or promote the conversion of farmland to non-agricultural use because impacts either will be temporary or will occur in areas already containing irrigation facilities. Although a portion of this area is listed under Williamson Act contracts, the construction of irrigation facilities is considered to be a compatible agricultural use and will not change its land use designation. In addition, the majority of the area impacted by construction will be restored to its original use once construction was completed. Therefore, the Proposed Action will not result in significant impacts on land use.

### **Biological Resources**

Many of special-status plants and animals described in Table 3-1 of EA-09-149 are unlikely to occur within the boundaries of the disturbed land areas. However, birds protected by the Migratory Bird Treaty Act and federally-listed species and critical habitat that occur or could

occur in the vicinity of the Proposed Action area include: burrowing owl, California red-legged frog, California red-legged frog critical habitat, California tiger salamander, and San Joaquin kit fox.

### ***Migratory Birds***

There is potential nesting habitat for burrowing owl in the action area. Potential impacts to burrowing owls will be avoided and or minimized by implementing the environmental protection measures described in Table 1. Therefore, there will be no take of birds protected under the Migratory Bird Treaty Act.

### ***Federally-listed Species***

The construction of the project will result in the permanent loss of 0.73 acre and temporary loss of 6.3 acres of suitable upland habitat for a total of 7.03 acres. The area of disturbance for the proposed improvements at the pump station is approximately 0.8 acre, of that 0.5 acre will be permanently disturbed and 0.3 will be temporarily disturbed. The laydown and stockpiling area will result in the temporary disturbance of 2.0 acres. Installation of the pipeline requires a total of 3.73 acres, of which 3.5 will be temporarily and 0.23 acre will be permanently disturbed. The access road stabilization will result in the temporary disturbance of 0.5 acre. In order to minimize the effects of this disturbance and to comply with the Biological Opinion issued by the Service and the commitments required in Table 1, BBID will purchase 8.49 acres of credits at the Mountain House Conservation Bank. The credits were calculated using the Standard Ratios from the East Alameda County Conservation Strategy for permanent effects and the programmatic biological opinion for the temporary effects (ICF International 2010, Service 2012).

Activities associated with the construction may result in the entombment or crushing of any wildlife located in small mammal burrows within the pipeline construction corridor, construction area associated with BBID's Pump Station 3, and laydown and stockpiling area located adjacent to BBID's Pump Station 3 (see Section 2.2.2 of EA-09-149). Crushing of burrows could also reduce the number of prey species (e.g., California ground squirrel) in the area for San Joaquin kit fox. In addition, individuals that are exposed on the surface during excavation or grading may also be crushed and killed or injured by construction activities. Likewise, individuals that take refuge under equipment or materials at night when moving across the landscape may be harmed during the day when equipment or materials are moved.

California red-legged frog, California tiger salamander, and San Joaquin kit fox could fall into the trenches for the new turnout and pipeline and be killed (through desiccation, entombment, or predation) if those trenches are left open overnight. Even with the use of "amphibian-friendly" barrier fencing wildlife could become trapped.

Construction activities would result in a temporary increase in vehicle traffic on the improved and unimproved roadways that lead to the construction site. Although, the increase in traffic is likely to occur only on Bruns Road, Kelso Road, and the unimproved road into the site, an unknown number of dispersing California red-legged frog, California tiger salamander, or San Joaquin kit fox may experience roadway mortality during construction. These effects may occur during any season but would most likely occur to California red-legged frog and California tiger salamander when local, seasonal aquatic sites begin to dry down.

The proposed project is within California red-legged frog critical habitat Unit CCS-2B, but is not expected to appreciably diminish the value of the critical habitat for the California red-legged frog, or prevent the proposed critical habitat from sustaining its role in the conservation and recovery of this species.

Formal consultation was initiated with the U.S. Fish and Wildlife Service (Service) to resolve the potential for impacts to protected species. Reclamation received a non-jeopardy biological opinion from the Service on December 9, 2013, addressing impacts to the California red-legged frog, California red-legged frog critical habitat, California tiger salamander, and San Joaquin kit fox (see Appendix H of EA-09-149). As the Proposed Action will incorporate the conditions imposed by the Biological Opinion (see Table 1 and Appendix H of EA-09-149), the potential for impacts to the species has been determined to not be significant.

### **Cultural Resources**

The Proposed Action was determined to be the type of action that had the potential to cause effects to historic properties. Accordingly, Reclamation initiated the Section 106 process which included a review of existing records and literature, a field reconnaissance, and Native American consultation as documented in the report by CH2M Hill titled “Cultural Resources Assessment of a 5.9-acre Parcel for the Tracy Hills Water Supply Project, Byron Bethany Irrigation District, Alameda County, California” (August 2011). These efforts resulted in the identification of four built-environment historic cultural resources in the APE (DMC, Canal 70, Canal 120, and Canal 155), all of which are water conveyance features. Based on these efforts, Reclamation determined that there will be no significant effect to historic properties, made pursuant to 36 CFR Part 800.5(b), and initiated consultation with the State Historic Preservation Officer (SHPO) on September 7, 2011. No response to date has been received by SHPO. Due to the passage of more than 30 days for the SHPO review period, Reclamation has concluded the Section 106 process for this undertaking. See Appendix I of EA-09-149 for Reclamation’s determination.

Environmental protection measures have been included in the Proposed Action (see Table 1) should cultural resources be uncovered during construction activities. These measures will minimize any potential impacts to cultural resources should they be discovered.

### **Indian Sacred Sites**

The Proposed Action will not limit access to and ceremonial use of Indian sacred sites on Federal lands by Indian religious practitioners or significantly affect the physical integrity of such sacred sites. There will be no impacts to Indian sacred sites as a result of the Proposed Action.

### **Indian Trust Assets**

On February 8, 2010, Reclamation determined that the Proposed Action will not impact Indian trust assets as there are none in the Proposed Action area. The nearest Indian trust asset is Lytton Rancheria approximately 42 miles northwest of the Proposed Action area. See Appendix J of EA-09-149 for Reclamation’s determination.

### **Environmental Justice**

The Proposed Action does not propose any features that will result in significant human health or environmental effects, have any physical effects on minority or low-income populations, and/or alter socioeconomic conditions of populations that reside or work in the vicinity of the Proposed Action.

### **Socioeconomic Resources**

The water associated with the Proposed Action will be used by Tracy Hills which has already been planned and approved for development by the City. Construction activities may provide temporary beneficial impacts through employment opportunities for local residents. Therefore, there may be a slight beneficial impact to socioeconomic resources as a result of the Proposed Action.

### **Air Quality**

Operation of the pipeline will not contribute to criteria pollutants as delivery of water to the DMC will be done via electrical pumps. Air quality emissions from electrical power have been considered in environmental documentation for the generating power plant and are part of the existing baseline conditions. In addition, movement of water in the DMC between MP 3.32R and MP 15.88L will be done via gravity and will not result in air quality impacts. However, construction activities such as excavation, grading, and vehicle travel will cause an increase in inhalable particulate matter between 2.5 and 10 microns in diameter (PM<sub>10</sub>) and particulate matter less than 2.5 microns in diameter (PM<sub>2.5</sub>) due to dust and exhaust emissions. In addition, exhaust emissions of nitrogen oxides and reactive organic gases from construction can contribute to ozone formation. Emissions of carbon monoxide and sulfur dioxide were also calculated for construction activities. Environmental protection measures have been incorporated into the Proposed Action in order to minimize emissions from construction activities (see Table 1). In addition, construction exhaust emissions and fugitive dust emissions were estimated using the URBEMIS Version 9.2.4 and were found to be less than the Bay Area Air Quality Management District's thresholds of significance; therefore, there will be no significant impacts to air quality as a result of the Proposed Action and a conformity analysis pursuant to the Clean Air Act is not required.

### **Global Climate**

As described above, operation of the proposed pipeline is done via electrical pumps which are part of baseline conditions. However, construction under the Proposed Action would involve short-term impacts due to construction-related emissions. Construction emissions of carbon dioxide (CO<sub>2</sub>) were estimated using the URBEMIS Version 9.2.4 as 139 metric tons (see Appendix G of EA-09-149). This amount has been converted to CO<sub>2e</sub> using the EPA's GHG Equivalencies Calculator as 147 metric tons of CO<sub>2e</sub>. Although, operation of BBID's Pump Station 3 is part of baseline conditions, estimated annual emissions for the maximum (8 month) pump-in schedule would be about 752 metric tons per year of CO<sub>2e</sub> (Table 3-5 in EA-09-149), which is negligible compared to the EPA's 25,000 metric tons per year threshold for annually reporting GHG emissions. Accordingly, construction and operations under the Proposed Action will result in below *de minimis* impacts to global climate change.

## 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.

As in the past, hydrological conditions and other factors are likely to result in fluctuating water supplies which drives requests for water service actions. Water districts aim to provide water to their customers based on available water supplies and timing, all while attempting to minimize costs. A myriad of water service actions are approved and executed each year to facilitate water needs. Each water service transaction involving Reclamation undergoes environmental review prior to approval.

Existing or foreseeable projects, in addition to the proposed long-term contract and license with BBID, which could affect or could be affected by the Proposed Action or No Action alternative, include the following:

**Delta-Mendota Canal/California Aqueduct Intertie** A 500 linear feet intertie has been constructed by Reclamation and DWR in an unincorporated area of the San Joaquin Valley in Alameda County, west of the city of Tracy. The intertie is a shared federal-state water system improvement that connects the DMC (federal facility) and the California Aqueduct (state facility) via two 108-inch-diameter pipes and pumping capacity of 467 cfs. The Intertie addresses DMC conveyance conditions that had restricted use of the Jones Pumping Plant to less than its design capacity, potentially restoring as much as 35,000 AF of average annual deliveries to the CVP. Reclamation and DWR prepared an EIS/EIR for the intertie and a Record of Decision (ROD) was completed December 28, 2009.

**South-of-Delta Accelerated Water Transfer Program** The Central Valley Project Improvement Act (CVPIA) was signed into law in 1992 to mandate changes in management of the CVP. In addition to protecting, restoring, and enhancing fish and wildlife, one of the other purposes of the CVPIA is to increase water-related benefits provided by the CVP to the State of California through expanded use of voluntary water transfers and improved water conservation. To assist California urban areas, agricultural water users, and others in meeting their future water needs, Section 3405(a) of the CVPIA authorizes all individuals or districts who receive CVP water under water service or repayment contracts, water rights settlement contracts or exchange contracts to transfer, subject to certain terms and conditions, all or a portion of the water subject to such contract to any other California water users or water agency, State or Federal agency, Indian Tribe, or private non-profit organization for project purposes or any purpose recognized as beneficial under applicable State law.

After enactment of the CVPIA, Reclamation has historically acknowledged water transfers and/or exchanges between CVP contractors geographically situated within the same region and

who are provided water service through the same CVP facilities under an Accelerated Water Transfer Program. In 2010, Reclamation approved the continuation of the South-of-Delta Accelerated Water Transfer Program through February 29, 2016. Reclamation prepared EA-10-051, *Accelerated Water Transfers and Exchanges, Central Valley Project, South of Delta Contractors 2011-2015* and a FONSI was signed on February 14, 2011.

**Exchange Contractors 25-Year Water Transfer Program** The San Joaquin River Exchange Contractors are currently transferring up to 130,000 AF of their substitute water to Reclamation under a 10-year (March 1, 2005, through February 28, 2014) water transfer program. Under the current program, the San Joaquin River Exchange Contractors develop sources of water to temporarily reduce the need for delivery of substitute water by Reclamation. The sources of water developed by the San Joaquin River Exchange Contractors include a maximum of 80,000 AF from conservation, tailwater recapture, and groundwater as well as a maximum of 50,000 AF from voluntary temporary land fallowing. For each AF of water developed by the San Joaquin River Exchange Contractors, an in-kind amount of water is considered acquired and left within the CVP for Reclamation to deliver to CVP contractors or wildlife areas. Reclamation and the San Joaquin River Exchange Contractors prepared an EIS/EIR for the 10 year program and a ROD was completed March 23, 2005. As the program will expire soon, Reclamation and the San Joaquin River Exchange Contractors have proposed extending the program for another 25 years. Reclamation prepared an EIS for the transfer program and a ROD was completed July 30, 2013.

**Meyers Farms Groundwater Banking Program** The Meyers Family Farm Trust pursued development of the Meyers Farm Water Bank to store water in above-normal and wet years for later use during below-normal, dry, and critically-dry years. Under the banking program, CVP and non-CVP water to be banked flows from the Mendota Pool into five recharge ponds. Banked water is later extracted and pumped into Mendota Pool for exchange with Reclamation. The original project was analyzed in EA-05-09 *Meyers Farm Water Banking Project – Mendota, California* and a FONSI signed May 9, 2005. Two supplemental EAs and FONSIs for the project were prepared to increase the annual extraction rate and to add Banta-Carbona Irrigation District's non-CVP surface water to the banking program. In addition, Reclamation has recently received a request to increase the rate of extraction from Meyers Bank from 6,316 AFY to 10,526 AFY, to amend the cumulative total amount of CVP water banked from 35,000 AF to 60,000 AF at any given time, to increase the amount of Banta Carbona Irrigation District's non-CVP water conveyed in the DMC for banking from 5,000 AFY to 10,000 AFY, to approve the annual transfer of up to 5,000 AFY of Banta Carbona Irrigation District's CVP water in-lieu of their non-CVP water for banking at Meyers Bank, and to deliver banked water via exchange to other areas within the service area of San Luis Water District. The requested changes to the exchange agreement were analyzed in EA-11-013 entitled *Amendment to the Meyers Groundwater Banking Exchange Agreement* and a FONSI was signed on September 16, 2013.

**Groundwater Pump-in Programs for San Luis Unit and Delta Division Contractors** Under this project, participating CVP contractors within the Delta Division and San Luis Unit of the CVP could pump up to 50,000 AF total of groundwater into the DMC between March 1, 2012 through February 28, 2014 (Contract Years 2012 and 2013). The project was analyzed in EA-12-005 *Two-Year Exchange Agreements and/or Warren Act Contracts for Conveyance of*

*Groundwater in the Delta-Mendota Canal – Contract Years 2012 through 2014 (March 1, 2012 – February 28, 2014)* and a FONSI was completed on May 8, 2012. The action was previously conducted between March 1, 2010 through February 28, 2012 (Contract Years 2010 and 2011) and analyzed in EA-09-169. It is likely that these actions will be requested in the future.

**Mercy Springs Water District and Fresno Slough Water District Multi-Year Transfers to Angiola Water District** Reclamation has received a request from Mercy Springs and Fresno Slough to approve the annual transfer up to 1,300 AFY of Mercy Springs' CVP water and up to 4,000 AFY of Fresno Slough's CVP water over a nine-year period to Angiola Water District. The proposed transfers were analyzed in EA-12-021 entitled *Mercy Springs Water District and Fresno Slough Water District Multi-Year Transfers to Angiola Water District* and a FONSI was signed on August 23, 2012.

**Five-year Warren Act Contracts for Banta-Carbona Irrigation District, Byron Bethany Irrigation District, Patterson Irrigation District, and West Stanislaus Irrigation District** Reclamation has executed five-year Warren Act contracts with Banta-Carbona Irrigation District, BBID, Patterson Irrigation District, and West Stanislaus Irrigation District for the conveyance and storage per contractor of up to 10,000 AFY of non-CVP surface water in the DMC through February 28, 2016. The project was analyzed in EA-09-156, *Five-year Warren Act Contracts for Banta-Carbona Irrigation District, Byron Bethany Irrigation District, Patterson Irrigation District, and West Stanislaus Irrigation District* and a FONSI was signed on March 8, 2010. In April 2012, Reclamation received a request from BBID to approve delivery of up to 5,000 AFY of their non-CVP water to Westlands Water District via the San Luis Canal. The additional points of delivery were analyzed in supplemental EA-12-052 *Additional Point of Delivery for Byron Bethany Irrigation District's non-Central Valley Project Water to Westlands Water District* and a FONSI was signed on June 15, 2012.

**Byron Bethany Irrigation District Long-term Water Transfer to Zone 7** BBID has entered into a long-term water transfer agreement with Zone 7 of the Alameda County Flood Control and Water Conservation District. Under the agreement, Zone 7 may purchase up to 5,000 AF of surplus water, with a minimum delivery of 2,000 AF from BBID for use within Zone 7. Surplus water is made available from BBID through temporary fallowing, permanent conversion of farmland, and water conservation. The Zone 7 water transfer was accounted for in a water supply study conducted by BBID prior to the 1999 annexation of 2,006 acres of Tracy Hills into BBID's RWSA2.

Reclamation's Proposed Action is the execution of a long-term contract and license with BBID for introduction of up to 4,500 AF, including up to 225 AFY to cover conveyance losses, of their non-CVP water to the DMC at MP 3.32R for exchange with Reclamation. Exchanged water will either be delivered to MP 15.88L or stored within San Luis Reservoir for later delivery as described previously. Introduction and storage of non-CVP water or exchanged water, including the Proposed Action, is subject to available capacity and operation constraints.

BBID's non-CVP water under the Proposed Action is approximately 9 percent of their pre-1914 water rights entitlement. Combined with the five year Warren Act contract described above, BBID has proposed to introduce for transfer or exchange up to 9,725 AFY of their pre-1914



entitlement into the DMC which is approximately 19 percent of their entitlement and will not impact BBID's ability to service other agricultural or urban water users; therefore, the Proposed Action will not cumulatively impact surface water resources within BBID.

Water service actions, like those described above, do not result in increases or decreases of water diverted from rivers or reservoirs. Each water service transaction involving CVP and non-CVP water undergoes environmental review prior to approval. The Proposed Action and No Action alternative and other similar projects will not interfere with the projects listed above, nor will they hinder the normal operations of the CVP and Reclamation's obligation to deliver water to its contractors or to local fish and wildlife habitat. Neither alternative, when added to other water service actions, will result in cumulative effects to water resources beyond historical fluctuations and conditions.

In recent years, land use changes within the San Joaquin Valley have involved the urbanization of agricultural lands. These types of changes are typically driven by economic pressures and are as likely to occur with or without the Proposed Action. In addition, land use within the Proposed Action area will be returned to its current use once construction was complete. Accordingly, no cumulative significant impacts on land use are anticipated.

Numerous activities continue to eliminate habitat for listed and proposed threatened and endangered species in the San Joaquin Valley. Habitat loss and degradation affecting both animals and plants continue as a result of urbanization, oil and gas development, road and utility right-of-way management, flood control projects, climate change, grazing by livestock, and agricultural practices. Listed and proposed animal species are also affected by poisoning, shooting, increased predation associated with human development, and reduction of food sources. All of these nonfederal activities are expected to continue to affect listed and proposed species in the San Joaquin Valley. The Proposed Action will temporarily disturb 6.3 acres of California red-legged frog and California tiger salamander uplands dispersal habitat during construction activities. This habitat will be returned to its preexisting condition once construction is complete. However, the Proposed Action will eliminate 0.73 acres of non-native grassland habitat that is considered suitable habitat for San Joaquin kit fox and which could also be utilized by California red-legged frog and California tiger salamander. BBID will implement the appropriate avoidance and minimization measures, including compensatory habitat, to address impacts to habitat as needed to minimize potential cumulative impacts.

The only cultural resources identified within the APE are four water conveyance features (DMC, Canal 70, Canal 120, and Canal 155). As none of these will be impacted by the Proposed Action and environmental protection measures have been included in the Proposed Action to minimize impacts should any cultural resources be uncovered during construction, there will be no cumulative significant impacts to cultural resources.

The Proposed Action, when added to other existing and proposed actions, may have a slight beneficial contribution to socioeconomics as it will help support and maintain jobs; however, these will be within historical variations and will not contribute to cumulative impacts.

The Proposed Action, when added to other existing and proposed actions, will not contribute to cumulative impacts to air quality since construction activities are short-term and well below *de minimis* thresholds. In addition, BBID has incorporated control measures in order to reduce any potential cumulative air quality impacts associated with the Proposed Action.

GHG impacts are considered cumulative impacts. Estimated annual CO<sub>2e</sub> emissions for operation of BBID's Pump Station 3 are 752 metric tons per year, which is well below the 25,000 metric tons per year threshold for reporting GHG emissions. As a result, the Proposed Action is not expected to contribute cumulative significant impacts to global climate change. CVP water allocations are made dependent on hydrologic conditions and environmental requirements. Since Reclamation operations and allocations are flexible, any changes in hydrologic conditions due to global climate change will be addressed within Reclamation's operation flexibility and therefore water resource changes due to climate change will be the same with or without the Proposed Action.

As there will be no indirect or direct impacts to Indian Sacred Sites, Indian Trust Assets, or minority or disadvantaged populations, there will be no cumulative impacts to these resources.

# RECLAMATION

*Managing Water in the West*

**Final Environmental Assessment**

## **Long-term Contract for the Exchange of Water between the Bureau of Reclamation and Byron- Bethany Irrigation District – Delta Division and San Luis Unit**

**EA-09-149**



**U.S. Department of the Interior  
Bureau of Reclamation  
Mid Pacific Region  
South-Central California Area Office  
Fresno, California**

**December 2013**

## **Mission Statements**

The mission of the Department of the Interior is to protect and provide access to our Nation's natural and cultural heritage and honor our trust responsibilities to Indian Tribes and our commitments to 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.

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# Section 1 Introduction

The Bureau of Reclamation (Reclamation) provided the public with an opportunity to comment on the Draft Finding of No Significant Impact and Draft Environmental Assessment (EA) between October 1, 2012 and October 31, 2012. No comment letters were received. Changes from the draft EA that are not minor editorial changes are indicated by vertical lines in the left margin of this document.

## 1.1 Background

Byron-Bethany Irrigation District (BBID) is a multicounty special district, established under state law primarily to provide water to lands in Alameda, Contra Costa, and San Joaquin Counties. BBID has two water service areas: a Central Valley Project (CVP) water service area (approximately 5,800 acres) that receives CVP water and the Bryon Service area (approximately 16,300 acres) which is served by non-CVP water (Figure 1-1). BBID is located in the vicinity of the City of Tracy (City) and portions of the district overlap with the current City boundaries as well as the City's sphere of influence (Figure 1-1). Although BBID is primarily an agricultural district, urban development has increased conversion of land use from agriculture to municipal and industrial (M&I). Since the 1990s, approximately 6,000 acres of land in BBID have been converted to M&I use. Under agreements with the City, BBID provides raw water for treatment and retail delivery to a portion of BBID's M&I customers located within the area of overlapping City and BBID boundaries.

The approximately 6,000 acre Tracy Hills Development (Tracy Hills) has been proposed for construction in the southwest portion of the City. The development would include up to 5,499 dwelling units, ranging from estate lots to apartments (Tracy Hills Specific Plan Environmental Impact Report 1997). In 1998, the City annexed Tracy Hills and in 1999, 2006 acres of Tracy Hills was annexed into BBID's Raw Water Service Area 2 (RWSA2). As RWSA2 is located within BBID's Byron Service area, BBID intends to use a portion of their pre-1914 water right entitlement to meet the water needs of the development (Figure 1-1). Buildout of Tracy Hills is expected to occur over a period of 30 years, beginning in 2014.

The 1999 BBID annexation agreement identified a potential need in RWSA2 for up to 6,000 acre-feet (AF) per year (AFY) of water. However, the annexation agreement was amended in 2003 in order to clarify the financial terms and water delivery options for Tracy Hills. Included among the changes to the annexation agreement was a reduction in the Tracy Hills water demand and, thus, a reduction in the maximum BBID allocation of water needed in RWSA2. In accordance with the 2003 amended BBID annexation agreement, a maximum of 4,500 AFY of raw water is required to meet M&I purposes within RWSA2.

On May 28, 2003, BBID and the California Department of Water Resources (DWR) executed an agreement addressing their respective operations, including an acknowledgement by DWR of BBID's right to divert up to 50,000 AFY of water from the San Joaquin-Sacramento River Delta (BBID and DWR 2003). The 2003 agreement reaffirms BBID's current point of diversion in the

Intake Channel (Milepost [MP] 1.83) to the Harvey O. Banks Pumping Plant. The 2003 agreement acknowledges that BBID may “furnish water...to the Tracy Hills portion of the District” (BBID and DWR 2003). Pursuant to the 2003 agreement with DWR, delivery of water under BBID’s pre-1914 water right to Tracy Hills is limited to months during the historic irrigation season (March through October). In order to deliver water to the development over a 12-month period, BBID has requested that Reclamation enter into a long-term exchange contract for introduction of up to 4,500 AF of their pre-1914 water right water (non-CVP water), plus up to an additional 225 AFY to cover conveyance losses, at MP 3.32R on the Delta-Mendota Canal (DMC). BBID has also requested a long-term license for placement, maintenance, and operation of a pipeline within Reclamation’s rights-of way (ROW).

## **1.2 Need for the Proposed Action**

Diversion of that portion of BBID’s non-CVP water needed to serve BBID’s RWSA2 is limited by agreement to the historic irrigation season as described above; however, a reliable 12-month annual water supply is needed, and could be facilitated through implementation of the Proposed Action with Reclamation.

## **1.3 Scope**

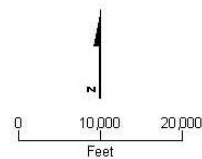
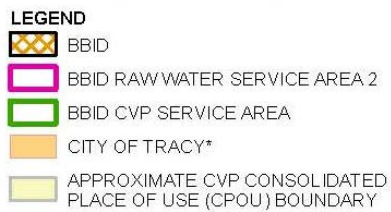
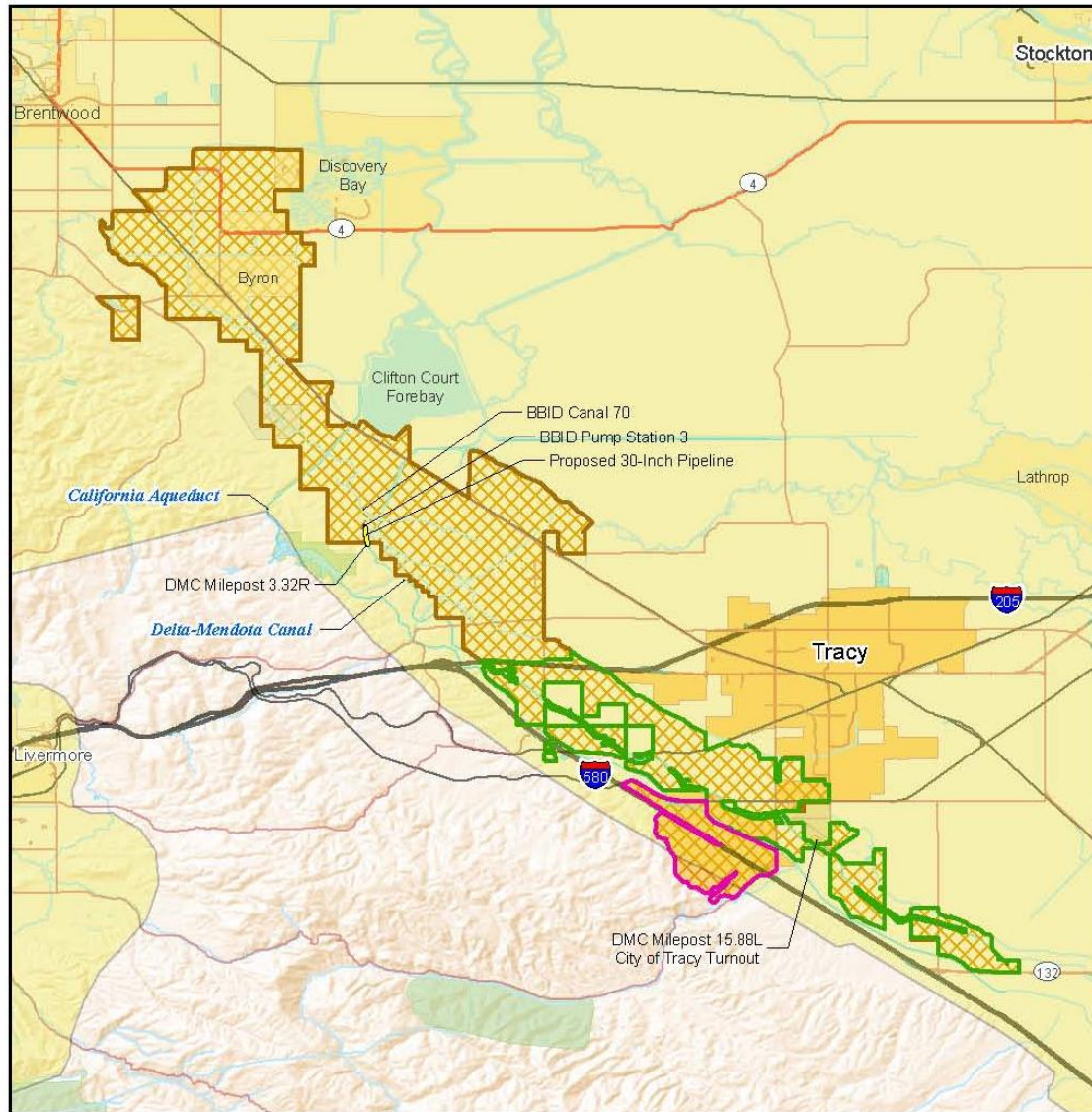
This EA was prepared to analyze the possible impacts of entering into a long-term (up to 40 year) exchange contract and long-term (up to 40 year) license with BBID for placement, maintenance, and operation of a pipeline within Reclamation’s ROW associated with the introduction of BBID’s non-CVP water to the DMC at MP 3.32R.

This EA does not analyze the impacts of the build-out of Tracy Hills because Reclamation does not have land use authority or jurisdiction over the development. The City, which has land use authority over the Tracy Hills Development Project, has approved the Tracy Hills Specific Plan. Impacts relating to the Tracy Hills Development were analyzed separately by the City under a Final Environmental Impact Report (EIR) and certified by the City January 1, 1998 (City of Tracy 1997).

## **1.4 Resources of Potential Concern**

This EA will analyze the affected environment of the Proposed Action and No Action Alternative in order to determine the potential direct and indirect impacts and cumulative effects to the following resources: Water Resources, Land Use, Biological Resources, Cultural Resources, Indian Sacred Sites, Indian Trusts Assets, Socioeconomic Resources, Environmental Justice, Air Quality, and Global Climate.





\* Source = City of Tracy GIS database.

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**Figure 1-1 Proposed Action Area**

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## 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

Reclamation would not execute a long-term (up to 40 year) exchange contract with BBID for introduction of up to 4,500 AFY, plus up to an additional 225 AFY to cover conveyance losses, of their non-CVP water. In addition, Reclamation would not execute a long-term (up to 40-year) license for construction of BBID's new discharge pipeline within Reclamation ROW at MP 3.32R of the DMC.

Alternative water supplies were discussed in Section 4.3.4 of the *Tracy Hills Specific Plan* and Appendix B of the *Tracy Hills Specific Plan* Final Environmental Impact Report (City of Tracy 1997). It is likely that a water supply among those that were evaluated in the Final EIR would be developed to meet the needs of the proposed Tracy Hills development. All other conditions are assumed to remain the same as existing conditions.

### 2.2 Proposed Action

Reclamation proposes to execute a long-term (up to 40-year) exchange contract and a long-term (up to 40-year) license with BBID as described below.

#### 2.2.1 Exchange Contract

BBID would introduce up to 4,500 AFY, plus up to an additional 225 AFY to cover conveyance losses, of its non-CVP water at MP 3.32R between March and October to meet Tracy Hills demand. All introduced water would be exchanged with Reclamation at the point of introduction. Exchanged water would either be delivered to MP 15.88L for treatment at the City's water treatment plant prior to delivery to Tracy Hills or would be stored within San Luis Reservoir for later delivery. Exchanged water may only be used within the Consolidated Place of Use as shown in Appendix A. As the exchanged water stored in San Luis Reservoir cannot be pumped upstream for delivery to MP 15.88L when called upon, the stored exchanged water would be used by Reclamation to meet CVP demands and a like amount of CVP water would be delivered to MP 15.88L.

Introduction of BBID's non-CVP water and storage of exchanged water would be scheduled annually with Reclamation and would be subject to excess capacity, operational constraints, and environmental requirements, as applicable. No Project Use Power would be used for the Proposed Action.

### **2.2.2 Long-term License**

Reclamation proposes to execute a long-term (up to 40-year) license with BBID. The license would allow BBID to access federal land to install an aboveground pipeline at the DMC as well as maintain and operate the structure on Reclamation's ROW. No construction or modifications to the DMC are required for the Proposed Action; however, improvements to existing BBID facilities as well as a new underground pipeline would be required for introduction of BBID's non-CVP water to the DMC (Figure 2-1). Specific construction activities would include the following:

#### ***Pump Station***

Proposed Pump Station 3 improvements include a new pump, motor, and associated facilities. The current Pump Station 3 site would need to be modified slightly by installing a retaining wall to improve access. The existing 16-cubic foot per second (cfs) pump and motor would be replaced with a larger 20-cfs pump and approximately 450-horsepower motor to accommodate increased pumping requirements. Structural modifications would include improvements to the existing wetwell structure and associated features to allow for installation of an automated trash rake and support required O&M activities. A new precast building would replace and be in the same location as the existing motor control center building. A new reinforced concrete pad and larger transformer would replace the existing pole-mounted transformers and would be located adjacent to the existing transformers. See Appendix B for preliminary designs.

#### ***Proposed Pipeline***

The proposed 30-inch diameter pipeline would be approximately 0.4 mile long. A geotechnical investigation would be performed prior to construction. The investigation would consist of excavating up to three test pits equally spaced along the pipeline route at a depth of 6 to 7 feet and a top area of 6 by 10 feet. The pits would be backfilled after soil samples were obtained and a report would be prepared to summarize the results of the investigation.

Pipeline material would be High Density Polyethylene (HDPE). The pipeline would be aligned and buried in a general southern direction directly between Pump Station 3 and the DMC. A reinforced concrete flow meter vault would be constructed where the pipeline passes adjacent to Canal 155 within the temporary construction easement for the pipeline. A turnout would be provided to deliver water at the intersection with Canal 155 to supplement the existing Canal 155 pump (11 cfs) as needed. Canal 155 improvements would include approximately 200 linear feet of concrete lining to mitigate potential slope stability issues.

The proposed pipeline would transition from belowground to aboveground at the DMC and discharge near the headwall of the DMC. A concrete pad would likely be poured where the pipe leaves the ground. Pipe support would likely be installed to support the aboveground pipe as well. The discharge would consist of a 45 degree elbow, angled toward the DMC and would be approximately three feet above the high water level of the DMC to prevent siphoning. See Appendix B for preliminary designs.

An underground corrugated pipe currently connects Canal 155 to an existing stock pond located west of Canal 155. Water leaves Canal 155 through a manmade feature that supplies a short surface flow of water before it goes back into the underground corrugated pipe and resurfaces to continue surface flow into the stock pond. The underground pipe would be temporarily removed

during construction and replaced above the proposed pipeline after its installation. Water would be rerouted over the trench to the stock pond during construction. After construction, the entire length of the corrugated pipeline would be restored to its existing condition.

The need for dewatering trenches along the pipeline route or near the DMC is not anticipated; however, if needed, trenches would be dewatered using portable sump pumps in accordance with a Stormwater Pollution Prevention Plan (SWPPP) prepared for the proposed pipeline.

### **Access and Construction**

Access to the construction site would be via an existing gravel access road connecting Kelso Road to the pumping plant and proposed laydown area. Approximately 250 yards of the existing access road directly north of Pump Station 3 would be stabilized with 30-foot-wide by 4-inch-thick layer of compacted aggregate base to allow for daily construction traffic (Figure 2-1).

The total area of disturbance required to complete the proposed improvements at Pump Station 3 is approximately 0.8 acre, of which 0.5 acre would be permanent disturbance. The proposed disturbance and laydown areas are shown on Figure 2-1. In addition, an approximately 2-acre laydown and stockpiling area would also be required adjacent to and west of Pump Station 3. The laydown area would be used to temporarily store contractor equipment, spoils, and other materials, including pipe. Installation of the pipeline would require a temporary 60-foot-wide disturbance area to accommodate the actual pipe trench, construction equipment, excavated materials, pipe laydown, and access. Access along the pipeline corridor would be provided within the proposed 60-foot temporary work space required to install the pipeline.

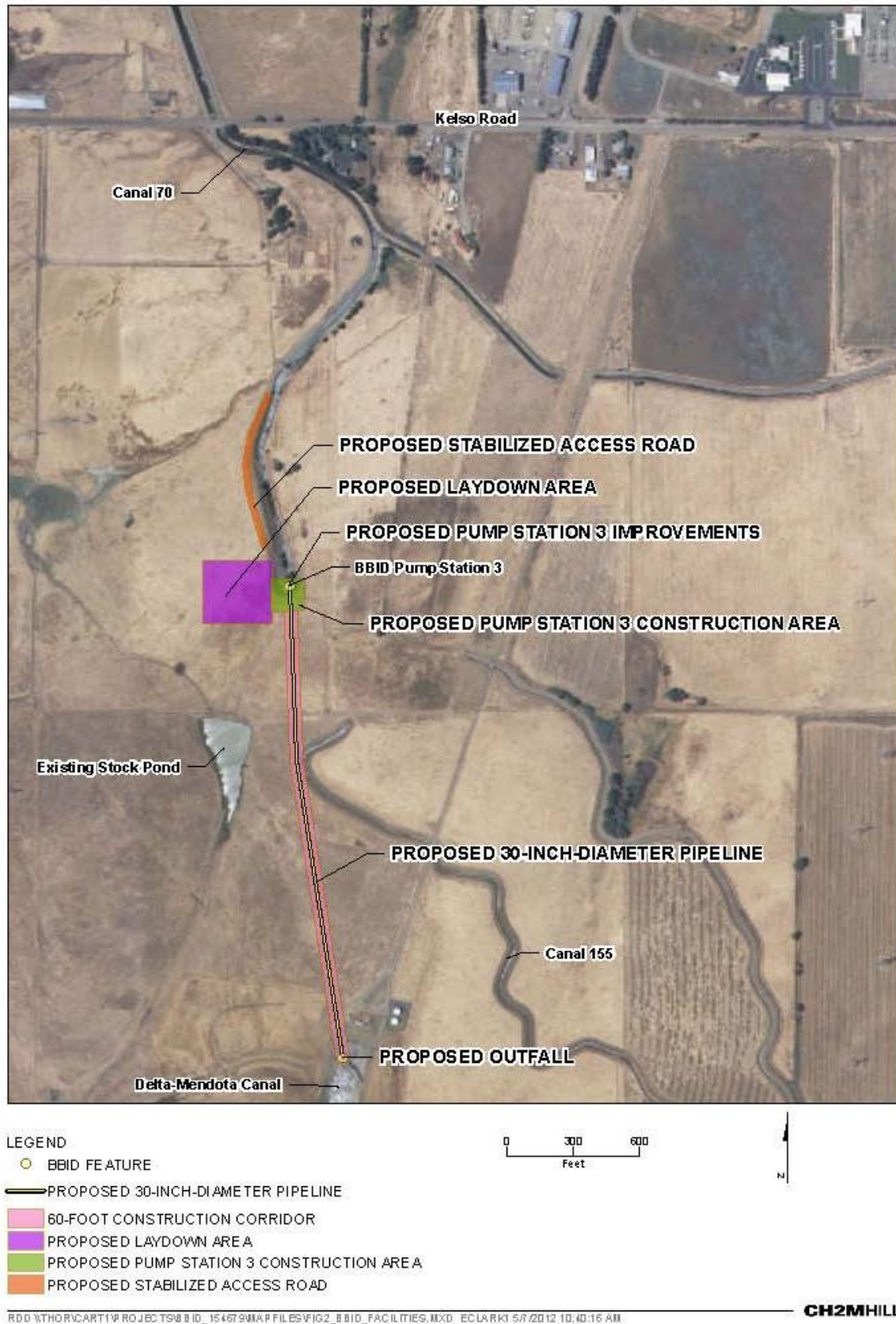
There is little vegetation that would require clearing. The use of pesticides is not anticipated. Topsoil (if evident) would be stripped for the trench surface area and stockpiled to be returned later to the trench surface.

The integrity (quantity and quality) of adjacent aquatic habitat would be maintained through the use of a bypass to temporarily divert water flowing to the adjacent stock pond through the existing corrugated metal pipe that crosses the proposed pipeline as described previously.

Staging the site would take approximately one month, which would include stabilizing 0.5 acres of the access road as well as demolition of the existing pump station facilities. Clearing and grubbing the pipeline corridor would take approximately two weeks. Work would begin on pipeline installation in early summer; Pump Station 3 improvements would begin in early winter (Figure 2-1).

Onsite construction equipment would include one excavator, one loader, one dump truck, one compactor, and one small crane. The approximate volume of earthwork required would be about 600 cubic yards of total cut, which would be spread out along the pipeline corridor upon completion. It is anticipated that no borrow material (from onsite sources) would be needed, but import material might be required for fill around the pipeline.





**Figure 2-1 Construction Details**

Construction of the Proposed Action facilities is anticipated to take approximately 7 to 9 months to complete and is scheduled to be initiated in early 2014. Pipeline installation is anticipated to take approximately 4 months, and work associated with the pump station improvements would likely take 3 to 4 months. Construction activities would be limited to weekdays during business hours, approximately between 7 a.m. to 7 p.m.

### **Operation and Maintenance**

Operation and maintenance of the proposed pipeline by BBID is expected to be limited to repairing leaks, if any, as well as any requirements provided for under the long-term license for the portion of the pipeline within Reclamation's ROW. Existing roads (dirt and gravel) would be used for access when needed.

Power to operate and maintain BBID's facilities would be supplied by BBID. As described previously, no Project-Use Power would be used for the Proposed Action.

### **2.2.3 Environmental Commitments**

BBID shall implement the following environmental protection measures to reduce environmental consequences associated with the Proposed Action (Table 2-1).

Environmental consequences for resource areas assume the measures specified would be fully implemented. Copies of all reports and monitoring shall be submitted to Reclamation.

**Table 2-1 Environmental Protection Measures and Commitments**

<b>Resource</b>	<b>Protection Measure</b>
Water Resources	Prior to construction, a Qualified Storm Water Pollution Prevention Plan (SWPPP) Developer would prepare a SWPPP and a Qualified SWPPP Practitioner would implement the SWPPP in order to minimize the amount of pollutants discharged in storm water from the site.
Water Resources	BBID must comply with Reclamation's then current water quality standards (see Appendix C for Reclamation's most recent standards).
Biological Resources	At least 30 calendar days prior to ground disturbance, BBID shall (a) purchase 8.49 acres compensation land for the loss of habitat, place a U.S. Fish and Wildlife Service (Service) approved conservation easement on that land, and arrange for Service approved management and endowment, or (b) purchase and endow compensation land with a Service approved conservation bank.
Biological Resources	At least 15 days prior to any ground disturbing activities; the applicant will submit to the Service, for review, the qualifications of the proposed biological monitor(s). Upon Service approval, the biologist(s) will be given the authority to stop any work that may result in the take of listed species. If the on-site biologist(s) exercises this authority, the Service and Reclamation will be notified by telephone and electronic mail within 1 working day. The on-site biologist(s) will be the contact for any employee or contractor who might inadvertently kill or injure a California red-legged frog, San Joaquin kit fox or California tiger salamander, or anyone who finds a dead, injured, or entrapped individual of these species. The on-site biologist(s) will possess a working cellular telephone whose number will be provided to the Service. Should take occur of a California red-legged frog, San Joaquin kit fox or California tiger salamander individual, the Service-approved biologist(s) will contact Reclamation, the Service, and the California Department of Fish and Wildlife (CDFW) within 24 hours of the discovered occurrence.
Biological Resources	Preconstruction surveys for the California red-legged frog, San Joaquin kit fox, and the California tiger salamander will be performed immediately prior to groundbreaking activities. A Service-approved biologist will conduct the surveys and results will be provided to Reclamation for review. If, at any point, activities associated with the project cease for more than 15 consecutive days, additional preconstruction surveys will be conducted prior to the resumption of these actions.

Resource	Protection Measure
Biological Resources	<p>Preconstruction surveys for San Joaquin kit fox dens will be conducted within a minimum of 200 feet of the project area. Results will be provided to Reclamation for review. Any natal dens encountered will be avoided, in consultation with the Service, by a minimum of 100 feet for known dens and a minimum of 50 feet for potential dens. Non-natal dens will be monitored for a minimum of 3 days to determine their current use. If no San Joaquin kit fox activity is observed during this period, the den will be destroyed to prevent future use by San Joaquin kit fox. If San Joaquin kit fox activity is observed at the den during this period, the den will be monitored for at least 5 consecutive days from the time of the observation to allow any resident animal to move to another den during its normal activity. Use of the den will be discouraged during this period by partially plugging its entrance(s) with soil in such a manner that any resident animal can escape easily. Only when the den is determined to be unoccupied will it be excavated under the direction of a Service-approved biologist. If the animal is still present after 5 or more consecutive days of plugging and monitoring, the den will be excavated when, as determined by a Service-approved biologist, it is temporarily vacant (for example, during the San Joaquin kit fox's normal foraging activity). Potential dens will be temporarily marked for avoidance by a minimum of 50 feet and further studied by a Service-approved biologist. Destruction of potential dens will occur only after a Service-approved biologist determines that no San Joaquin kit fox are inside. To determine the presence of San Joaquin kit fox, the potential den will be fully excavated to the end by either hand or machinery. Once determined empty, the den will be filled with dirt and compacted to ensure that San Joaquin kit fox cannot enter or use the den during the construction period. If any potential den is determined to be currently or previously used by San Joaquin kit fox, the measures described above for natal and non-natal dens (as applicable) will be followed.</p>
Biological Resources	<p>A Service approved biologist will monitor any California tiger salamanders or California red-legged frogs observed during preconstruction surveys and submit a report to Reclamation for review. Any California tiger salamander or California red-legged frog would be allowed to passively leave the site or, if determined necessary by a Service-approved biologist, removed from the work area(s) and relocated to an appropriate location.</p>
Biological Resources	<p>Prior to the start of groundbreaking activities, all construction personnel will receive worker education training on listed species and their habitats by a Service-approved biologist or a video recording of said biologist. The importance of these species and their habitat will be described to all employees as well as the minimization and avoidance measures that are to be implemented as part of the project. An educational brochure containing color photographs of all listed species in the work area(s) will be distributed to all employees working within the project site(s). Workers will also be informed of appropriate measures to take should a toxic materials spill occur. A list of employees who attend the training sessions will be maintained by the applicant to be made available for review by the Service and the CDFW upon request. Contractor training will be incorporated into construction contracts and will be a component of weekly project meetings.</p>
Biological Resources	<p>Wildlife exclusion fencing will be established around the perimeter of the 0.8-acre pump facility, 2-acre laydown area, 0.5-acre access road, and 3.73-acre pipeline corridor. All fencing will be, at minimum, buried 6 inches into the ground and extend 36 inches above ground level to discourage listed animals from entering the site. Exclusion fencing will remain around the specified work areas for the duration of ground disturbing activities.</p>
Biological Resources	<p>A Service-approved biologist will be onsite at all times during initial ground-breaking activities until wildlife exclusion fencing is installed around the pump facility, access road, laydown area, and pipeline corridor. Upon completion of these activities, a Service-approved biologist will inspect all wildlife and wetland exclusion fencing as well as construction zone fencing or flagging associated with the specified areas each week, at minimum, for the duration of construction to ensure fencing integrity. A Service-approved biologist will also survey wildlife exclusion and construction perimeter fencing on a daily basis to look for tears and to ensure no California tiger salamander or California red-legged frog have become trapped along the fence line. BBID will maintain and/or replace these</p>



Resource	Protection Measure
	barriers immediately if necessary.
Biological Resources	All work areas and designated temporary travel corridors will be clearly delineated via flagging, signage, or other similar methods to minimize construction disturbances beyond the work area. Vehicles will only enter temporary travel corridors when dry soil conditions exist to avoid the creation of tire ruts or other impacts to the ground surface.
Biological Resources	If vehicles must access temporary travel corridors during wet soil conditions during winter months, then BBID would implement stabilization measures (i.e. construction mats) to prevent rutting in the temporary travel corridors.
Biological Resources	A Service-approved biologist and the construction manager will be notified immediately if a California tiger salamander, California red-legged frog, or San Joaquin kit fox are observed anywhere within the property. If the observed animal is a California tiger salamander or California red-legged frog, a Service-approved biologist will monitor these animals and determine if they are in danger of take from construction activities, predators, or entrapment. If they are, all construction in the immediate area will cease until the animal is allowed to passively leave the site. If this is not possible, a Service-approved biologist will remove the California tiger salamander or California red-legged frog from the property in a cool, moist container and relocate these individuals to an appropriate location. Upon release of these animals, a Service-approved biologist will monitor the individual until it is determined that it is in no imminent danger. If a San Joaquin kit fox is observed on the site, construction activities that will directly affect the individual will cease until the animal passively leaves the site. Field survey forms will be completed for all California tiger salamander, California red-legged frog, or San Joaquin kit fox observations. These forms will be submitted to Reclamation and to the California Natural Diversity Data Base (CNDDB) prior to completion of construction activities.
Biological Resources	To the maximum extent practicable, fossorial mammal burrows that may provide refugia habitat for California tiger salamander and California red-legged frog will be avoided during the construction and long-term operation of the pipeline. Exclusion fence and/or plywood will be placed around areas with high concentrations of burrows during the course of construction activities to avoid the destruction of these features.
Biological Resources	All potentially occupied small mammal burrows and other refugia suitable for California tiger salamander estivation habitat (e.g., underground holes, cracks, or niches) within fenced construction areas will be excavated in order to salvage and relocate California tiger salamander that would otherwise be harmed. A mini-excavator and hand tools will be used to excavate these burrows, under the supervision of a Service-approved biologist.
Biological Resources	A protocol-level field survey (Appendix F) for burrowing owls would be completed prior to ground disturbance. Measures for avoiding "take" of burrowing owl as described in Appendix F would be implemented during construction. Specific attention should be provided to project schedule and seasonal constraints associated with clearance of burrows (i.e., passive relocation) that may be occupied by nesting burrowing owls.
Biological Resources	Topsoil removed from the temporary laydown area, access road, pump facility, and pipeline trenching locations will be stockpiled and reserved for the duration of construction activities. Upon completion of these actions, temporarily disturbed areas will be graded and restored with reserved topsoil to facilitate the re-establishment of fossorial mammal populations and upland listed species habitats. Any surplus topsoil will be hauled off site and disposed of at an appropriate facility.
Biological Resources	Potential effects to water quality from contaminated runoff-or airborne dust will be avoided by the implementation of standard erosion and/or sedimentation control devices, fugitive dust management, avoidance, and other best management practices (BMPs) prescribed by BBID's approved SWPPP and Fugitive Dust Mitigation Plan. As-needed dust control measures (e.g., wetting dry ground) will minimize airborne transmission of soil particles into aquatic habitats. Equipment fueling, maintenance, and repairs as well as storage of hazardous materials such as fuels and lubricants will be limited to areas 250 feet or greater from any wetlands or drainage areas. Other hazardous material BMPs, including but not limited to secondary containment and not topping off fuel tanks will be enforced to prevent soil contamination. Prior to the start of construction activities, an

Resource	Protection Measure
	emergency spill plan will be developed as part of SWPPP requirements and will be readily available to all employees throughout the duration of work activities. This plan will include appropriate prevention and cleanup measures for both upland and aquatic areas.
Biological Resources	Plastic monofilament netting or similar material will not be used for erosion control matting at the project site to avoid the entanglement or entrapment of California tiger salamander or California red-legged frog individuals.
Biological Resources	To prevent the accidental entrapment of listed species during construction, all excavated holes or trenches deeper than 6 inches will be covered at the end of each workday with plywood or similar materials. Foundation trenches or larger excavations that cannot easily be covered will be ramped at the end of the workday to allow trapped animals an escape method. Prior to the filling of such holes, these areas will be thoroughly inspected for listed species by a Service-approved biologist. In the event of a trapped animal is observed, construction will cease until the individual has been relocated to an appropriate location and Reclamation notified.
Biological Resources	All construction pipes, culverts, or similar structures greater than 4 inches in diameter that are stored at the laydown area overnight will be securely capped before storage or will be thoroughly inspected for San Joaquin kit fox and other sensitive species prior to pipe installation or capping to avoid entrapment or injury of this animal. If a San Joaquin kit fox or other sensitive species is discovered inside a pipe, that section of pipe will not be moved until Reclamation, the Service, and CDFW have been contacted by a Service-approved biologist to determine the appropriate course of action.
Biological Resources	No discharge of pollutants from vehicle and equipment cleaning, maintenance, or repair will be allowed into storm drains, wetlands, or watercourses. No discharge of sediment-laden water from project-related activities will be allowed into storm drains, wetlands, or watercourses.
Biological Resources	All trash and debris within the work area will be placed in containers with secure lids before the end of each work day in order reduce the likelihood of predators being attracted to the site by discarded food wrappers and other rubbish that may be left on-site. Containers will be emptied as necessary to prevent trash overflow onto the site and all rubbish will be disposed of at an appropriate off-site location.
Biological Resources	To the maximum extent practicable, construction will only occur between 7 a.m. and 7 p.m. to limit the need for night lighting, which could attract California tiger salamanders or California red-legged frogs into the construction area and/or provide additional light for nighttime predators, increasing mortality of these animals.
Biological Resources	All vehicles entering the work area(s) will be confined to existing roads or approved temporary routes. Speed limits within the work area(s) will be limited to 15 miles per hour. Trash dumping, firearms, and pets will be prohibited in the project area(s).
Biological Resources	Upon completion of construction activities, all debris and materials associated with construction will be removed and areas not needed for the long-term operation of the site will be re-contoured to match adjoining grades. Post construction BMPs (as prescribed in the SWPPP) will be implemented, including reseeding all areas as necessary to facilitate timely vegetative restoration.
Cultural Resources	If cultural resources or materials are discovered during ground-disturbing activities, the work near the discovery would cease. Reclamation's archaeologist would be contacted and the area would be protected until the find is evaluated by a qualified archaeologist.
Cultural Resources	If human remains are encountered, the County Coroner would be notified of the find immediately. If the remains are determined to be Native American, the County Coroner would notify the Native American Heritage Commission, which would determine and notify a most likely descendant. The most likely descendant would complete an inspection within 48 hours of notification by the Native American Heritage Commission. The most likely descendant may recommend scientific removal and analysis of human remains and items associated with Native American burials.

Resource	Protection Measure
Paleontological Resources	If fossil remains are discovered during ground-disturbing activities, the work near the discovery would cease and the area would be protected until the find is evaluated by a qualified paleontologist. The paleontologist would be responsible for sampling and data recovery, if needed; museum storage coordination for specimens and data recovered; and reporting.
Air Quality and Global Climate	<p>The following measures would be implemented to reduce fugitive dust emissions:</p> <ul style="list-style-type: none"> <li>• Idling times would be minimized by either shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California Airborne Toxics Control Measure Title 13, Section 2485 of California Code of Regulations).</li> <li>• Clear signage would be provided for construction workers at all access points.</li> <li>• Exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) would be watered two times per day.</li> <li>• Haul trucks transporting soil, sand, or other loose material offsite would be covered.</li> <li>• Visible mud or dirt track-out onto adjacent public roads would be removed using wet power vacuum street sweepers at least once per day. Dry power sweeping would be prohibited.</li> <li>• Construction equipment would be maintained and properly tuned in accordance with manufacturer's specifications. Equipment would be checked by a certified mechanic and determined to be running in proper condition prior to operation.</li> <li>• Vehicle speeds on unpaved roads would be limited to 15 mph.</li> </ul>
Hazards and Hazardous Materials	Prior to construction, a Qualified SWPPP developer would prepare a SWPPP that would include best management practices for managing and handling hazardous materials. The SWPPP would define protocol for emergency procedures, handling, and disposal of hazardous materials if an accidental spill occurs during construction.

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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 Water Resources

#### 3.1.1 Affected Environment

##### ***Central Valley Project***

CVP water is used for the irrigation of agricultural areas, for M&I uses, for the restoration of fisheries and aquatic habitat in the waterways that have been affected by water development, for wildlife refuges, and for other purposes. The largest use of CVP water is for agricultural irrigation. The greatest demand for irrigation water occurs in mid- to late summer, as crops mature and crop water use increases. During the winter, farmers also use water for frost control and pre-irrigation of fields to saturate the upper soil.

The amount of CVP water available each year for contractors is based, among other considerations, on the storage of winter precipitation and the control of spring runoff in the Sacramento and San Joaquin River basins. Reclamation's delivery of CVP water diverted from these rivers is determined by state water right permits, judicial decisions, and state and federal obligations to maintain water quality, enhance environmental conditions, and prevent flooding.

**Delta Division** The Delta Division provides for the transport of water through the central portion of the Central Valley, including the Sacramento-San Joaquin Delta (Delta). The main features of the division are the Delta Cross Channel, Contra Costa Canal, Jones Pumping Plant, and the DMC, constructed and operated by Reclamation. This system provides full and supplemental water, as well as temporary water service, for a total of about 380,000 acres of farmland (Reclamation 2011a).

The Jones Pumping Plant consists of an inlet channel, pumping plant, and discharge pipes. Water in the Delta is lifted 197 feet into the DMC. Each of the six pumps at Tracy is powered by a 22,500 horsepower motor and is capable of pumping 767 cfs. Power to run the pumps are supplied by CVP power plants. The water is pumped through three 15-foot-diameter discharge pipes and carried about one mile up to the DMC. The intake canal includes the Tracy Fish Screen, which was built to intercept downstream fish so they may be returned to the main channel to resume their journey to the ocean (Reclamation 2011a).

The DMC carries water southeasterly from the Jones Pumping Plant along the west side of the San Joaquin Valley for irrigation supply, for use in the San Luis Unit, and to replace San Joaquin River water stored at Friant Dam and used in the Friant-Kern and Madera systems. The canal is about 117 miles long and terminates at the Mendota Pool, about 30 miles west of Fresno. The

initial diversion capacity is 4,600 cfs, which is gradually decreased to 3,211 cfs at the terminus (Reclamation 2011a).

### ***Byron-Bethany Irrigation District***

BBID is a Delta Division CVP contractor that receives its CVP supply from various turnouts on the DMC. As described previously, BBID is a multicounty special district with two water service areas: a CVP water service area (approximately 5,800 acres) that receives CVP water and the Bryon Service area (approximately 16,300 acres) which is served by non-CVP water. BBID's CVP water supply is used for irrigation and M&I purposes; however, only a portion of the district's CVP supply is subject to Reclamation's M&I water shortage policy. Under agreements with the City, BBID provides raw CVP water for treatment and retail delivery to a portion of their M&I customers located within the area of overlapping City and BBID boundaries.

BBID's point of diversion for their non-CVP water is at MP 1.83 of the intake channel to the Harvey O. Banks Pumping Plant. BBID's pre-1914 water rights were established by the Byron Bethany Irrigation Company. In 1921, BBID acquired the Company's irrigation facilities and water rights. BBID's diversion facilities were moved to the State Water Project (SWP) Banks Pumping Plant Intake Channel in 1964 when the SWP was constructed. BBID's diversion facility at Pump Station 1-S is downstream from the SWP Skinner Fish Facility, which protects Delta fish species of concern from entrainment at the SWP Banks Pumping Plant. Under its operational agreement with DWR, BBID has agreed to limit its diversions at the SWP Banks Pumping Plant Intake Channel to 50,000 AFY (BBID and DWR 2003).

BBID's distribution system is segregated into the Byron Division (north of the Banks Intake Channel) and the Bethany Division (south of the Banks Intake Channel). Open canals and pump stations are the primary distribution system infrastructure, but major portions of the system consist of pipelines to deliver water supplies to customers during the irrigation season.

BBID conducted a water supply study prior to the 1999 annexation of RWSA2 which found that BBID had an adequate supply of water to meet the projected need in RWSA2 due to water use efficiency and conversion of agricultural lands to urban areas.

**Water Quality** The quality of BBID's non-CVP water supply depends on the time of year and Delta hydrology and operations, but is sufficient for intended agricultural and M&I uses (CH2M Hill 2001). BBID's non-CVP water supply is of equivalent quality to the source water for the SWP (same source, common facilities) and of similar quality to CVP water pumped at Jones Pumping Plant into the DMC.

### ***City of Tracy***

The City is also a Delta Division CVP contractor that receives its CVP supply from a turnout on the DMC downstream from BBID (MP 15.88L). In addition to its' CVP supplies, the City has non-CVP water (surface water and groundwater) that are used to meet M&I demands. Because its' non-CVP and CVP water supplies are used for M&I purposes, they must be treated before delivery. The treatment process consists of chemical oxidation, coagulation, flocculation, filtration, and chlorination. In addition, chloramines (the combination of chlorine and a small amount of ammonia) are used as the residual disinfectant in the water distribution system.

CVP water from MP 15.88L on the DMC is transferred by pipeline to the water treatment plant and, after treatment, transferred by pipeline to M&I users. The City provides water service to all of its approximately 78,000 residents and to approximately 400 residents of the Larch-Clover County Services District. The City also provides retail water service to the unincorporated Patterson Business Park pursuant to its wholesale water agreement with BBID. The City currently delivers approximately 18,000 AFY within its service territory and expects that demand will grow to 27,000 AFY by the year 2020 (City of Tracy 2005).

### **Groundwater Resources**

BBID, the City, and Tracy Hills are located within the Tracy subbasin of the San Joaquin Valley Groundwater Basin (DWR 2003). Groundwater within the subbasin occurs within the Upper and Lower Zones, which are separated by the Corcoran Clay (Reclamation 2010a). The Upper Zone contains both semi-confined and unconfined water in an upper section of the Tulare Formation, and younger deposits above the Corcoran Clay. Although semi-confined in some regions, the Upper Zone is commonly referred to as the unconfined aquifer. The Lower Zone contains confined water in a lower section of the Tulare Formation, below the Corcoran Clay. The cumulative thickness of the Tulare Formation deposits ranges from a few hundred feet near the Coast Range foothills to the west of the DMC to about 3,000 feet along the trough of the valley below the San Joaquin River (Reclamation 2010a).

Groundwater levels studied within this area were reported to be at their lowest levels in the late 1960s, before surface water was imported (Reclamation 2010b). After the CVP began delivery to the area in 1967, groundwater levels gradually increased, falling temporarily during the 1976-1977 droughts. Generally, the subbasin groundwater levels increased by approximately 2 feet from 1970 to 2000, and groundwater levels have fluctuated around this level since that time, with no clear trend.

## **3.1.2 Environmental Consequences**

### **No Action**

Under the No Action Alternative, Reclamation would not execute the proposed long-term contract or license with BBID. Alternative water supplies were discussed in Section 4.3.4 of the *Tracy Hills Specific Plan* and Appendix B of the *Tracy Hills Specific Plan* Final EIR (City of Tracy 1997). It is likely that a water supply among those that were evaluated in the Final EIR would be developed to meet the needs of the proposed Tracy Hills development. If any of these supplies involve a federal action by Reclamation they would undergo separate environmental review. BBID would continue to deliver their CVP and non-CVP water to their customers as they have in the past. There would be no impact to the DMC or CVP deliveries as conditions would remain the same as existing conditions.

### **Proposed Action**

**CVP Operations** Under the Proposed Action, Reclamation would execute the proposed long-term contract and license with BBID which would allow BBID to construct an aboveground pipeline within Reclamation ROW in order to introduce up to 4,500 AF, plus up to an additional 225 AFY for conveyance losses, of their non-CVP water to the DMC at MP 3.32R. Introduced water, less conveyance losses, would be exchanged with Reclamation at the point of

introduction. Exchanged water would either be delivered to MP 15.88L or stored within San Luis Reservoir for later delivery. As the stored water cannot be pumped upstream in the DMC for delivery to MP 15.88L when called upon, stored exchanged water would be used by Reclamation to meet CVP demands and an equivalent amount of CVP water would be delivered to MP 15.88L via the DMC. No additional CVP water would be pumped in order for this to occur as the stored water would be used to meet CVP demands in lieu of CVP water which would then be delivered to MP 15.88L. Introduction and storage of the exchanged water is dependent on available capacity and operational constraints; therefore, the Proposed Action would not interfere with the normal operations of federal facilities nor would it impede any CVP obligations to deliver water to other contractors or to local fish and wildlife habitat nor would the Proposed Action interfere in the quantity or timing of diversions by the CVP from the Delta.

**Water Quality** All waters introduced into the DMC must meet Reclamation water quality standards as described in Appendix C (currently Title 22 of the California Code of Regulations). If BBID's non-CVP water fails to meet Reclamation's then current criteria for discharging non-CVP water into federal facilities, introductions will cease until BBID's non-CVP water meets this criteria. Surface water quality at the ephemeral water feature and stock pond located east and downslope of the proposed pipeline could be affected as a result of construction related to the Proposed Action (see Section 2.2.2) due to potential erosion of stockpiles and spoil piles. As described in Section 2.2.2 and included in Table 2-1, a SWPPP would be prepared by a Qualified SWPPP Developer and implemented during construction to minimize these potential impacts. Therefore, there would be no adverse impacts to water quality as a result of the Proposed Action.

**BBID Operations** The amount of water diverted by BBID for the contract is part of their existing water rights entitlement and would not require any new diversions. This water is only a small percentage of their total entitlement (approximately 9 percent) and would not impact BBID's ability to service other agricultural or M&I users. In addition, construction activities for the Proposed Action that could impact BBID's deliveries would be timed in order to prevent impacts to their existing water users. Therefore, there would be no impacts to water resources within BBID.

**City of Tracy Operations** BBID is currently pursuing a wholesale water agreement with the City for treatment and delivery of the exchanged water to Tracy Hills. Exchanged water to be delivered at MP 15.88L for treatment by the City would be coordinated with the City prior to delivery in order to prevent any impacts to the City's water resources and infrastructure. Alternative supplies from existing City supplies would be available for use within the Tracy Hills Development on a temporary basis should the introduction of BBID's non-CVP water and/or the exchanged water be subject to excess capacity or operational constraints; therefore, there would be no adverse impacts to the City's water resources.

**Groundwater** No groundwater would be pumped under the Proposed Action. The use of surface water within Tracy Hills is not expected to impact groundwater levels as it would be used to meet M&I demands. The proposed improvements at or near Pump Station 3 would not disturb soil below the water level in the intake channel; however, should any groundwater be encountered, portable sump pumps would be used in accordance with best management practices identified in the SWPPP developed for the Proposed Action. In addition, dewatering of trenches



along the pipeline route or near the DMC is not anticipated; however, if needed, trenches would also be dewatered using portable sump pumps in accordance with the SWPPP. Therefore, there would be no adverse impacts to groundwater resources as a result of the Proposed Action.

### ***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.

As in the past, hydrological conditions and other factors are likely to result in fluctuating water supplies which drives requests for water service actions. Water districts aim to provide water to their customers based on available water supplies and timing, all while attempting to minimize costs. A myriad of water service actions are approved and executed each year to facilitate water needs. Each water service transaction involving Reclamation undergoes environmental review prior to approval.

Existing or foreseeable projects, in addition to the proposed long-term contract and license with BBID, which could affect or could be affected by the Proposed Action or No Action alternative, include the following:

**Delta-Mendota Canal/California Aqueduct Intertie** A 500 linear feet intertie has been constructed by Reclamation and DWR in an unincorporated area of the San Joaquin Valley in Alameda County, west of the city of Tracy. The intertie is a shared federal-state water system improvement that connects the DMC (federal facility) and the California Aqueduct (state facility) via two 108-inch-diameter pipes and pumping capacity of 467 cfs. The Intertie addresses DMC conveyance conditions that had restricted use of the Jones Pumping Plant to less than its design capacity, potentially restoring as much as 35,000 AF of average annual deliveries to the CVP. Reclamation and DWR prepared an Environmental Impact Statement (EIS)/EIR for the intertie and a Record of Decision (ROD) was completed December 28, 2009 (Reclamation 2012a).

**South-of-Delta Accelerated Water Transfer Program** The Central Valley Project Improvement Act (CVPIA) was signed into law in 1992 to mandate changes in management of the CVP. In addition to protecting, restoring, and enhancing fish and wildlife, one of the other purposes of the CVPIA is to increase water-related benefits provided by the CVP to the State of California through expanded use of voluntary water transfers and improved water conservation. To assist California urban areas, agricultural water users, and others in meeting their future water needs, Section 3405(a) of the CVPIA authorizes all individuals or districts who receive CVP water under water service or repayment contracts, water rights settlement contracts or exchange contracts to transfer, subject to certain terms and conditions, all or a portion of the water subject to such contract to any other California water users or water agency, State or Federal agency,

Indian Tribe, or private non-profit organization for project purposes or any purpose recognized as beneficial under applicable State law.

After enactment of the CVPIA, Reclamation has historically acknowledged water transfers and/or exchanges between CVP contractors geographically situated within the same region and who are provided water service through the same CVP facilities under an Accelerated Water Transfer Program. In 2010, Reclamation approved the continuation of the South-of-Delta Accelerated Water Transfer Program through February 29, 2016. Reclamation prepared EA-10-051, *Accelerated Water Transfers and Exchanges, Central Valley Project, South of Delta Contractors 2011-2015* and a Finding of No Significant Impact (FONSI) was signed on February 14, 2011 (Reclamation 2011b).

**Exchange Contractors 25-Year Water Transfer Program** The San Joaquin River Exchange Contractors are currently transferring up to 130,000 AF of their substitute water to Reclamation under a 10-year (March 1, 2005, through February 28, 2014) water transfer program. Under the current program, the San Joaquin River Exchange Contractors develop sources of water to temporarily reduce the need for delivery of substitute water by Reclamation. The sources of water developed by the San Joaquin River Exchange Contractors include a maximum of 80,000 AF from conservation, tailwater recapture, and groundwater as well as a maximum of 50,000 AF from voluntary temporary land fallowing. For each AF of water developed by the San Joaquin River Exchange Contractors, an in-kind amount of water is considered acquired and left within the CVP for Reclamation to deliver to CVP contractors or wildlife areas. Reclamation and the San Joaquin River Exchange Contractors prepared an EIS/EIR for the 10 year program and a ROD was completed March 23, 2005. As the program will expire soon, Reclamation and the San Joaquin River Exchange Contractors have proposed extending the program for another 25 years. Reclamation prepared an EIS for the transfer program and a ROD was completed July 30, 2013 (Reclamation 2012b).

**Meyers Farms Groundwater Banking Program** The Meyers Family Farm Trust pursued development of the Meyers Farm Water Bank to store water in above-normal and wet years for later use during below-normal, dry, and critically-dry years. Under the banking program, CVP and non-CVP water to be banked flows from the Mendota Pool into five recharge ponds. Banked water is later extracted and pumped into Mendota Pool for exchange with Reclamation. The original project was analyzed in EA-05-09 *Meyers Farm Water Banking Project – Mendota, California* and a FONSI signed May 9, 2005 (Reclamation 2005). Two supplemental EAs and FONSIs for the project were prepared to increase the annual extraction rate and to add Banta-Carbona Irrigation District's non-CVP surface water to the banking program. In addition, Reclamation has recently received a request to increase the rate of extraction from Meyers Bank from 6,316 AFY to 10,526 AFY, to amend the cumulative total amount of CVP water banked from 35,000 AF to 60,000 AF at any given time, to increase the amount of Banta Carbona Irrigation District's non-CVP water conveyed in the DMC for banking from 5,000 AFY to 10,000 AFY, to approve the annual transfer of up to 5,000 AFY of Banta Carbona Irrigation District's CVP water in-lieu of their non-CVP water for banking at Meyers Bank, and to deliver banked water via exchange to other areas within the service area of San Luis Water District. The requested changes to the exchange agreement were analyzed in EA-11-013 entitled *Amendment*

to the Meyers Groundwater Banking Exchange Agreement and a FONSI was signed on September 16, 2013 (Reclamation 2012c).

**Groundwater Pump-in Programs for San Luis Unit and Delta Division Contractors** Under this project, participating CVP contractors within the Delta Division and San Luis Unit of the CVP could pump up to 50,000 AF total of groundwater into the DMC between March 1, 2012 through February 28, 2014 (Contract Years 2012 and 2013). The project was analyzed in EA-12-005 *Two-Year Exchange Agreements and/or Warren Act Contracts for Conveyance of Groundwater in the Delta-Mendota Canal – Contract Years 2012 through 2014 (March 1, 2012 – February 28, 2014)* and a FONSI was completed on May 8, 2012 (Reclamation 2012d). The action was previously conducted between March 1, 2010 through February 28, 2012 (Contract Years 2010 and 2011) and analyzed in EA-09-169. It is likely that these actions would be requested in the future.

**Mercy Springs Water District and Fresno Slough Water District Multi-Year Transfers to Angiola Water District** Reclamation has received a request from Mercy Springs and Fresno Slough to approve the annual transfer up to 1,300 AFY of Mercy Springs' CVP water and up to 4,000 AFY of Fresno Slough's CVP water over a nine-year period to Angiola Water District. The proposed transfers were analyzed in EA-12-021 entitled *Mercy Springs Water District and Fresno Slough Water District Multi-Year Transfers to Angiola Water District* and a FONSI was signed on August 23, 2012 (Reclamation 2012e).

**Five-year Warren Act Contracts for Banta-Carbona Irrigation District, Byron Bethany Irrigation District, Patterson Irrigation District, and West Stanislaus Irrigation District** Reclamation has executed five-year Warren Act contracts with Banta-Carbona Irrigation District, BBID, Patterson Irrigation District, and West Stanislaus Irrigation District for the conveyance and storage per contractor of up to 10,000 AFY of non-CVP surface water in the DMC through February 28, 2016. The project was analyzed in EA-09-156, *Five-year Warren Act Contracts for Banta-Carbona Irrigation District, Byron Bethany Irrigation District, Patterson Irrigation District, and West Stanislaus Irrigation District* and a FONSI was signed on March 8, 2010 (Reclamation 2010c). In April 2012, Reclamation received a request from BBID to approve delivery of up to 5,000 AFY of their non-CVP water to Westlands Water District via the San Luis Canal. The additional points of delivery were analyzed in supplemental EA-12-052 *Additional Point of Delivery for Byron Bethany Irrigation District's non-Central Valley Project Water to Westlands Water District* and a FONSI was signed on June 15, 2012 (Reclamation 2012f).

**Byron Bethany Irrigation District Long-term Water Transfer to Zone 7** BBID has entered into a long-term water transfer agreement with Zone 7 of the Alameda County Flood Control and Water Conservation District. Under the agreement, Zone 7 may purchase up to 5,000 AF of surplus water, with a minimum delivery of 2,000 AF from BBID for use within Zone 7. Surplus water is made available from BBID through temporary fallowing, permanent conversion of farmland, and water conservation. The Zone 7 water transfer was accounted for in a water supply study conducted by BBID prior to the 1999 annexation of 2,006 acres of Tracy Hills into BBID's RWSA2.

Reclamation's Proposed Action is the execution of a long-term contract and license with BBID for introduction of up to 4,500 AF, including up to 225 AFY to cover conveyance losses, of their non-CVP water to the DMC at MP 3.32R for exchange with Reclamation. Exchanged water would either be delivered to MP 15.88L or stored within San Luis Reservoir for later delivery as described previously. Introduction and storage of non-CVP water or exchanged water, including the Proposed Action, is subject to available capacity and operation constraints.

BBID's non-CVP water under the Proposed Action is approximately 9 percent of their pre-1914 water rights entitlement. Combined with the five year Warren Act contract described above, BBID has proposed to introduce for transfer or exchange up to 9,725 AFY of their pre-1914 entitlement into the DMC which is approximately 19 percent of their entitlement and would not impact BBID's ability to service other agricultural or urban water users; therefore, the Proposed Action would not cumulatively impact surface water resources within BBID.

Water service actions, like those described above, do not result in increases or decreases of water diverted from rivers or reservoirs. Each water service transaction involving CVP and non-CVP water undergoes environmental review prior to approval. The Proposed Action and No Action alternative and other similar projects would not interfere with the projects listed above, nor would they hinder the normal operations of the CVP and Reclamation's obligation to deliver water to its contractors or to local fish and wildlife habitat. Neither alternative, when added to other water service actions, would result in cumulative effects to surface water resources beyond historical fluctuations and conditions.

## **3.2 Land Use**

### **3.2.1 Affected Environment**

Although BBID is primarily an agricultural district, portions of the District overlap with the City's current boundaries and are within the sphere of influence for the City. Because of recent urbanization and other factors, the amount of agricultural lands in production has been generally declining. In addition to the variation in cropping from year to year, a limited number of growers in the District occasionally fallow (not irrigate) portions of their land. Fallowing land can also be attributed to a number of factors, such as market conditions, desirability to rotate crops off a portion of property to improve productivity, and grower preference. Since 1990, approximately 6,000 acres of land in BBID have been converted from agriculture to M&I use.

The construction activities associated with the Proposed Action are located in an unincorporated part of Alameda County, mostly on private land approximately six miles southeast of Byron. The land is classified by the California Department of Conservation, Division of Land Resource Protection, as "Grazing Land," which is defined as "land on which the existing vegetation is suited to the grazing of livestock" (California Department of Conservation 2008). The area is currently zoned as agriculture, with a General Plan designation as large parcel agriculture by Alameda County (City of Tracy 2006). The primary use within this area is grazing. The affected parcels are also bound in Land Conservation Act of 1965 (Williamson Act) contracts.

### 3.2.2 Environmental Consequences

#### ***No Action***

There would be no impact to land use as conditions would remain the same as existing conditions.

#### ***Proposed Action***

The existing trend of land use conversion within the San Joaquin Valley from farmland to urban land uses would continue as it has in the past with or without the Proposed Action. The Proposed Action would not conflict with existing zoning for agricultural use or promote the conversion of farmland to non-agricultural use within the Proposed Action area.

The construction of the project will result in the permanent loss of 0.73 acre and temporary loss of 6.3 acres for a total of 7.03 acres. The area of disturbance for the proposed improvements at Pump Station 3 is approximately 0.8 acre, of that 0.5 acre will be permanently disturbed and 0.3 will be temporarily disturbed. The laydown and stockpiling area will result in the temporary disturbance of 2.0 acres. Installation of the pipeline requires a total of 3.73 acres, of which 3.5 will be temporarily and 0.23 acre will be permanently disturbed. The access road stabilization will result in the temporary disturbance of 0.5 acre. The Proposed Action would not conflict with existing zoning for agricultural use or promote the conversion of farmland to non-agricultural use because impacts either would be temporary or would occur in areas already containing irrigation facilities. Although a portion of this area is listed under Williamson Act contracts, the construction of irrigation facilities is considered to be a compatible agricultural use and would not change its land use designation. In addition, the majority of the area impacted by construction would be restored to its original use once construction was completed. Therefore, the Proposed Action would not result in adverse impacts on land use.

#### ***Cumulative Impacts***

In recent years, land use changes within the San Joaquin Valley have involved the urbanization of agricultural lands. These types of changes are typically driven by economic pressures and are as likely to occur with or without the Proposed Action. In addition, land use within the Proposed Action area would be returned to its current use once construction was complete. Accordingly, no cumulative adverse impacts on land use are anticipated.

### 3.3 Biological Resources

#### **3.3.1 Affected Environment**

Reconnaissance-level biological field surveys were conducted on September 16, 2009 and on June 25, 2010 within the construction area associated with the Proposed Action (CH2M Hill 2009, Bumgardner Biological Consulting 2010). Information on the biological resources within this area, such as dominant vegetation type, habitat features, and overall site conditions, was noted during the surveys. These resources were further evaluated as to their potential to support special-status plant and wildlife species in the area.

### 3.3.2 Affected Environment

The construction area associated with the Proposed Action is dominated by California annual grassland, as classified by California Department of Fish and Game<sup>1</sup> (CDFG 2003) and Holland (1986). This is a naturalized community, although most of the species are nonnative. Dominant plant species observed in the area during the field surveys include yellow star-thistle (*Centaurea solstitialis*), rat-tail fescue (*Vulpia myuros*), gum plant (*Grindelia* sp.), and dove weed (*Croton setigerus*) (Bumgardner Biological Consulting 2010). While most of the grassland habitat in the action area is actively grazed, it continues to provide valuable habitat for plants and wildlife.

An existing stock pond is located on the western edge of the proposed pipeline alignment (Figure 2-1) with wetland vegetation found along the margins of the pond, including rabbits foot grass (*Polypogon monspeliensis*), rush (*Scirpus acutus*), mana grass (*Glyceria* sp.), and spike rush (*Eleocharis macrostachya*). The sources of water for the stock pond are surface flows and from an upslope pipe that exits from under Canal 155.

Wetland “seep” vegetation (e.g., *Juncus* sp.) occurs upslope of the stock pond along a narrow swath that runs parallel to Canal 155 and is apparently associated with leakage from the unlined canal. No water pools are associated with this “seep” vegetation given the slope of the embankment. The vegetation is maintained by saturated soils. The “seep” is not considered a jurisdictional water of the United States given that it is supported by water from a constructed water conveyance structure.

On March 19, 2013, Reclamation requested an official species list from the U.S. Fish and Wildlife Service (Service) via the Sacramento Field Office’s website, [http://www.fws.gov/sacramento/ES\\_Species/Lists/es\\_species\\_lists-form.cfm](http://www.fws.gov/sacramento/ES_Species/Lists/es_species_lists-form.cfm), (document number: 130319113902). The list is for the following U.S. Geological Survey 7½-minute topographic quadrangles: Tracy, Midway, Altamont, Holt, Union Island, Woodward Island, Brentwood, Byron Hot Springs, and Clifton Court Forebay (Service 2013). Reclamation further queried the California Department of Wildlife California Natural Diversity Database (CNDDDB) for records of protected species within 10 miles of the construction area associated with the Proposed Action (CNDDDB 2013). A summary table (Table 3-1) was created from the Service species list, CNDDDB records, CH2M Hill findings, and additional information within Reclamation’s files.

**Table 3-1 Federal Protected Species List for the Proposed Action**

Species	Status <sup>1</sup>	Effects <sup>2</sup>	Occurrence in the Study Area <sup>3</sup>
<b>AMPHIBIANS</b>			
California red-legged frog ( <i>Rana draytonii</i> )	T, X	MAA	<b>Present.</b> CNDDDB <sup>4</sup> -recorded occurrences in Proposed Action area. Critical habitat present.
California tiger salamander, central population ( <i>Ambystoma californiense</i> )	T	MAA	<b>Present.</b> CNDDDB-recorded occurrences in Proposed Action area. Suitable habitat present.
<b>FISH</b>			
Central California coastal steelhead ( <i>Oncorhynchus mykiss</i> )	T NMFS	NE	<b>Absent.</b> No natural waterways within the species’ range would be affected by the Proposed Action.

<sup>1</sup> Now California Department of Fish and Wildlife

Species	Status <sup>1</sup>	Effects <sup>2</sup>	Occurrence in the Study Area <sup>3</sup>
Central Valley spring-run chinook salmon ( <i>Oncorhynchus tshawytscha</i> )	T NMFS	NE	<b>Absent.</b> No natural waterways within the species' range would be affected by the Proposed Action.
Central Valley steelhead ( <i>Oncorhynchus mykiss</i> )	T, X NMFS	NE	<b>Absent.</b> No natural waterways within the species' range would be affected by the Proposed Action.
Delta smelt ( <i>Hypomesus transpacificus</i> )	T, X	NE	<b>Absent.</b> No natural waterways within the species' range would be affected by the Proposed Action.
Green sturgeon ( <i>Acipenser medirostris</i> )	T NMFS	NE	<b>Absent.</b> No natural waterways within the species' range would be affected by the Proposed Action.
Winter-run chinook salmon, Sacramento River ( <i>Oncorhynchus tshawytscha</i> )	E NMFS	NE	<b>Absent.</b> No natural waterways within the species' range would be affected by the Proposed Action.
<b>INVERTEBRATES</b>			
Conservancy fairy shrimp ( <i>Branchinecta conservatio</i> )	E	NE	<b>Absent.</b> No individuals or vernal pools in area of effect.
Longhorn fairy shrimp ( <i>Branchinecta longiantenna</i> )	E, X	NE	<b>Absent.</b> No individuals or vernal pools in area of effect. Proposed Action area not within designated critical habitat.
Valley elderberry longhorn beetle ( <i>Desmocerus californicus dimorphus</i> )	T	NE	<b>Absent.</b> No individuals or habitat in area of effect.
Vernal pool fairy shrimp ( <i>Branchinecta lynchi</i> )	T, X	NE	<b>Absent.</b> No individuals or vernal pools in area of effect. Proposed Action area not within designated critical habitat.
Vernal pool tadpole shrimp ( <i>Lepidurus packardii</i> )	E	NE	<b>Absent.</b> No individuals or vernal pools in area of effect.
<b>MAMMALS</b>			
Riparian brush rabbit ( <i>Sylvilagus bachmani riparius</i> )	E	NE	<b>Absent.</b> No CNDDDB-recorded occurrences in Proposed Action area.
San Joaquin kit fox ( <i>Vulpes macrotis mutica</i> )	E	MAA	<b>Present.</b> Several CNDDDB-recorded occurrences in vicinity of Proposed Action area. Suitable foraging habitat is present and small mammal burrows located onsite may provide denning opportunities for this species.
<b>PLANTS</b>			
Contra Costa goldfields ( <i>Lasthenia conjugens</i> )	E, X	NE	<b>Absent.</b> No individuals or habitat in area of effect. Proposed Action area not within designated critical habitat.
Large-flowered fiddleneck ( <i>Amsinckia grandiflora</i> )	E, X	NE	<b>Absent.</b> No individuals or habitat in area of effect. Proposed Action area not within designated critical habitat.
Palmate-bracted bird's-beak ( <i>Cordylanthus palmatus</i> )	E	NE	<b>Absent.</b> No individuals or habitat in area of effect.
<b>REPTILES</b>			
Alameda whipsnake ( <i>Masticophis lateralis euryxanthus</i> )	T, X	NE	<b>Absent.</b> No individuals or habitat in area of effect. Proposed Action area not within designated critical habitat.
Giant garter snake ( <i>Thamnophis gigas</i> )	T	NE	<b>Absent.</b> No individuals or habitat in area of effect.
<sup>1</sup> Status= Listing of Federally special status species E: Listed as Endangered T: Listed as Threatened X: Critical Habitat designated for this species NMFS: species under the jurisdiction of the National Marine Fisheries Service <sup>2</sup> Effects = Effect determination NE: No Effect MAA: Proposed Action may affect this species and its critical habitat			

Species	Status <sup>1</sup>	Effects <sup>2</sup>	Occurrence in the Study Area <sup>3</sup>
<sup>3</sup> Definition Of Occurrence Indicators Present: Species recorded in area and suitable habitat present Absent: Species not recorded in study area and/or habitat requirements not met <sup>4</sup> CNDDDB = California Natural Diversity Database 2011			

### **Migratory Birds**

The non-native grassland within the construction area associated with the Proposed Action may be used as foraging habitat by burrowing owl (*Athene cunicularia*), a bird species protected under the Migratory Bird Treaty Act. This small ground-dwelling owl is a yearlong-resident that prefers to return to previously used breeding areas and nesting burrows (Rich 1984, Lutz and Plumpton 1999). They live in ground squirrel and other mammal burrows that are appropriated and enlarged for their purposes (Martin 1973, CDFG 1995). Burrowing owls have been documented in the vicinity of the construction area (CNDDDB 2013). Therefore, burrowing owls have the potential to occur in the Proposed Action area.

### **Federally-listed Species**

Federal protected species with the potential for occurring in the action area include the following: California red-legged frog, California red-legged frog critical habitat, California tiger salamander, and San Joaquin kit fox (Table 3-1).

The non-native grassland within the construction area supports a relatively large population of California ground squirrels (*Otospermophilus beecheyi*). Consequently, burrows are scattered throughout the action area (CH2M Hill 2009, Bumgardner Biological Consulting 2010). These burrows can be used by California red-legged frog, California tiger salamander, and may also be used by San Joaquin kit fox; all of which have been sited within the vicinity of the action area (CNDDDB 2013). Habit loss and degradation due to agriculture and urbanization continue to be key factors in adversely affecting these special-status species.

**Critical Habitat** Approximately 4.67 acres of the project is located within subunit CCS-2B, California red-legged frog critical habitat, as designated March 17, 2010 (Service 2010). This unit of California red-legged frog critical habitat also overlaps the stock pond adjacent to the construction area and provides suitable aquatic breeding habitat for California red-legged frog and California tiger salamander (CH2M Hill 2009, Bumgardner Biological Consulting 2010).

## **3.3.3 Environmental Consequences**

### **No Action**

Under the No Action Alternative, no modifications to existing facilities or new construction would occur and existing conditions would not change. Therefore, biological resources would not be affected in the Proposed Action area.

### **Proposed Action**

Many of special-status plants and animals described in Table 3-1 above are unlikely to occur within the boundaries of the disturbed land areas. However, birds protected by the Migratory Bird Treaty Act and federally-listed species and critical habitat that occur or could occur in the vicinity of the Proposed Action area include: burrowing owl, California red-legged frog, California red-legged frog critical habitat, California tiger salamander, and San Joaquin kit fox.



**Migratory Birds** There is potential nesting habitat for burrowing owl in the action area. Potential impacts to burrowing owls would be avoided and or minimized by implementing the environmental protection measures described in Table 2-1. Therefore, there would be no take of birds protected under the Migratory Bird Treaty Act.

**Federally-listed Species** The construction of the project will result in the permanent loss of 0.73 acre and temporary loss of 6.3 acres of suitable upland habitat for a total of 7.03 acres. The area of disturbance for the proposed improvements at Pump Station 3 is approximately 0.8 acre, of that 0.5 acre will be permanently disturbed and 0.3 will be temporarily disturbed. The laydown and stockpiling area will result in the temporary disturbance of 2.0 acres. Installation of the pipeline requires a total of 3.73 acres, of which 3.5 will be temporarily and 0.23 acre will be permanently disturbed. The access road stabilization will result in the temporary disturbance of 0.5 acre. In order to minimize the effects of this disturbance and to comply with the Biological Opinion issued by the Service and the commitments required in Table 1, BBID will purchase 8.49 acres of credits at the Mountain House Conservation Bank. The credits were calculated using the Standard Ratios from the East Alameda County Conservation Strategy for permanent effects and the programmatic biological opinion for the temporary effects (ICF International 2010, Service 2012).

Activities associated with the construction may result in the entombment or crushing of any wildlife located in small mammal burrows within the pipeline construction corridor, construction area associated with Pump Station 3, and laydown and stockpiling area located adjacent to Pump Station 3. Crushing of burrows could also reduce the number of prey species (e.g., California ground squirrel) in the area for San Joaquin kit fox. In addition, individuals that are exposed on the surface during excavation or grading may also be crushed and killed or injured by construction activities. Likewise, individuals that take refuge under equipment or materials at night when moving across the landscape may be harmed during the day when equipment or materials are moved.

- | California red-legged frog, California tiger salamander, and San Joaquin kit fox could fall into the trenches for the new turnout and pipeline and be killed (through desiccation, entombment, or predation) if those trenches are left open overnight. Even with the use of “amphibian-friendly” barrier fencing wildlife could become trapped.

Construction activities would result in a temporary increase in vehicle traffic on the improved and unimproved roadways that lead to the construction site. Although, the increase in traffic is likely to occur only on Bruns Road, Kelso Road, and the unimproved road into the site, an unknown number of dispersing California red-legged frog, California tiger salamander, or San Joaquin kit fox may experience roadway mortality during construction. These effects may occur during any season but would most likely occur to California red-legged frog and California tiger salamander when local, seasonal aquatic sites begin to dry down.

| The proposed project is within California red-legged frog critical habitat Unit CCS-2B, but is not expected to appreciably diminish the value of the critical habitat for the California red-legged frog, or prevent the proposed critical habitat from sustaining its role in the conservation and

recovery of this species.

Formal consultation was initiated with the Service to resolve the potential for impacts to protected species. Reclamation received a non-jeopardy biological opinion from the Service on December 9, 2013, addressing impacts to the California red-legged frog, California red-legged frog critical habitat, California tiger salamander, and San Joaquin kit fox (see Appendix H). As the Proposed Action would incorporate the conditions imposed by the Biological Opinion (see Table 2-1 and Appendix H), the potential for impacts to the species has been determined to not be significant.

### ***Cumulative Impacts***

Numerous activities continue to eliminate habitat for listed and proposed threatened and endangered species in the San Joaquin Valley. Habitat loss and degradation affecting both animals and plants continue as a result of urbanization, oil and gas development, road and utility right-of-way management, flood control projects, climate change, grazing by livestock, and agricultural practices. Listed and proposed animal species are also affected by poisoning, shooting, increased predation associated with human development, and reduction of food sources. All of these nonfederal activities are expected to continue to adversely affect listed and proposed species in the San Joaquin Valley. The Proposed Action would temporarily disturb 6.3 acres of California red-legged frog and California tiger salamander uplands dispersal habitat during construction activities. This habitat would be returned to its preexisting condition once construction is complete. However, the Proposed Action would eliminate 0.73 acres of non-native grassland habitat that is considered suitable habitat for San Joaquin kit fox and which could also be utilized by California red-legged frog and California tiger salamander. BBID would implement the appropriate avoidance and minimization measures, including compensatory habitat, to address impacts to habitat as needed to minimize potential cumulative impacts.

## **3.4 Cultural Resources**

Cultural resources is a broad term that includes prehistoric, historic, architectural, and traditional cultural properties. The National Historic Preservation Act (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 action 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 Reclamation's 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**

A systematic pedestrian cultural resource survey of the construction area associated with the Proposed Action was conducted from September 13 through September 16, 2010 (CH2M Hill 2010). Observed sediment is typical of agricultural fields in the area and consists of dark, fine-grained alluvial deposition. Surface visibility during the survey varied from excellent (100 percent) to fair (40 percent), depending on amount of surface vegetation. Disturbances within the area included road compaction and typical agricultural activities, including discing and earthmoving activities. Other disturbances are related to irrigation, such as grading for canals and ditches, as well as constructing small raised areas to control irrigation waters (CH2M Hill 2010).

The DMC, Canal 70, Canal 120, and Canal 155 were visited during the survey. Canals 120 and 155 were recorded on Department of Parks and Recreation forms. Canals 70, 120, and 155 are part of the historic BBID system and visible on the 1947 *Byron, California* 15-foot War Department topographic quadrangle map. The DMC is part of the historic CVP. BBID's Pump Station 3 was originally constructed in 1966 (Gilmore 2010). No other cultural resources were identified during the survey.

A literature search was requested from the California Historical Resources Information System Northwestern Information Center on September 2, 2010 which revealed 15 previous studies had been conducted within a 0.5-mile buffer zone around the APE (CH2M Hill 2010). Five of these studies were conducted within the APE. No previously recorded resources were identified within the APE. Six resources were identified in the 0.5-mile buffer area, including the Tracy Pumping Station, Canal 70, and the Tracy Substation. Review of historical maps showed the following historic features within the APE: the DMC, Canal 70, Canal 120, and Canal 155 (CH2M Hill 2010). The DMC is recorded elsewhere in Alameda County as Site P-01-10435 and in neighboring San Joaquin County as Site P-39-89. A segment of Canal 70, which is just north of the APE, is recorded as Site P-01-10445. No information was provided on the site record for Site P-01-10445 (CH2M Hill 2010).

### **3.4.2 Environmental Consequences**

#### ***No Action***

There would be no impact to cultural resources as conditions would remain the same as existing conditions.

#### ***Proposed Action***

The Proposed Action was determined to be the type of action that had the potential to cause effects to historic properties. Accordingly, Reclamation initiated the Section 106 process which included a review of existing records and literature, a field reconnaissance, and Native American consultation as documented in the report by CH2M Hill titled "Cultural Resources Assessment of a 5.9-acre Parcel for the Tracy Hills Water Supply Project, Byron Bethany Irrigation District, Alameda County, California" (August 2011). These efforts resulted in the identification of four built-environment historic cultural resources in the APE (DMC, Canal 70, Canal 120, and Canal

155), all of which are water conveyance features. Based on these efforts, Reclamation determined that there would be no adverse effect to historic properties, made pursuant to 36 CFR Part 800.5(b), and initiated consultation with SHPO on September 7, 2011. No response to date has been received by SHPO. Due to the passage of more than 30 days for the SHPO review period, Reclamation has concluded the Section 106 process for this undertaking. See Appendix I for Reclamation's determination.

Environmental protection measures have been included in the Proposed Action (Table 2-1) should cultural resources be uncovered during construction activities. These measures would minimize any potential impacts to cultural resources should they be discovered.

### **Cumulative Impacts**

Since the No Action alternative would not have direct or indirect impacts on cultural resources, there would be no cumulative impacts as a result of this alternative. The only cultural resources identified within the APE are four water conveyance features (DMC, Canal 70, Canal 120, and Canal 155). As none of these would be impacted by the Proposed Action and environmental protection measures have been included in the Proposed Action to minimize impacts should any cultural resources be uncovered during construction, there would be no cumulative adverse impacts to cultural resources.

## **3.5 Socioeconomic Resources**

### **3.5.1 Affected Environment**

The annual average unemployment rate for Alameda and San Joaquin counties 11.0 and 17.5 percent in 2011 which has since fallen to 7.0 and 11.6 in 2013 (Table 3-2). Alameda County's unemployment rate in 2011 and 2013 has remained slightly lower than the State; however, San Joaquin County was several percentage points higher than both Alameda County and the State in 2011 and 2013.

**Table 3-2 2013 Preliminary Monthly Labor Force Data**

	Labor Force in 2013	Number Employed in 2013	Per Capita Income <sup>1</sup> in 2011	Unemployment Rate in 2011	Unemployment Rate in 2013
Alameda County	770,400	716,400	\$34,937	11.0%	7.0%
San Joaquin County	295,900	261,500	\$22,857	17.5%	11.6%
California	18,574,100	17,026,400	\$29,634	12.4%	8.3%

Source: EDD 2011 and 2013 and U.S. Census Bureau 2013  
<sup>1</sup>Amounts are based on 2011 numbers as the most recent data available from the U.S. Census Bureau.

### **3.5.2 Environmental Consequences**

#### **No Action**

Under the No Action Alternative, the Tracy Hills development would be required to find alternative water supplies such as those discussed in Section 4.3.4 of the *Tracy Hills Specific Plan* and Appendix B of the *Tracy Hills Specific Plan* Final EIR (City of Tracy 1997). It is likely that a water supply among those that were evaluated in the Final EIR would be developed to meet the needs of the proposed Tracy Hills development. If any of these supplies involve a federal action by Reclamation they would undergo separate environmental review. BBID would continue to deliver their CVP and non-CVP water to their customers as they have in the past.

Therefore, there would be no impact to socioeconomic resources as conditions would remain the same as existing conditions.

### ***Proposed Action***

The water associated with the Proposed Action would be used by Tracy Hills which has already been planned and approved for development by the City. Construction activities may provide temporary beneficial impacts through employment opportunities for local residents. Therefore, there may be a slight beneficial impact to socioeconomic resources as a result of the Proposed Action.

### ***Cumulative Impacts***

The Proposed Action, when added to other existing and proposed actions, may have a slight beneficial contribution to socioeconomics as it would help support and maintain jobs; however, these would be within historical variations and would not contribute to cumulative impacts.

## **3.6 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 (SIP) 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 SIP'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 SIP 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.

### **3.6.1 Affected Environment**

Construction activities associated with the Proposed Action occur within Alameda County. Alameda County is part of the San Francisco Bay Area Air Basin (SFBAAB) which is under the jurisdiction of the Bay Area Air Quality Management District (BAAQMD). The pollutants of greatest concern in the Bay Area are carbon monoxide (CO), ozone (O<sub>3</sub>), O<sub>3</sub> precursors such as reactive organic gases (ROG) and nitrogen oxides (NO<sub>x</sub>), inhalable particulate matter between 2.5 and 10 microns in diameter (PM<sub>10</sub>) and particulate matter less than 2.5 microns in diameter [PM<sub>2.5</sub>] (CARB 2011).

The SFBAAB has reached Federal and State attainment status for CO, nitrogen dioxide (NO<sub>2</sub>), and sulfur dioxide (SO<sub>2</sub>) and Federal attainment status for PM<sub>10</sub>. The SFBAAB is designated as

nonattainment for the Federal O<sub>3</sub> and PM<sub>2.5</sub> standards and nonattainment for the State O<sub>3</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> standards (Table 3-3).

**Table 3-3 San Francisco Bay Area Air Basin Attainment Status**

Pollutant	California Attainment Status	National Attainment Status
O <sub>3</sub>	Nonattainment	Nonattainment
CO	Attainment	Attainment
NO <sub>2</sub>	Attainment	Unclassified
SO <sub>2</sub>	Attainment	Attainment
PM <sub>10</sub>	Nonattainment	Unclassified
PM <sub>2.5</sub>	Nonattainment	Nonattainment

Source: BAAQMD 2011

### 3.6.2 Environmental Consequences

#### **No Action**

There would be no impact to air quality as conditions would remain the same as existing conditions.

#### **Proposed Action**

Operation of the pipeline, including Pump Station 3, would not contribute to criteria pollutants as delivery of water to the DMC would be done via electrical pumps. Air quality emissions from electrical power have been considered in environmental documentation for the generating power plant and are part of the existing baseline conditions. In addition, movement of water in the DMC between MP 3.32R and MP 15.88L would be done via gravity and would not result in air quality impacts. However, construction activities such as excavation, grading, and vehicle travel would cause an increase in PM<sub>10</sub> and PM<sub>2.5</sub> due to dust and exhaust emissions. In addition, exhaust emissions of NO<sub>x</sub> and ROG from construction can contribute to O<sub>3</sub> formation. Emissions of CO and SO<sub>2</sub> were also calculated for construction activities. Environmental protection measures have been incorporated into the Proposed Action in order to minimize emissions from construction activities (Table 2-1). In addition, construction exhaust emissions and fugitive dust emissions were estimated using the URBEMIS Version 9.2.4 (Appendix G). Construction emissions from the Proposed Action are compared to the BAAQMD daily average significance thresholds in Table 3-4.

**Table 3-4 Construction Emissions Comparison to BAAQMD Daily Significance Thresholds**

Emission Source	Emissions (lb/day)					
	ROG	CO	NO <sub>x</sub>	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Total	3.8	15.9	32.4	0.0028	4.3	1.7
BAAQMD Thresholds <sup>1</sup>	54	NE	54	NE	82 <sup>2</sup>	54

<sup>1</sup>Source: BAAQMD 2010  
<sup>2</sup>Applies to exhaust emissions only  
 NE = Threshold has not been established

As shown in Table 3-4, construction emissions would be less than the BAAQMD's thresholds of significance; therefore, there would be no adverse impacts to air quality as a result of the Proposed Action and a conformity analysis pursuant to the Clean Air Act is not required.

#### **Cumulative Impacts**

The Proposed Action, when added to other existing and proposed actions, would not contribute to cumulative impacts to air quality since construction activities are short-term and well below *de*

*minimis* thresholds. In addition, BBID has incorporated control measures in order to reduce any potential cumulative air quality impacts associated with the Proposed Action.

### 3.7 Global Climate

Climate change refers to significant change in measures of climate (e.g., temperature, precipitation, or wind) lasting for decades or longer. Many environmental changes can contribute to climate change [changes in sun's intensity, changes in ocean circulation, deforestation, urbanization, burning fossil fuels, etc.] (EPA 2012a).

Gases that trap heat in the atmosphere are often called greenhouse gases (GHG). Some GHG, such as carbon dioxide (CO<sub>2</sub>), occur naturally and are emitted to the atmosphere through natural processes and human activities. Other GHG (e.g., fluorinated gases) are created and emitted solely through human activities. The principal GHG that enter the atmosphere because of human activities are: CO<sub>2</sub>, methane, nitrous oxide, and fluorinated gasses (EPA 2012a).

During the past century humans have substantially added to the amount of GHG in the atmosphere by burning fossil fuels such as coal, natural gas, oil and gasoline to power our cars, factories, utilities and appliances. The added gases, primarily CO<sub>2</sub> and methane, are enhancing the natural greenhouse effect, and likely contributing to an increase in global average temperature and related climate changes. At present, there are uncertainties associated with the science of climate change (EPA 2012b).

Climate change has only recently been widely recognized as an imminent threat to the global climate, economy, and population. As a result, the national, state, and local climate change regulatory setting is complex and evolving.

In 2006, the State of California issued the California Global Warming Solutions Act of 2006, widely known as Assembly Bill 32, which requires California Air Resources Board (CARB) to develop and enforce regulations for the reporting and verification of statewide GHG emissions. CARB is further directed to set a GHG emission limit, based on 1990 levels, to be achieved by 2020.

In addition, the EPA has issued regulatory actions under the Clean Air Act as well as other statutory authorities to address climate change issues (EPA 2012c). In 2009, the EPA issued a rule (40 CFR Part 98) for mandatory reporting of GHG by large source emitters and suppliers that emit 25,000 metric tons or more of GHG [as CO<sub>2</sub> equivalents (CO<sub>2e</sub>) per year] (EPA 2009). The rule is intended to collect accurate and timely emissions data to guide future policy decisions on climate change and has undergone and is still undergoing revisions (EPA 2012c).

#### 3.7.1 Affected Environment

Global mean surface temperatures have increased nearly 1.8°F from 1890 to 2006 (Intergovernmental Panel on Climate Change 2007). Models indicate that average temperature changes are likely to be greater in the northern hemisphere. Northern latitudes (above 24°North) have exhibited temperature increases of nearly 2.1°F since 1900, with nearly a 1.8°F increase since 1970 alone (Intergovernmental Panel on Climate Change 2007). Without additional

meteorological monitoring systems, it is difficult to determine the spatial and temporal variability and change of climatic conditions, but increasing concentrations of GHG are likely to accelerate the rate of climate change.

More than 20 million Californians rely on the SWP and CVP. Increases in air temperature may lead to changes in precipitation patterns, runoff timing and volume, sea level rise, and changes in the amount of irrigation water needed due to modified evapotranspiration rates. These changes may lead to impacts to California's water resources and project operations.

While there is general consensus in their trend, the magnitudes and onset-timing of impacts are uncertain and are scenario-dependent (Anderson et al. 2008).

### 3.7.2 Environmental Consequences

#### **No Action**

There would be no impact to global climate change as conditions would remain the same as existing conditions.

#### **Proposed Action**

As described in Section 3.6.2, operation of the proposed pipeline is done via electrical pumps which are part of baseline conditions. However, construction under the Proposed Action would involve short-term impacts due to construction-related emissions. Construction emissions of CO<sub>2</sub> were estimated using the URBEMIS Version 9.2.4 as 139 metric tons (see Appendix G). This amount has been converted to CO<sub>2e</sub> using the EPA's GHG Equivalencies Calculator as 147 metric tons of CO<sub>2e</sub> (EPA 2012d). Although, operation of BBID's Pump Station 3 is part of baseline conditions, estimated annual emissions for the maximum (8 month) pump-in schedule would be about 752 metric tons per year of CO<sub>2e</sub> (Table 3-5), which is negligible compared to the EPA's 25,000 metric tons per year threshold for annually reporting GHG emissions (EPA 2009). Accordingly, construction and operations under the Proposed Action would result in below *de minimis* impacts to global climate change.

**Table 3-5 Estimated Annual CO<sub>2e</sub> Emissions for the Proposed Action**

Emission Source	Annual hours of operation	Annual CO <sub>2e</sub> Emissions (metric tons)
BBID Pump Station 3	2,926	752
<b>Total</b>		752

Source: EPA 2012d

#### **Cumulative Impacts**

GHG impacts are considered cumulative impacts. Under the No Action alternative, there would be no cumulative impacts to GHG as conditions would remain the same as existing conditions. Estimated annual CO<sub>2e</sub> emissions for operation of BBID's Pump Station 3 are 752 metric tons per year, which is well below the 25,000 metric tons per year threshold for reporting GHG emissions. As a result, the Proposed Action is not expected to contribute cumulative adverse impacts to global climate change.

CVP water allocations are made dependent on hydrologic conditions and environmental requirements. Since Reclamation operations and allocations are flexible, any changes in hydrologic conditions due to global climate change would be addressed within Reclamation's



operation flexibility and therefore water resource changes due to climate change would be the same with or without the Proposed Action.

### **3.8 Resources Eliminated from Further Analysis**

Reclamation analyzed the affected environment of the Proposed Action and No Action Alternative and has determined that there is no potential for direct, indirect, or cumulative effects to the following resources:

#### **Indian Sacred Sites**

Sacred sites are defined in Executive Order 13007 (May 24, 1996) as "any specific, discrete, narrowly delineated location on Federal land that is identified by an Indian tribe, or Indian individual determined to be an appropriately authoritative representative of an Indian religion, as sacred by virtue of its established religious significance to, or ceremonial use by, an Indian religion; provided that the tribe or appropriately authoritative representative of an Indian religion has informed the agency of the existence of such a site."

Executive Order 13007 requires Federal land managing agencies to accommodate access to and ceremonial use of Indian sacred sites by Indian religious practitioners and to avoid adversely affecting the physical integrity of such sacred sites.

No impact to Indian sacred sites would occur under the No Action Alternative as conditions would remain the same as existing conditions. The Proposed Action would not limit access to and ceremonial use of Indian sacred sites on Federal lands by Indian religious practitioners or adversely affect the physical integrity of such sacred sites. There would be no impacts to Indian sacred sites as a result of the Proposed Action.

#### **Indian Trust Assets**

Indian trust assets are legal interests in assets that are held in trust by the United States Government for federally recognized Indian tribes or individuals. The trust relationship usually stems from a treaty, executive order, or act of Congress. The Secretary of the Interior is the trustee for the United States on behalf of federally recognized Indian tribes. "Assets" are anything owned that holds monetary value. "Legal interests" means there is a property interest for which there is a legal remedy, such a compensation or injunction, if there is improper interference. Assets can be real property, physical assets, or intangible property rights, such as a lease, or right to use something. Indian trust assets cannot be sold, leased or otherwise alienated without United States' approval. Trust assets may include lands, minerals, and natural resources, as well as hunting, fishing, and water rights. Indian reservations, rancherias, and public domain allotments are examples of lands that are often considered trust assets. In some cases, Indian trust assets may be located off trust land. See Appendix J for Reclamation's determination.

No impact to Indian trust assets would occur under the No Action Alternative as conditions would remain the same as existing conditions. On February 8, 2010, Reclamation determined that the Proposed Action would not impact Indian trust assets as there are none in the Proposed Action area. The nearest Indian trust asset is Lytton Rancheria approximately 42 miles northwest of the Proposed Action area.

**Environmental Justice**

The February 11, 1994, Executive Order 12898 requiring Federal agencies to ensure that their actions do not disproportionately impact minority and disadvantaged populations went into effect. The Proposed Action does not propose any features that would result in adverse human health or environmental effects, have any physical effects on minority or low-income populations, and/or alter socioeconomic conditions of populations that reside or work in the vicinity of the Proposed Action.

## Section 4 Consultation and Coordination

### 4.1 Public Review Period

Reclamation provided the public with an opportunity to comment on the Draft FONSI and Draft EA between October 1, 2012 and October 30, 2012.

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

The Fish and Wildlife Coordination Act requires that Reclamation consult with fish and wildlife agencies (federal and state) on all water development projects that could affect biological resources. The Proposed Action does not involve federal water development projects; therefore, the FWCA does not apply.

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

Section 7 of the Endangered Species Act 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.

Reclamation has determined that the Proposed Action may affect, but is not likely to jeopardize, the continued existence of California red-legged frog, California red-legged frog critical habitat, California tiger salamander, and San Joaquin kit fox. On December 9, 2013, Reclamation received a non-jeopardy biological opinion from the Service (File Number: 08ESMF00-2012-F-0159-2), concurring with Reclamation's determination (Appendix H).

### 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 determined that there would be no adverse effect to historic properties, made pursuant to 36 CFR Part 800.5(b), and initiated consultation with SHPO on September 7, 2011. No response to date has been received by SHPO. Due to the passage of more than 30 days for

the SHPO review period, Reclamation has concluded the Section 106 process for this undertaking.

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

### **Section 402**

Section 402 of the Clean Water Act establishes the National Pollutant Discharge Elimination System to regulate point source discharges of pollutants into waters of the United States. A National Pollutant Discharge Elimination System permit sets specific discharge limits for point sources discharging pollutants into waters of the United States and establishes monitoring and reporting requirements, as well as special conditions. The State Water Resources Control Board is the permitting authority in California and has adopted a statewide General Permit for Stormwater Discharges Associated with Construction Activity (Water Quality Order No. 2009-0009-DWQ), which applies to projects resulting in 1 or more acres of soil disturbance.

As required in Section 2.2.3, a Qualified SWPPP Developer would prepare a SWPPP and a Qualified SWPPP Practitioner would implement the SWPPP in order to minimize the amount of pollutants discharged in stormwater from the site.

No pollutants would be discharged into any Waters of the United States under the Proposed Action, so no water quality certifications under Section 401 of the Clean Water Act are required.

No activities such as dredging or filling of wetlands or surface waters would be required for implementation of the Proposed Action, therefore permits obtained in compliance with Clean Water Act section 404 are not required.

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## Section 6 Acronyms and Abbreviations

AF	Acre-feet
AFY	Acre-feet per year
APE	Area of Potential Effect
BAAQMD	San Francisco Bay Area Air Quality Management District
BBID	Byron-Bethany Irrigation District
CARB	California Air Resources Board
CDFG	California Department of Fish and Game
cfs	Cubic feet per second
City	City of Tracy
CNDDB	California Natural Diversity Data Base
CO	Carbon monoxide
CO <sub>2</sub>	Carbon dioxide
CO <sub>2e</sub>	Carbon dioxide equivalents
CVP	Central Valley Project
CVPIA	Central Valley Project Improvement Act
Delta	Sacramento-San Joaquin River Delta
DMC	Delta-Mendota Canal
DWR	California Department of Water Resources
EA	Environmental Assessment
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
FONSI	Finding of No Significant Impact
GHG	greenhouse gases
M&I	Municipal and industrial
MP	Milepost
National Register	National Register of Historic Places
NHPA	National Historic Preservation Act
NO <sub>2</sub>	Nitrogen dioxide
NO <sub>x</sub>	Nitrogen oxides
O <sub>3</sub>	Ozone
PM <sub>10</sub>	Particulate matter between 2.5 and 10 microns in diameter
PM <sub>2.5</sub>	Particulate matter less than 2.5 microns in diameter
Project	Tracy Hills Water Supply Project
Reclamation	Bureau of Reclamation
ROD	Record of Decision
ROG	Reactive organic gases
ROW	Rights-of-way
RWSA2	Raw Water Service Area 2
Service	U.S. Fish and Wildlife Service
SFBAAB	San Francisco Bay Area Air Basin
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SO <sub>2</sub>	Sulfur dioxide

SWP	State Water Project
SWPPP	Stormwater Pollution Prevention Plan
Tracy Hills	Tracy Hills Development
Williamson Act	Land Conservation Act of 1965

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