

RECLAMATION

Managing Water in the West

Finding of No Significant Impact FONSI 07-124

City of Fresno Raw Water Pipeline

Recommended by:

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

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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 is not required for the issuance of a permit allowing the modification of Federal facilities (MP 620 Permit).

The modification (Proposed Action) will involve the construction of a turnout, a check structure across the Friant-Kern Canal (FKC), a 50-foot radio tower, and an above-ground structure for control, measurement and storage, all within Reclamation right of way. This additional point of delivery may require Contracting Officer acknowledgement. Environmental Assessment (EA) 07-124 analyzes impacts to resources within Reclamation right of way.

The Proposed Action will extend beyond Reclamation right of way where potential impacts to resources under the jurisdiction of other Federal agencies exist. The Army Corps of Engineers (Corps) may require permits for the fill in Waters of the U.S and crossing a Corps flood control channel. The U.S. Fish and Wildlife Service will require formal consultation under Section 7 of the Federal Endangered Species Act. As such, EA 07-124 analyzes impacts to resources outside Reclamation right of way the for impacts to resources protected under certain Federal laws. Specific details on measures to avoid and/or minimize adverse impacts are available in Table 3.

Reclamation is providing the public with an opportunity to comment on the Draft Finding of No Significant Impact (FONSI) and Draft EA from August 19, 2011 to September 19, 2011.

Background

In 2004, the City of Fresno (City) completed construction of a Surface Water Treatment Facility (SWTF) located in the northeastern portion of Fresno near Behymer and Chestnut Avenues. The SWTF is currently supplied with surface water conveyed by the Enterprise Canal. The City had relied solely on groundwater for its potable water supply prior to construction of the SWTF.

Varied demands require the Enterprise Canal to operate at or near design capacity. During certain periods, water to groundwater recharge basins downstream of the SWTF cannot be delivered because canal capacity is insufficient to carry the required flows to and past the SWTF. Additionally, the unlined Enterprise Canal passes through various agricultural and urban areas to the SWTF where water can be exposed to potential contamination from livestock, pesticides, herbicides, and urban pollutants. Finally, the Enterprise Canal is taken out of operation about one month per year for maintenance and the SWTF cannot be operated during that time.

This Proposed Action which includes the turnout on the Friant-Kern Canal and pipeline connecting to the SWTF is the subject of this FONSI. 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

Water Resources

The Proposed Action will not reduce surface water resources. The City is contractually entitled to a percentage of the yield from the San Joaquin River. Up to this point, their allocation has

been diverted from a single point. The Proposed Action will add an additional point of diversion but will not increase their contractual entitlement.

Potential impacts to surface water and flood zones may result from construction activities. These potential impacts include the discharge of pollutants, erosion, siltation, and changes to drainage patterns. Mitigation and minimization measures are in place to ensure these impacts are not significant (Table 3).

Therefore the Proposed Action will not have a significant adverse impact on the beneficial use of surface water by other users.

The City's deficit in available water supply will be made up for by surface water importation via the pipeline. By providing surface water in place of groundwater, the City will be able to reverse the impacts of excess groundwater extraction by returning the flow from the Enterprise Canal to intended recharge basins. The Proposed Action will have a beneficial effect on groundwater resources.

Land Use

The Proposed Action will not have a permanent adverse impact to FKC or its right of way.

There would be a temporary loss of agricultural production on a total of 33 acres of vineyard, pasture crops, and deciduous fruit and nut trees and a permanent loss of 1 acre of pasture and tree crops. This impact to grazing and vineyard lands can be reduced to an insignificant level with the implementation of mitigation measures (Table 3).

The groundwater recharge that will occur with completion of the Proposed Action will reverse past overdraft, providing a potential source of water to farmland and for other land uses in future dry years.

Biological Resources

The Proposed Action lies primarily in disturbed roadsides dominated by non-native annual grasses and other ruderal (disturbed area) species. The project's eastern end traverses grazing land.

This alignment may cross as many several small seasonally ponded areas. The seasonally ponded areas may support federally and state-listed species that inhabit vernal pools or similar seasonal pools, including vernal pool plant species, invertebrates, and amphibians.

Although the plan is to restore temporarily impacted vernal depressions to grade, this disturbance may nonetheless have a permanent impact on special-status species that may occupy these wetlands. These types of wetlands form very slowly over time and support species that are adapted to very particular environmental conditions. For instance, some of these species may only reproduce in certain years when conditions are right, and some plants only occur within certain areas of the wetlands. These conditions may not readily be restored or recreated, depending upon the species, even if there is true duripan present (and therefore no duripan to break or puncture).

Fish would not be impacted because the channels that would be crossed are outside of species' ranges and no downstream flow or water quality would be affected, due to either jack and bore construction, or work restrictions to dry periods.

The Proposed Action could affect certain special-status species, either directly or through habitat modification. Pipeline and access road construction could result in adverse impacts to several federally and state-listed vernal pool species, to other special-status vernal pool species, to California jewel-flower, to California tiger salamander and western spadefoot toad, to western pond turtle, to San Joaquin kit fox, and to burrowing owls and other breeding birds, if any of these species are present during construction. Long-term operation and maintenance activities could impact these species from vehicular access or impacts may occur in the event of a pipeline rupture. A Biological Assessment is in progress for submittal to the Service who will prepare a Biological Opinion that may require terms and conditions to minimize or mitigate impacts to Federally listed species. The decision document (Finding of No Significant Impact) will not be approved without the Biological Opinion. Table 3 addresses measures to avoid, minimize and/or mitigate potential impacts resulting from the Proposed Action.

Due to the relatively short height of the antenna pole that would be installed at the turnout on the Friant-Kern Canal, no pole lights or guy wires would be needed and no substantial impacts to migratory birds would occur. The impacts in terms of acres for the Proposed Action on each special-status species are summarized in the following tables.

Table 1 Determination of Effects for Special-status Species

Federally Listed Species	Determination of Effects¹	(Permanent/Temporary Acreage of Impacts)
Blunt-nosed leopard lizard	No effect	0
California jewel-flower	May result in loss of individuals of the California jewel-flower, but will not rise to the level of a population effect; no effect on critical habitat	0/15 ³
California red-legged frog	No effect; no effect on critical habitat	0
California tiger salamander	May result in loss of individuals of the California tiger salamander, but will not rise to the level of a population effect; no effect on critical habitat	2.8/80 ⁴
Central Valley steelhead	No effect; no effect on critical habitat	0
Conservancy fairy shrimp	May result in loss of individuals of the Conservancy fairy shrimp, but will not rise to the level of a population effect; no effect on critical habitat	0.1/1.3
Delta smelt	No effect; no effect on critical habitat	0
Fresno kangaroo rat	No effect; no effect on critical habitat	0
Giant garter snake	No effect; no effect on critical habitat	0
Greene's tuctoria	Not likely to adversely affect; no effect on critical habitat	0
Hartweg's golden sunburst	Not likely to adversely affect; no effect on critical habitat	0
San Joaquin kit fox	Not likely to adversely affect	3.5/112 ⁴
San Joaquin Valley Orcutt grass	Not likely to adversely affect; no effect on critical habitat	0
Succulent owl's-clover	Not likely to adversely affect; no effect on critical habitat	0
Valley elderberry longhorn beetle	No effect; no effect on critical habitat	0
Vernal pool fairy shrimp	May result in loss of individuals of the vernal pool fairy shrimp, but will not rise to the level of a population effect; no effect on critical habitat	0.1/1.3

Table 2 Determination of Effects for Other Special-status Species

Other Special-status Species	Determination of Effects¹	(Permanent/Temporary Acreage of Impacts)
American badger	Not likely to adversely affect	2.8/80
California linderiella	May result in loss of individuals, but will not rise to the level of a population effect	0.1/1.3
Dwarf downingia	Not likely to adversely affect	0
Madera leptosiphon	Not likely to adversely affect	0
Midvalley fairy shrimp	May result in loss of individuals, but will not rise to the level of a population effect	0.10/1.3
Molestan blister beetle	May result in loss of individuals, but will not rise to the level of a population effect	2.8/80
Spiny-sepaed button-celery	Not likely to adversely affect	0
Spotted bat	No effect	0
Swainson's hawk	Foraging habitat will be permanently adversely impacted, but no individuals would be injured or killed	3.3/105
Western burrowing owl	Habitat will be permanently adversely impacted, but no individuals would be injured or killed	3.3/105
Western pond turtle	Not likely to adversely affect	0.1/0
Western spadefoot	May result in loss of individuals, but will not rise to the level of a population effect	3.4/106.4
Western yellow-billed cuckoo	No effect	0

¹ Same for both alternatives

² Permanent or temporary impact acreage was not determined for this alternative alignment. Not all of the habitat will be affected

³ Potential temporary impacts or total impacts are acres that have not yet been surveyed during the flowering period for this species.

⁴ Upland habitat, not all of which will be affected

⁵ Northern alignment not delineated

Cultural Resources

- Historic site P-10-000630: This site would not be impacted by the Proposed Action since it is located on private property outside of the project area. Consequently, the record for the site was not updated and the eligibility of the site for inclusion NHRP and California Register of Historic Resources (CRHR) will not be determined.
- Historic site P-10-000868 (CA-FRE-868H): This site would be affected by the Proposed Action. Research did not identify the date of the construction of the railroad grade and could not directly associate it with significant events or lives of individuals in national, state, or local history. This site lacks integrity and does not appear to meet any of the criteria for inclusion in either the NRHP or the CRHR. The site is adequately recorded and does not require any additional historical investigation.
- Prehistoric site P-10-001391 (CA-FRE-1391): This site would not be impacted by the Proposed Action since it is outside of the project area. The site is located on private property well beyond the APE. Consequently, the record for the site was not updated and the eligibility of the site for inclusion on the NRHP and CRHR will not be determined as part of the Project.

- The Friant-Kern Canal: The canal is eligible for the NRHP, but construction would not affect any of the characteristics of the canal that make it eligible for the NRHP because there are existing turn-outs along the canal. The addition of another turnout would not add any features to the FKC that do not already exist. Therefore, it does not appear that construction of the Proposed Action would affect the integrity or any of the characteristics of the canal that make it eligible for inclusion on the NRHP.
- Enterprise Canal: The eligibility of this canal is not determined and will not be addressed as part of this EA because it currently supplies water to the SWTP through existing facilities and will not be impacted by either action alternative.

Specific details on measures to avoid and/or minimize adverse impacts to cultural resources are available in Table 3.

A letter of concurrence from the State Historic Preservation Office confirming the findings is required prior to approval of the Final Environmental Assessment and Finding of No Significant Impact.

Indian Trust Assets

The Proposed Action does not have a potential to have direct or cumulative impact on Indian Trust Assets (ITAs). The nearest ITA is the Table Mountain Reservation approximately 5 miles northeast of the Proposed Action area.

Socioeconomic Resources

Adverse socioeconomic impacts include temporary impacts to agriculture as described in the Land Use section of this document and the cost of the Proposed Action including right of way acquisition, materials, supplies and labor. These adverse impacts are countered by beneficial socioeconomic impacts including temporary construction work and the associated multiplier effect from the purchase of local goods and services by construction personnel.

Additionally, the Proposed Action will help the City meet current and planned development, increase groundwater recharge, increase system reliability/redundancy, improve water quality and reduce risk of contamination. Each of these factors has a direct or indirect beneficial effect on the socioeconomic environment.

Environmental Justice

The Proposed Action will provide improved water quality protection, including protection from both inadvertent contamination and intentional malicious acts. With the Proposed Action, all of the City's residents will have greater access to a secure water source; therefore, the Proposed Action will have a beneficial (but not substantial) effect to all of the City's residents with no disproportionate impact to any low income and minority populations in the Proposed Action area.

Air Quality

The Proposed Action will result in temporary emissions from construction activities (primarily from vehicle use). During the construction phase, approximately 15 vehicles (as well as other equipment) with a maximum of 30 vehicles will be used. Particulate matter (PM₁₀ and PM_{2.5})

from vehicle use will be the primary pollutant generated during construction however, short-term emissions of nitrogen oxides, sulfur oxides and carbon monoxide, will also occur.

Emissions from the construction, operation and/or maintenance of the Proposed Action will not violate a State or Federal ambient air quality standard, and will not contribute substantially to any existing or future air quality violation because:

- The Proposed Action will be constructed and operated in compliance with both State and Federal air quality attainment and management plans and with local rules and regulations;
- Measures included in the San Joaquin Valley Air Pollution Control District air quality maintenance plan will be utilized (Table 3);
- Substances containing objectionable odors will not be utilized during construction of the Proposed Action;
- The hydroelectric power generation facility produces low-emission electricity.

The Proposed Action could result in a net decrease in emissions over time as opposed to the current system of pumping water through the Enterprise Canal because of the gravity fed movement of water.

Specific details on measures to avoid and/or minimize adverse impacts to air quality are

Global Climate Change

Greenhouse gas (GHG) emissions from construction of the Proposed Action will include Carbon Dioxide (CO₂) and Methane (CH₄).

The Environmental Protection Agency (EPA) calculates the reporting threshold for GHG emissions in metric tons. Estimated emissions of CO₂ for construction of the Proposed Action are 55.5 metric tons (61.19 US tons). Estimated emissions of CH₄ for construction of the Proposed Action are 0.009 metric tons (0.01 US tons).

Calculated CO₂ and CH₄ emission estimates for the construction and operation of the Proposed Action are well below the EPA's 25,000 metric tons (27,550 US tons) per year threshold for annually reporting GHG emissions (EPA 2009).

Cumulative Impacts

Cumulative impacts result from incremental impacts of a Proposed Action when added to other past, present, and reasonably foreseeable future actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

To determine whether cumulatively significant impacts are anticipated from the Proposed Action, the incremental effects of the Proposed Action were examined together with impacts from past, present, and reasonably foreseeable future actions in the same geographic area.

Reclamation's action would be the modification of the Friant-Kern Canal which will involve the construction of a turnout, a check structure across the canal, a 50-foot radio tower, and an above-ground structure for control, measurement and storage, all within Reclamation right of way.

Reclamation is aware of the following projects:

- The Fresno Metropolitan Flood Control District master plan includes a future storm drain pipeline likely offset to the west of the centerline of the Auberry Road right-of-way. This proposed storm drain varies in size between a 24-inch and 30-inch diameter and terminates approximately one mile north of Copper Avenue.
- The Friant Ranch housing development project
- The Millerton New Town project
- A road widening project at Winchell Cove

There will be no adverse cumulative impacts to surface water supply with the Proposed Action because surface water allotments will remain unchanged. There will be no adverse cumulative impacts to the floodplain or hydrology as a result of restoration of disturbed areas and because of measures to restore drainage patterns. The cumulative impacts from past groundwater pumping will be reversed as groundwater recharge occurs.

The temporary nature of ground disturbance and measures in place to minimize adverse impacts preclude adverse cumulative impacts to land use.

The Proposed Action would be conducted in accordance with the County's Open Space and Conservation Policies as would be the case for other approved projects in the area; therefore, the Action's incremental effects would not result in a cumulatively considerable contribution to impacts to sensitive plant and wildlife species or habitats. Additionally, direct impacts to biological resources are temporary resulting from construction activities and would not result in cumulative impacts.

Because the known Cultural Resource sites and features within the area of potential effect will not be directly impacted by the Proposed Action, there is no potential for cumulative impacts to these resources. A letter of concurrence from the State Historic Preservation Office confirming the findings is required prior to approval of the Final Environmental Assessment and Finding of No Significant Impact.

Because the nearest Indian Trust Asset is the Table Mountain Reservation approximately 5 miles northeast of the Proposed Action area there is no potential for cumulative impacts to these resources. There would be beneficial socioeconomic impacts including temporary construction work and the associated multiplier effect from the purchase of local goods and services by construction personnel. Additionally, the Proposed Action will help the City meet current and planned development, increase groundwater recharge, increase system reliability/redundancy, improve water quality and reduce risk of contamination. Each of these factors has a direct or indirect beneficial cumulative impact on the socioeconomic environment.

The Proposed Action would provide improved water quality protection, including protection from both inadvertent contamination and intentional malicious acts. With the Proposed Action, all of the City's residents would have greater access to a secure water source; therefore, the Proposed Action would have a beneficial effect to all of the City's residents with no disproportionate cumulative impact to any low income and minority populations in the Proposed Action area.

There would be a temporary increase in emissions due to construction activity however the Proposed Action could result in a net decrease in emissions over time as opposed to the current

system of pumping water through the Enterprise Canal because of the gravity fed movement of water. Therefore there would be no cumulative impacts to air quality.

Greenhouse Gas emissions are considered cumulatively significant; however, the estimated annual CO₂ and CH₄ emissions are well below the EPA threshold for annually reporting these emissions. Greenhouse Gas emissions for the Proposed Action are not cumulatively significant because of the temporary nature of the emissions and estimated levels relative the annual reporting threshold.

Table 3 Mitigation/Minimization Measures

Resource	Discussion	Measures	Scheduling and Responsible Agency
<p>Water Resources (Storm Water Pollution Prevention Plan)</p>	<p>Surface water and stormwater contamination shall be minimized through the implementation of a Project-specific Storm Water Pollution Prevention Plan (SWPPP). A SWPPP is required as a permit requirement of the RWQCB General Construction National Pollutant Discharge Elimination System (NPDES) Permit (SWRCB 2004). Compliance with the General NPDES Permit requirements would ensure that stormwater discharge meets Basin Plan water quality objectives and that the existing beneficial uses and water quality at the discharge points are maintained and protected.</p>	<p>In the Project-specific SWPPP, the Contractor(s) would be required to:</p> <ul style="list-style-type: none"> ▪ Prevent silt, eroded materials, construction debris, concrete or washings thereof, or hazardous substances from being introduced into any watercourse, stream, or storm drain system; ▪ Ensure that water does not cause erosion of soil; ▪ Prohibit the stockpiling of soil (including drilled cuttings), storage of hazardous materials, and stockpiling of construction materials in flood zones during the rainy season, typically between October 15 and April 15. Any limited stockpiling that may need to occur during that period would be done outside of flood zones; ▪ Provide “housekeeping” measures to minimize the potential for contamination of soil or groundwater through leaks or inadvertent release of hazardous materials from construction equipment or storage areas; ▪ Provide controls to prevent discharge of sediment from all stockpiled soil and ▪ Ensure that the discharge of soil or other material does not have an adverse effect on receiving waters or cause or contribute to a violation of water quality standards. <p>The SWPPP will identify:</p> <ul style="list-style-type: none"> ▪ Potential pollutant sources, including sources of sediment (such as areas of soil exposed by grading activities and soil/sediment stockpiles); and ▪ Any stormwater discharges, including springs or other groundwater discharges. <p>The SWPPP will also identify site-specific erosion and sedimentation control BMPs that will be used to protect waterways and topsoil from stormwater runoff as well as the placement and maintenance of those BMPs. The BMPs will include measures such as the following:</p> <ul style="list-style-type: none"> ▪ Measures for controlling erosion and sedimentation, such as ground covers, revetment systems, or bioengineering stabilization (e.g., live staking or vegetated geogrids); ▪ Procedures for handling and disposing of hazardous materials (e.g., fuel and lubricants) and construction waste; ▪ Measures for post-construction erosion and sediment control; and ▪ Methods to eliminate or reduce non-stormwater discharges to receiving waters. 	<p>Pre-construction and construction phase.</p> <p>The Contractor would be responsible for implementation of the SWPPP with oversight and verification by City of Fresno.</p>
<p>Water Resources (National Pollutant Discharge Elimination System)</p>	<p>The Contractor(s) shall be required to comply with NPDES stormwater permitting requirements. In accordance with NPDES permitting requirements, the Contractor(s) would submit the required Notice of Intent, comply with the Project SWPPP by implementing site-specific BMPs to control and eliminate discharges of construction-related sediments and pollutants in stormwater runoff.</p>	<p>Measures should be implemented at the staging areas to contain surface runoff so that contaminants such as oil, grease, and fuel products do not drain toward receiving waters. For example, if heavy-duty construction equipment is stored overnight at the construction staging areas, drip pans would be placed beneath the machinery engine block and hydraulic systems to prevent any leakage from entering runoff or receiving waters reducing the potential impact to less than significant. Also, during trench operations, stockpiles would be surrounded by hay bales, wattles, or other appropriate BMPs to minimize erosion and potential sedimentation of nearby waterways by stormwater runoff. The SWPPP shall include specific protection measures for temporary on-site storage of diesel fuels, chemicals used during drilling, cathode protection testing, or other Project activities.</p>	<p>Pre-construction and construction phase.</p> <p>The Contractor would be responsible for implementation of the SWPPP with oversight and verification by City of Fresno.</p>

Table 3 Mitigation/Minimization Measures

Resource	Discussion	Measures	Scheduling and Responsible Agency
Land Use (Agriculture)	Agricultural land use impacts are the temporary loss of standing crops within the construction easement and possible loss of future crop productivity resulting from the loss of topsoil and soil compaction. These impacts would be reduced with implementation of these measures.	<ul style="list-style-type: none"> ▪ Topsoil shall be segregated and stored. It shall be placed on the right-of-way in grazing and vineyard areas after the pipeline has been installed. ▪ Compensation for vineyard losses shall be determined during easement negotiations. 	To be determined by City of Fresno
Land Use (Recreation and Bicycle Access)	Recreation and Bicycle Access impacts would be reduced implementation of these measures.	<ul style="list-style-type: none"> ▪ If the bike lanes on Willow and Auberry Avenues have to be closed during construction, the City shall include a detour route within the traffic control plan. Signs shall be posted alerting bikers to the detour. 	Pre-construction and construction phase.
Land Use (Residential)	Construction practices used to minimize disruption in residential areas include reducing workspace requirements, reducing the size of work crews and equipment, increasing the use of temporary safety fencing, avoiding the removal of trees, and minimizing the time that the trench is left open.	<p>Land use impacts, specifically impacts to residences within 50 feet of the construction area, would be reduced with implementation of the following measures:</p> <ul style="list-style-type: none"> ▪ Fence the edge of the construction work area adjacent to the residence for a distance of 100 feet on either side of the residence. ▪ Leave as many trees and landscaping plants as possible on the residence property. Tree branches may need to be trimmed on the working side to allow for safe operation and passage of construction equipment. Any vegetation removed shall be disposed of as negotiated by the landowner and the City. ▪ Restore or replace lawns and landscaping to preconstruction conditions and repair walls and other structures within the construction work area immediately after the trench is backfilled and cleanup complete. ▪ Segregate topsoil where appropriate. ▪ Avoid interruption to utilities and supply interim needs if interruption occurs. ▪ Construct in daylight hours, unless unusual circumstances occur. ▪ Immediately cleanup after backfill. ▪ Begin re-vegetation at the first seasonal opportunity. ▪ Clean up trash and debris daily. ▪ Use stove pipe or drag-section construction techniques where feasible and appropriate. ▪ Notify landowners prior to start of construction adjacent to a residence. ▪ Maintain traffic flow and emergency vehicle access on residential roadways with traffic detail personnel or detour signs where necessary. ▪ Backfill and restore residential areas as soon as possible, and fence off or plate sections of trench left open at the end of the construction day. ▪ Periodically inspect road surfaces near residences and, if necessary, clean street surfaces and wet exposed soil. ▪ Limit construction to weekdays. 	<p>Pre-construction and construction phase.</p> <p>The Contractor would be responsible for implementation of land use measures with oversight and verification by City of Fresno.</p>
Biology	Monitoring	The FCR who would be responsible for overseeing compliance with protective requirements for listed species.	<p>Construction phase.</p> <p>Field contact representative with oversight and verification by City of Fresno.</p>

Table 3 Mitigation/Minimization Measures

Resource	Discussion	Measures	Scheduling and Responsible Agency
Biology	All special-status plant species and vernal pool animal species including tiger salamander would be protected with the following mitigation measures:	<p>Certain temporary staging and access areas near the east end of the Proposed Action, as well as a short section near the western end of the Proposed Action, were added to the Project after plant surveys in the Proposed Action Area were conducted in 2010. Plant surveys will be conducted in these additional areas in the spring of 2011 prior to construction, during the flowering periods for special-status plant species that could occur in the Proposed Action Area. The results of these surveys will be reported to USFWS and CDFG.</p> <p>Existing routes to and from the construction and inspection sites would be used. Cross-country use of vehicles and equipment would be strictly prohibited.</p> <p>The City would designate a field contact representative (FCR) who would be responsible for overseeing compliance with protective requirements for listed species. The FCR would be on site during Project activities. The FCR would have authority to halt all activities that are in violation of the requirements. The FCR would have a copy of all requirements when work is being conducted on the site. The FCR may be a Project manager, City representative, or a contract biologist; if the FCR is not a biologist, a Project biologist will be designated who will train the FCR and be available to respond to situations involving potential direct contact with sensitive species.</p> <p>The FCR would have the authority to halt all nonemergency Project activity should danger to a listed or Fully Protected species arise. Work would proceed only after hazards to the listed species are removed, the species is no longer at risk, or the individual has been moved from harm's way by the authorized biologist. No Fully Protected species will be moved or possessed at any time.</p> <p>All surface-disturbing activities within the range of any listed species would be conducted in a manner that reduces, as much as possible, the potential for take of individuals of a listed species. Impacts to habitat would also be minimized to the maximum possible extent.</p> <p>The area of disturbance would be confined to the smallest practical area, considering topography, placement of facilities, location of burrows, nesting sites or dens, public health and safety, and other limiting factors. As needed, work area boundaries would be delineated with flagging or other marking to minimize surface disturbance associated with vehicle straying. Special habitat features, such as populations of listed plants or burrows identified by a qualified biologist, would be avoided to the extent possible. To the extent possible, previously disturbed areas within the Proposed Action Area would be used for the stockpiling of excavated materials, storage of equipment, digging of slurry and borrow pits, locations of trailers, parking of vehicles, and any other surface-disturbing activity. The qualified biologist, in consultation with the City, would ensure compliance with these measures.</p> <p>All activities would be restricted to the pre-determined corridor. If unforeseen circumstances require expansion of this width, the potential expanded work areas would be surveyed for listed species prior to use of the area. All appropriate mitigation measures would be implemented within the expanded work areas based on the judgment of the USFWS, CDFG, and the City's biological consultant. Work outside of the original right-of-way would proceed only after receiving written approval from the USFWS, describing the exact location of the expansion.</p> <p>In grasslands and any areas with native vegetation, the City would restore disturbed areas in a manner that would assist in the reestablishment of biological values within the disturbed right-of-way. Methods of such restoration would include the reduction of erosion, sequestering and then respreading of the top 6 inches of soil.</p> <p>If impervious material is disturbed during installation of the pipeline such that flow to the vernal pools south of the Proposed Action Area could be altered, the City would replace any impervious material disturbed with engineered backfill or provide alternative measures in order to provide the surface drainage necessary to maintain pre-Project flows to those pools.</p> <p>Impacts to habitat for listed vernal pool branchiopods, California tiger salamander, or any special-status plant populations associated with seasonal wetlands will be mitigated by the purchase of equivalent habitat credits at an accredited mitigation bank. Credits are available at an existing bank.</p>	<p>Pre-construction and construction phase.</p> <p>Field contact representative with oversight and verification by City of Fresno.</p>

Table 3 Mitigation/Minimization Measures

Resource	Discussion	Measures	Scheduling and Responsible Agency
Biology	Additional Measures	<p>Where possible, trenches shall be backfilled prior to stopping work for the day. In areas where trenches are left open and unattended, slopes on either end of the open trench shall be installed to allow wildlife to move out of the trenches without assistance.</p> <p>Following pre-construction surveys, the right-of-way or portions of it would be fenced to minimize the potential for special-status wildlife usage through the Proposed Action Area.</p> <p>If construction activities cannot avoid some burrows, off-site habitat improvements or habitat acquisitions would be endowed at a ratio stipulated by the resource agencies.</p> <p>Disturbances in San Joaquin kit fox habitat would be avoided between January 1 and April 30. Activities in San Joaquin kit fox habitat would be consistent with the USFWS's Standardized Recommendations for Protection of the San Joaquin Kit Fox Prior to or During Ground Disturbance (USFWS 1999a).</p> <p>Burrows of listed species outside of, but near, the pipeline right-of-way would be prominently flagged during pre-activity surveys so that they may be avoided during work activities. Disturbance of such sites would be avoided to the extent possible. In the event an occupied burrow is found within the work area, a qualified biologist would be on site during work activities.</p> <p>Conduct pre-construction surveys for burrowing owl (Burrowing Owl Consortium 1993), and San Joaquin kit fox. Either conduct vegetation removal between September 1 and February 28 or conduct pre-construction surveys for breeding birds. If any of these species are found, implement standard measures to avoid impacts or reduce them to a less-than-significant level.</p> <p>The USFWS has developed a detailed set of avoidance and minimization actions for potential impacts to San Joaquin kit fox (USFWS 1999a) that would be implemented if the San Joaquin kit fox is found during pre-construction surveys.</p> <p>Burrowing owl surveys, which consist of four site visits (both dawn and dusk surveys each day) should be conducted prior to the breeding season so that one-way owl exclusion devices can be installed on occupied burrows before eggs or young are present.</p> <p>Nests of breeding birds protected by the Migratory Bird Treaty Act must be protected from disturbance until the eggs hatch and the nestlings fledge.</p> <p>Surveys for breeding Swainson's hawks will be conducted in the early spring according to CDFG's recommended protocol (CDFG 2000). If an active Swainson's hawk nest is found within one half mile of the area to be affected by construction activities, a qualified biologist will determine the extent of a construction-free buffer zone to be established around the nest in consultation with CDFG. Intensive new disturbances (e.g., heavy equipment activities associated with construction) that may cause nest abandonment or forced fledging will not be initiated within this buffer zone between March 1 and September 15 until it is determined by a qualified biologist in coordination with CDFG that the young have fledged and are feeding on their own.</p>	<p>Pre-construction and construction phase.</p> <p>Field contact representative with oversight and verification by City of Fresno.</p>
Cultural	Discovery	<p>If during the course of construction activities cultural resources are discovered, work shall be halted immediately within 50 feet of the discovery, the City of Fresno Development and Resource Management Department shall be notified, and a professional archaeologist that meets the Secretary of the Interior's Professional Qualifications Standards in prehistoric or historical archaeology shall be retained to determine the significance of the discovery. The City shall address the discovery by implementing a measure such as avoidance, preservation in place, excavation, documentation, curation, or data recovery. The professional archaeologist and the City shall also coordinate with Bureau of Reclamation Cultural Resources staff so that Reclamation can fulfill any additional consultation requirements pursuant to 36 CFR Part 800.13(b).</p>	<p>Construction phase.</p> <p>The Contractor would be responsible with oversight and verification by City of Fresno.</p>

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Resource	Discussion	Measures	Scheduling and Responsible Agency
Air Quality	The Proposed Project and Northern Alignment Alternative would be constructed and operated in compliance with both state and federal air quality attainment and management plans and with local rules and regulations.	<ul style="list-style-type: none"> ▪ The City will prepare a Dust Control Plan in accordance with the SJVAPCD's requirements. ▪ Fugitive dust would be prevented during construction of the pipeline primarily by implementing dust control measures such as (1) spraying the ground surface with water twice a day or as needed depending on trenching locations and meteorological conditions, and (2) hauling away excess soil from trenching for pipe installation. These measures would reduce air quality impacts to less than significant. ▪ Substances containing objectionable odors would not be utilized during construction of the Proposed Project or Northern Alignment Alternative. 	Construction phase. The Contractor would be responsible for implementation of land use measures with oversight and verification by City of Fresno.
Air Quality	<p>During construction of the pipeline, additional vehicles would be increasing emissions in the area but at a level below current federal or state ambient air quality standards</p> <p>Pipeline construction would cause short-term emissions of NOX, SO2, CO, PM₁₀, and PM_{2.5} from construction equipment and earthmoving (ground disturbance) for several weeks in affected areas (Table 3-2). Sensitive receptors may be exposed to weekday construction emissions during a period of several weeks, and construction emissions are transient and temporary in nature.</p>	<p>Air Quality and Global Climate Change Measures are identical as emissions effect both.</p> <ul style="list-style-type: none"> ▪ Onroad and offroad vehicle tire pressures shall be maintained to manufacturer specifications. Tires shall be checked and re-inflated at regular intervals. ▪ Lower-carbon fuels such as biodiesel blends shall be used where feasible. ▪ Engine retrofits to remove emissions such as diesel particulate matter filters with diesel oxidation catalysts shall be used where feasible. ▪ Construction equipment engines shall be maintained to manufacturer's specifications. ▪ Locally-made materials for construction shall be used to the extent feasible. ▪ Construction debris shall be recycled for reuse to the extent feasible. ▪ Any existing trees and vegetation in construction areas shall be preserved or replaced (if removal is necessary for Project activities) as a means of providing carbon sequestration. ▪ Ride-sharing when transporting work crews to and from the construction site shall be encouraged. ▪ Idling time of all vehicles and equipment shall be limited. 	Construction phase. The Contractor would be responsible for implementation of land use measures with oversight and verification by City of Fresno.
Global Climate Change	Combustion sources used in construction would directly emit greenhouse gases. During construction, contractors would implement these measures to reduce greenhouse gas emissions from fuel combustion and construction activities.	<p>Air Quality and Global Climate Change Measures are identical as emissions effect both.</p> <ul style="list-style-type: none"> ▪ Onroad and offroad vehicle tire pressures shall be maintained to manufacturer specifications. Tires shall be checked and re-inflated at regular intervals. ▪ Lower-carbon fuels such as biodiesel blends shall be used where feasible. ▪ Engine retrofits to remove emissions such as diesel particulate matter filters with diesel oxidation catalysts shall be used where feasible. ▪ Construction equipment engines shall be maintained to manufacturer's specifications. ▪ Locally-made materials for construction shall be used to the extent feasible. ▪ Construction debris shall be recycled for reuse to the extent feasible. ▪ Any existing trees and vegetation in construction areas shall be preserved or replaced (if removal is necessary for Project activities) as a means of providing carbon sequestration. ▪ Ride-sharing when transporting work crews to and from the construction site shall be encouraged. ▪ Idling time of all vehicles and equipment shall be limited. 	Construction phase. The Contractor would be responsible for implementation of land use measures with oversight and verification by City of Fresno.