

Section 3 Affected Environment and Environmental Consequences

This section describes the baseline conditions of the existing environment that may be affected by the Proposed Action and the potential environmental consequences of that action, and recommends mitigation measures, where applicable, to reduce the severity of any potential effects.

Cumulative Impacts

Cumulative impacts refer to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts. Both CEQA and NEPA require that cumulative impacts be discussed when the project's incremental effect is cumulatively considerable. These impacts are discussed when appropriate in the relevant issue areas discussed below.

The cumulative setting includes past, present and reasonably foreseeable future actions not part of the Proposed Action but related to cumulative effects. This includes projected growth and zoning as detailed in the Fresno County General Plan, the Sierra North Regional Plan, and the Millerton New Town Specific Plan. Major development projects proposed within two miles of the project area are listed below and are assumed to be developed under cumulative conditions:

- Ventana Hills – 91 lots
- Mira Bella – 56 lots
- Brentwood at Brighton Crest – 420 home sites (within Millerton New Town Specific Plan Area)
- Millerton New Town – 3,500 home sites
- Friant Ranch – approximately 2,900 home sites
- Wellington Ranch – 5,500 home sites

3.1 Water Resources

The Federal Water Pollution Control Act (33 United States Code [USC] §1251 et. sec.), otherwise known as the Clean Water Act (CWA), sets forth national goals that waters shall be “fishable, swimmable” waters (CWA Section 101 (a)(2)). To enforce the goals of the CWA, the ~~Environmental Protection Agency (EPA)~~ established the NPDES program. NPDES is a national program for regulating and administering permits for discharges to receiving waters, including non-point sources. Under §1251 (b) of the CWA, Congress and the EPA must recognize and preserve the primary responsibilities and rights of States concerning the reduction of pollution in water resources. The Porter-Cologne Water Quality Control Act (Porter-Cologne) gives the ultimate authority over California water rights and water quality policy to the California State Water Resource Control Board (SWRCB). The Porter-Cologne also established nine Regional Water Quality Control Boards (Regional Boards) to ensure that water quality on local/regional levels is maintained.

3.1.1 Affected Environment

The Project area is under the jurisdiction of the CVRWQCB. Approximately 0.56 miles of the proposed pipeline alignment would be constructed within the lakebed of Millerton Lake which is a designated water of the U.S. under the jurisdiction of the Corps. Millerton Lake reservoir was created through the construction of Friant Dam across the San Joaquin River. The lake and dam are operated by Reclamation. The lake's uses include water storage, recreational activities, irrigation, and flood control (Reclamation, 2009). The San Joaquin River and the Friant-Kern Canal lie approximately 2 miles west of the proposed pipeline alignment. The San Joaquin River flows southwest from Friant Dam then north to the Sacramento-San Joaquin River Delta. The Friant-Kern Canal carries water from the Friant Dam south to the Kern River where it supplies irrigation water for Fresno, Tulare, Kings, and Kern Counties (Reclamation, 2009).

Watershed

The subject property is located in the Upper San Joaquin (Hydrologic Unit Code 18040006) watershed and the Little Dry Creek local watershed. The San Joaquin River basin covers 15,880 square miles and has approximately 1.6 million acre feet in surface runoff a year. The Basin includes the San Joaquin River from north of the Tulare Lake basin to the Sacramento-San Joaquin Delta and all the tributaries in between. The majority of the San Joaquin River flow is diverted south into the Friant-Kern Canal at Friant Dam on Millerton Lake (Waterboard, 2002).

Surface water run-off from the project area drains as sheet flow either north into Millerton Lake or south to the unnamed Tributary to Little Dry Creek. The Unnamed Tributary intercepts Little Dry Creek approximately 4.96 miles southwest of the proposed pipeline alignment.

Flood pPlain

Executive Order 11988 pertaining to flood plain management states that each agency shall "provide leadership and shall take action to reduce the risk of flood loss." In order for each agency to carry out its responsibility, the order requires that each agency determine whether a project is located on a flood plain and consider alternatives to a project's location within a flood plain. If the project must reside on a flood plain, the agency must minimize any potential impacts.

Federal Emergency Management Agency (FEMA) designates flood risk areas based on a parcel's location in respect to 100-year flood plains. A 100-year flood is the flood elevation that has a 1 percent chance of being equaled or exceeded each year. FEMA prepares Flood Insurance Rate Maps (FIRMs) that show the flood risk designations of lands throughout the ~~United~~ States U.S. FIRM number 060191035 shows that the majority of the proposed pipeline alignment is classified as Zone X (FEMA, 2001); Zone X is designated for those lands that are outside the 100-year flood plains. However, the portion of the proposed pipeline that is within the lakebed of Millerton lake is classified as Zone A, Zone A is designated for those lands subject to inundation by the 100-year flood for which no base flood elevations have been determined.

Surface Water Quality

Section 303(d) of the CWA requires that each State identify those waters within its boundaries that do not meet the water quality standards that have been set for them. The State must then develop Total Maximum Daily Loads (TMDL) for these impaired waters. TMDL is a

calculation of the maximum amount of a pollutant that a water body can receive, from both point and nonpoint sources, and still meet water quality standards. A TMDL must also include a margin of safety to ensure that the water body will remain within the water quality standards. The San Joaquin River from Friant Dam to Mendota Pool is listed as being impaired due to exotic species; the anticipated date for TMDL submittal is September 2019. The 2006 list of impaired waters published by the EPA does not list Millerton Lake and Little Dry Creek; therefore, TMDLs have therefore not been assigned to these water bodies.

Groundwater Resources

The project area is not located within a groundwater basin as defined by the California Department Water Resources. The majority of the proposed pipeline alignment contains three overlapping aquifer zones (Table Mountain Rancheria [TMR], 2004). The first layer is made up of narrow zones of shallow alluvium. This zone is very limited in its extent and depth. The second zone, which extends over most of the region, is made up of weathered granitic bed rock and associated soils. The weathered granitic zones range from approximately 30-100 feet deep. Both the first and second zones have fair to good porosity and permeability. The third aquifer zone is the main water-producing unit with underlying granitic bedrock that extends up to over one thousand feet deep.

3.1.2 Environmental Consequences

3.1.2.1 No Action

Typically, CSA 34 delivers approximately 500 acre feet of water annually for municipal and industrial (M&I) purposes (Brighton Crest community residents and Eagle Springs Golf and Country Club). CSA 34 draws their water directly from Millerton Lake via existing facilities as described in **Section 1.1**.

Under the No Action Alternative, the proposed maintenance and improvements to the existing CSA 34 water system would not be installed. Continued use of the existing pipeline at full design capacity is likely to result in significant damage to this facility in the long-term, resulting in interrupted water service to existing water users within CSA 34.

~~Under the No Action Alternative, potential temporary effects to water quality from construction activities would not occur.~~ Should the system fail, underground flooding could occur which could cause slumping. Impacts to water quality may occur if underground flooding seeped to the ground surface and resulted in erosion and sedimentation of surface waters. Emergency improvements would be required to address flood related impacts and restore service to CSA 34 customers. The scope of these improvements is speculative and would depend on the location and extent of the system failure. a separate eEnvironmental review would be conducted by the County as required in accordance with CEQA (and possibly by Reclamation in accordance with NEPA if approval of a lease amendment is triggered) would occur; and any potential impacts to water resources from construction and operation of the improvements would be identified at that time. Effects associated with emergency improvements would likely be similar to those identified for the Proposed Action described below.

3.1.2.2 Proposed Action

Surface Water Quality and Drainage

Inland Construction

Construction would involve earth moving, grading, trenching, and excavation activities, which would result in the temporary alteration of the existing topography of the project site in excess of one acre. These activities could result in temporary changes to on-site drainage patterns, potentially resulting in increased erosion or siltation associated with construction. Water quality decreases with increased turbidity and total suspended solids (TSS) that result from erosion and siltation of stockpiled soil or open excavations, influencing downstream ecology. Construction equipment and materials have the potential to leak fluids, thereby discharging additional pollutants into stormwater. Construction-site pollutants may include sediments, oils and greases, concrete, paints, and adhesives. Discharge of these pollutants could result in contamination of surface waters. Erosion and discharge of pollutants during construction could result in adverse effects to water quality.

To mitigate these potential effects, required erosion and pollutant control measures would be employed in compliance with the NPDES General Construction Permit prior to and throughout construction, as identified in **Mitigation Measure WR-1**. The permit requires the preparation and implementation of a SWPPP that includes BMPs that ~~will~~would prevent impacts to surface water and groundwater quality from erosion, sediment, trash, and other pollutants. The SWPPP ~~will~~would identify BMPs and the location of erosion control features recommended to direct and filter stormwater runoff during construction of the proposed pipeline. Standard BMPs that may be applicable to the Proposed Action are listed below under **Mitigation Measure WR-1**. Implementation of these measures ~~will~~would reduce the potential for adverse effects to water quality as a result of construction activities.

Lake Bed Construction

As stated in Section 2.2.2, to the extent feasible ~~C~~construction of the proposed pipeline within the lakebed of Millerton Lake would be scheduled to coincide with periods when water levels in Millerton Lake are below the project footprint and not occur while the lakebed is submerged. Millerton Lake is typically at its lowest level in the fall of every year after water has been released for irrigation during the summer. When the high water level falls below the proposed pipeline alignment, construction would commence using the same methods as the inland construction. After construction, all surfaces ~~will~~would be graded and restored to existing elevations and conditions. As with inland construction, potential short-term impacts to surface waters may occur. A Section 404 Permit from the Corps and Section 401 water quality certification from the CVRWQCB ~~will~~would be required for impacts to wetlands and waters of the U.S. resulting from installation of pipeline within the Millerton Lake bed. Implementation of **Mitigation Measure WR-1** would reduce the potential for adverse effects associated with construction activities.

Operation and Maintenance

All project features ~~will~~would be located underground, and all surfaces ~~will~~would be graded and restored to existing elevations after construction is completed. No modification of existing drainage patterns ~~will~~would occur as a result of operation of the Proposed Action. No pollutants would be discharged into any navigable waters during operation and maintenance activities under the Proposed Action so no permits under the CWA are required. As discussed in **Section**

2.0, the Proposed Action would not increase the quantity of diversion from Millerton Lake beyond that previously approved by Reclamation.

Groundwater

Groundwater pumping rates would not increase as a result of the Proposed Action, and impervious surfaces would not be developed that would affect groundwater recharge rates. Water quality protection BMPs required by **Mitigation Measure WR-1** would prevent contamination of groundwater during construction. Under CEQA, because the Proposed Action would not deplete groundwater supplies or affect groundwater recharge, no impacts to groundwater are expected to occur.

Flood Hazards, Flood Plains

The majority of project alignment is located in areas designated by FEMA as being outside of a 100- and 500-year flood event. Approximately 0.56 miles of the proposed pipeline would be located within the Millerton Lake bed, which is designated as Flood Zone A, subject to inundation by the 100-year flood. However, all project features ~~will~~would be located underground, and all surfaces ~~will~~would be graded and restored to existing elevations and conditions after construction is completed. Thus, the project would not place fill within a flood plain, or alter or redirect flood flows. The project area is not subject to a seiche, tsunami, or mudflow; therefore, no impacts are anticipated to occur.

3.1.2.3 Cumulative Impacts

No Action

In the event of system failure as a result of the No Action Alternative, cumulative effects associated with construction and operation of emergency improvements would likely be similar to those identified for the Proposed Action described below.

Proposed Action

Water

Construction of the Proposed Action and potential cumulative projects in the vicinity of the project site would be required to comply with the NPDES General Permit, which is intended to reduce the potential for cumulative impacts to water quality during construction.

The Proposed Action would not result in additional stormwater run-off or contribute to cumulative effects associated with drainage. Similar to the Proposed Action, cumulative development projects would be subject to local, state, and federal regulations designed to minimize cumulative impacts to water resources. Mitigation measures for the Proposed Action in combination with compliance with City, state, and federal regulations, are expected to reduce ~~cumulatively considerable~~ impacts to water quality.

Flooding

The project site is located outside of a designated flood plain. As discussed above, operation of the Proposed Action would not introduce new impervious surfaces which would result in additional off-site flows; therefore, the Proposed Action would not contribute to cumulative flood related impacts.

3.1.3 Mitigation

WR-1 Construction contractors shall comply with the State's NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (General Permit; Order No. 2009-0009-DWQ, NPDES No. CAS000002). The CVRWQCB requires that all construction sites have adequate control measures to prevent the discharge of sediment and other pollutants to streams. To comply with the permit, ~~the Applicant~~ a qualified SWPPP developer will file a NOI with the CVRWQCB and prepare a SWPPP prior to construction. A copy of the SWPPP must be obtained and remain onsite during construction activities. Control measures are required prior to and throughout the rainy season. Water quality BMPs identified in the SWPPP may include, but would not be limited to, the following:

- Temporary erosion control measures (such as silt fences, staked straw bales, and temporary revegetation) shall be employed for disturbed areas. No disturbed surfaces will be left without erosion control measures in place during the winter and spring months.
- Sediment shall be retained onsite by a system of sediment basins, traps, or other appropriate measures.
- A spill prevention and countermeasure plan shall be developed which will identify proper storage, collection, and disposal measures for potential pollutants (such as fuel, fertilizers, pesticides, etc.) used onsite. The plan will also require the proper storage, handling, use, and disposal of petroleum products.
- Construction activities shall be scheduled to minimize land disturbance during peak runoff periods. Soil conservation practices shall be completed during the fall or late winter to reduce erosion during spring runoff. Existing vegetation will be retained where possible. To the extent feasible, grading activities shall be limited to the immediate area required for construction.
- Surface water runoff shall be controlled by directing flowing water away from critical areas and by reducing runoff velocity. Diversion structures such as terraces, dikes, and ditches shall collect and direct runoff water around vulnerable areas to prepared drainage outlets. Surface roughening, berms, check dams, hay bales, or similar devices shall be used to reduce runoff velocity and erosion.
- Sediment shall be contained when conditions are too extreme for treatment by surface protection. Temporary sediment traps, filter fabric fences, inlet protectors, vegetative filters and buffers, or settling basins shall be used to detain runoff water long enough for sediment particles to settle out. Store, cover, and isolate construction materials, including topsoil and chemicals, to prevent runoff losses and contamination of groundwater.
- Topsoil removed during construction shall be carefully stored and treated as an important resource. Berms shall be placed around topsoil stockpiles to prevent runoff during storm events.
- ~~Establish fuel and vehicle maintenance areas~~ Fuel and vehicle maintenance areas will be established away from all drainage courses and ~~these areas will be designed~~ these areas to control runoff.
- Disturbed areas will be revegetated after completion of construction activities.

- All necessary permits and approvals shall be obtained.
- ~~Provide~~ Sanitary facilities will be provided for construction workers.

3.2 Land Use

3.2.1 Affected Environment

Land use activities in the unincorporated areas of Fresno County are regulated by the Fresno County General Plan (2000a), area and specific plans, and the Fresno County Zoning Ordinance. The Sierra North Regional Plan (1982) and the Millerton Specific Plan (2004) are the guiding land use plans for the project area.

Zoning

Zoning designations surrounding the proposed pipeline alignment consist of General Commercial, Multiple Family Residential, Recreational, Open Conservation, Single family Residential Estate, and Exclusive Agriculture.

Land Use

The Sierra North Regional Plan designates land uses for the area north of the Kings River and east of the Friant-Kern Canal (approximately 2,270 square miles). A portion of the proposed pipeline alignment is within the Sierra North Regional Plan. Surrounding land use designations as identified in the Sierra-North Regional Plan consist of low density residential, eastside rangeland, and public lands and open space to the north.

The southernmost portion of the proposed pipeline alignment is within the Millerton Specific Plan Area. Surrounding land use designations as identified in the Millerton Specific Plan (adopted 1984 and last updated December 2004) consist of Medium Density Residential, Medium High Density Residential, Service Commercial, and Special Commercial.

Existing Land Uses

Land uses in the vicinity of the proposed pipeline alignment consist primarily of agriculture, rural residential development, and recreational uses. MLSRA is located to the west of the proposed pipeline alignment. Table Mountain Rancheria Casino is located approximately one mile east of the proposed pipeline alignment at Sky Harbor Road and Millerton Road. The Mira Bella subdivision is being developed approximately two and half miles southwest of the proposed pipeline alignment. The Eagle Springs Golf and Country Club is located immediately southeast of the proposed pipeline alignment. Land uses immediately surrounding the proposed pipeline include recreation at the Winchell Cove Marina and open space.

3.2.2 Environmental Consequences

3.2.2.1 No Action

Under the No Action Alternative, the proposed maintenance and improvements to the existing CSA 34 water system would not be installed and no changes to existing land use would occur.

3.2.2.2 Proposed Action

The Proposed Action would not alter any existing land uses and thus would be consistent with the existing zoning, the Fresno County General Plan, the Sierra North Regional Plan, and the

Millerton Specific Plan. The proposed pipeline would not increase water supplies over existing water rights, and would not support growth that has not been previously analyzed within approved land use plans. Construction and operation of the Proposed Action would not result in conflicts with existing land uses. The proposed pipeline alignment would be underground; therefore, it would only have temporary impacts to land use.

3.2.2.3 Cumulative Impacts

No Action

No cumulative impacts would occur as a result of the No Action Alternative because there would be no change to land use.

Proposed Action

The proposed pipeline alignment is consistent with the existing zoning, the Fresno County General Plan, the Sierra North Regional Plan, and the Millerton Specific Plan; therefore no adverse cumulative impacts would occur. All ground disturbances would be temporary.

3.3 Biological Resources

Federal Endangered Species Act

Under the FESA, the Secretary of the Interior and the Secretary of Commerce have the joint authority to list a species as threatened or endangered (16 ~~United States Code~~ {U.S.C.} 1533c). The purposes of the FESA are to provide a means to conserve the ecosystems that endangered and threatened species depend on and to provide a program for conservation and recovery of the species with the intent of removing the species from a listed, protected status. Regulatory protection is given to any species listed as endangered or threatened.

The Service and the National Marine Fisheries Service (NMFS) are the federal agencies that enforce the FESA. Pursuant to the requirements of the FESA, an agency reviewing a project within its jurisdiction must determine whether any federally listed threatened or endangered species, or species proposed for listing, may be present in the project area and determine whether the proposed project will have an impact on such species. Under the FESA, habitat loss is considered to be an impact to the species. In addition, the agency is required to determine whether the project is likely to jeopardize the continued existence of any species proposed for listing under the FESA or result in the destruction or adverse modification of critical habitat designated or proposed to be designated for such species (16 U.S.C. 1536).

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) makes it unlawful to pursue, capture, kill, or possess or attempt to do the same to any migratory bird or part, nest, or egg of any such bird listed in wildlife protection treaties between the U.S., Great Britain, Mexico, Japan, and the countries of the former Soviet Union. Under the MBTA, it is unlawful to cause direct mortality to migratory birds, eggs, and nestlings~~their nests, and nest contents~~. Nesting birds and the contents of nests within the construction area are therefore protected by the MBTA. The MBTA authorizes the Secretary of the Interior to issue permits for incidental take.

Section 404 of the Clean Water Act

The Corps has primary responsibility for administering regulations that concern waters of the U.S. under Section 404 of the CWA, which governs specified activities in ~~other~~ waters of the U.S. including wetlands. Section 404 regulates the discharge of dredged and fill material into waters of the U.S. The Corps requires that a permit be obtained if a project proposes placing structures within, over, or under navigable waters and/or discharging dredged or fill material into waters of the U.S. below the ~~ordinary high-water mark~~ OHWM in non-tidal waters.

Section 401 of the Clean Water Act

A water quality certification pursuant to Section 401 applies to projects and project applicants that have applied for a federal permit to conduct any activity including construction or operation of facilities, which may result in discharge into navigable waters. If the discharge occurs on lands over which the state exercises jurisdiction, the SWRCB, acting through the RWQCB, must certify that state water quality objectives will be met. If the discharge occurs on tribal lands, the EPA performs the Section 401 water quality certification.

California Endangered Species Act

~~The California Endangered Species Act (CESA)~~ prohibits the take of state-listed threatened and endangered species. Under the CESA, state agencies are required to consult with the CDFG when preparing CEQA documents. Under the CESA, the CDFG is responsible for maintaining a list of rare, threatened, and endangered species designated under state law (California Fish and Game Code 2070-2079). The CDFG also maintains lists of candidate species, species of concern, and fully protected species. Candidate species are those taxa which have been formally recognized by the CDFG and are under review for addition to the state threatened and endangered list. Species of concern are those taxa, which are considered sensitive and this list serves as a “watch list.” Pursuant to the requirements of the CESA, agencies reviewing proposed projects within their jurisdictions must determine whether any state-listed species have the potential to occur within a proposed action area and if the proposed project would have any significant impacts upon such species. Project-related impacts to species on the CESA’s rare, threatened, and endangered list would be considered significant and require mitigation.

CEQA Guidelines Section 15380

Several federal and state statutes protect rare, threatened, and endangered species. The CEQA Guidelines Article 20, Section 15380 provides that a species not listed on the federal or state list of protected species may be considered rare, threatened, or endangered if the species can be shown to meet certain specified criteria. These criteria have been modeled after the definitions of endangered, rare, or threatened provided in the FESA and the CESA. This section of the Guidelines provides public agencies with the ability to protect a species from any potential impacts of proposed projects until the respective government agency has the opportunity to designate (list) that species as protected, if warranted.

The California Native Plant Society (CNPS) maintains an extensive list of plant species that it considers to be rare, threatened, or endangered, but have no designated status or protection under federal or state endangered species legislation. Impacts to CNPS listed species (e.g., CNPS list 1B and 2) are considered pursuant ~~during to CEQA~~ during environmental review.

California Fish and Game Code, Sections 3503, 3503.5, 3511, and 3800

California Fish and Game Code Sections 3503, 3503.5, and 3800 prohibit the possession, incidental take, or needless destruction of birds, their nests, and eggs. California Fish and Game Code Section 3511 lists birds that are “fully protected”, defined as those that may not be taken or possessed except under specific permit.

California Fish and Game Code Sections 1600-1616

Under Sections 1600-1616, the CDFG regulates activities that would alter the flow, bed, channel, or bank of streams and lakes. It derives this jurisdiction under the CESA because the CDFG is responsible for the protection of fish or wildlife resources and their habitats (including wetlands). The CDFG provides comments on the Corps Section 404 and 401 permits under the Fish and Wildlife Coordination Act, last amended in 1995. The CDFG is authorized under the California Fish and Game Code Sections 1600-1616 to develop mitigation measures and enter into Streambed Alteration Agreements with applicants whose proposed projects would obstruct the flow of, or alter the bed, channel, or bank of a river or stream in which there is a fish or wildlife resource, including intermittent and ephemeral streams and wetlands. Biological components of rivers, streams, or lakes may include aquatic and riparian vegetation, aquatic animals and fish, amphibians, reptiles, invertebrates, and terrestrial species that derive benefits from the stream system.

California Fish and Game Code Sections 2080.1 and 2081(b)

Fish and Game Code Section 2080.1 states the requirements and procedures for a 2080.1 Consistency Determination. Section 2080.1 allows an applicant who has obtained a federal incidental take statement pursuant to a Section 7 consultation to notify the Director in writing that the applicant has been issued an incidental take statement pursuant to the FESA. The applicant must submit the Biological Opinion rendering an incidental take statement to the Director of the CDFG for a determination as to whether the federal document is "consistent" with the CESA. Receipt of the application by the Director starts a 30-day clock for processing the Consistency Determination. In order for the CDFG to issue a Consistency Determination, the CDFG must determine that the conditions specified in the incidental take statement are consistent with the CESA. If the CDFG determines that the incidental take statement is not consistent with the CESA, the applicant must apply for a state Incidental Take Permit under Section 2081(b) of the Fish and Game Code.

3.3.1 Affected Environment

This section provides an overview of the environmental setting and wetland features that occur within the ~~p~~Proposed ~~a~~Action area and evaluates whether state and federally listed species have the potential to occur within the ~~p~~Proposed ~~a~~Action area. As stated in the project description, the equipment used to trench and install the pipelines would occur within 25 feet on either side of the proposed pipeline footprint. Therefore, ~~t~~he ~~p~~Proposed ~~a~~Action area includes land located approximately 25 feet east and west of the proposed pipeline footprint. While the total width of the Proposed Action area considered within this EA/IS is 50 feet, the actual impact area from construction activities, including areas disturbed by equipment and materials, and would be limited to a 25 foot wide corridor (disturbance may occur up to 25 feet on either side of pipeline, but would not exceed 25 feet in total width).

Methodology

Information for the pProposed aAction area was obtained from the following sources: color aerial photographs of the pProposed aAction area and vicinity (Aerial Express, 2007); Service National Wetlands Inventory (NWI) Map (Service, 2010a) and the USGS National Hydrological Dataset (USGS, 2000) for the Friant and Millerton Lake West quads; the *Custom Soils Resources Report* (National Resource Conservation Service [NRCS], 2008a); hydric soil information for the Friant and Millerton Lake West quads (NRCS, 2008b); a Service list, dated April 29, 2010, of federally listed special-status species with the potential to occur on or be affected by projects on the Friant and Millerton Lake West quads (Service, 2010b); a CNPS list, dated March 30, 2011, of special-status species known to occur on the Friant and Millerton Lake West quads; a California Natural Diversity Database (CNDDB) query, dated January 30, 2011, of special-status species known to occur on the Friant and Millerton Lake West quads; and a CNDDB map (CDFG, 200311) of special-status species known to occur within five miles of the pProposed aAction area. The Service, CNPS, and CNDDB lists are included in **Appendix A**.

Biological and botanical surveys were conducted on August 4 and 7, 2008, March 11, 2010, and April 29, 2010. The general biological surveys consisted of walking transects throughout the pProposed aAction area and within 100 to 300 feet surrounding the pProposed aAction area to evaluate biological communities and to document habitat for potentially occurring special-status species. The 100 to 300 foot survey area width was chosen to determine whether federally listed species or wetlands are present in order to calculate indirect impacts based on Service or Corps guidance. The biological communities were classified using the Holland System (Holland, 1986). A botanical inventory was conducted within the evident and identifiable blooming period for Hartweg's golden sunburst (*Pseudobahia bahiifolia*) on March 11, 2010. A reference population in the proximity of the pProposed aAction area was visited on the same day. Lists of plants and wildlife observed in the vicinity of the pProposed aAction area during the August 4 and 7, 2008, March 11, 2010, and April 29, 2010 biological surveys are included in **Appendix A**.

Biological Communities

Terrestrial vegetative communities in the pProposed aAction area include nonnative annual grassland, blue oak woodland, and ruderal/developed areas. Aquatic vegetative communities in the pProposed aAction area include Millerton Lake. Dominant vegetation observed in each biological community is discussed below. A map indicating the habitat types and associated acreages within the biological survey area and pProposed aAction impact area is provided in Figure 5. The acreages were calculated assuming a 100 foot wide survey area and a 25 foot wide impact area. Sheets 1 through 4 of Figure 5 provide zoomed in views of the habitat types. Photographs of the habitat types are illustrated in **Figure 6**.

Terrestrial Habitats

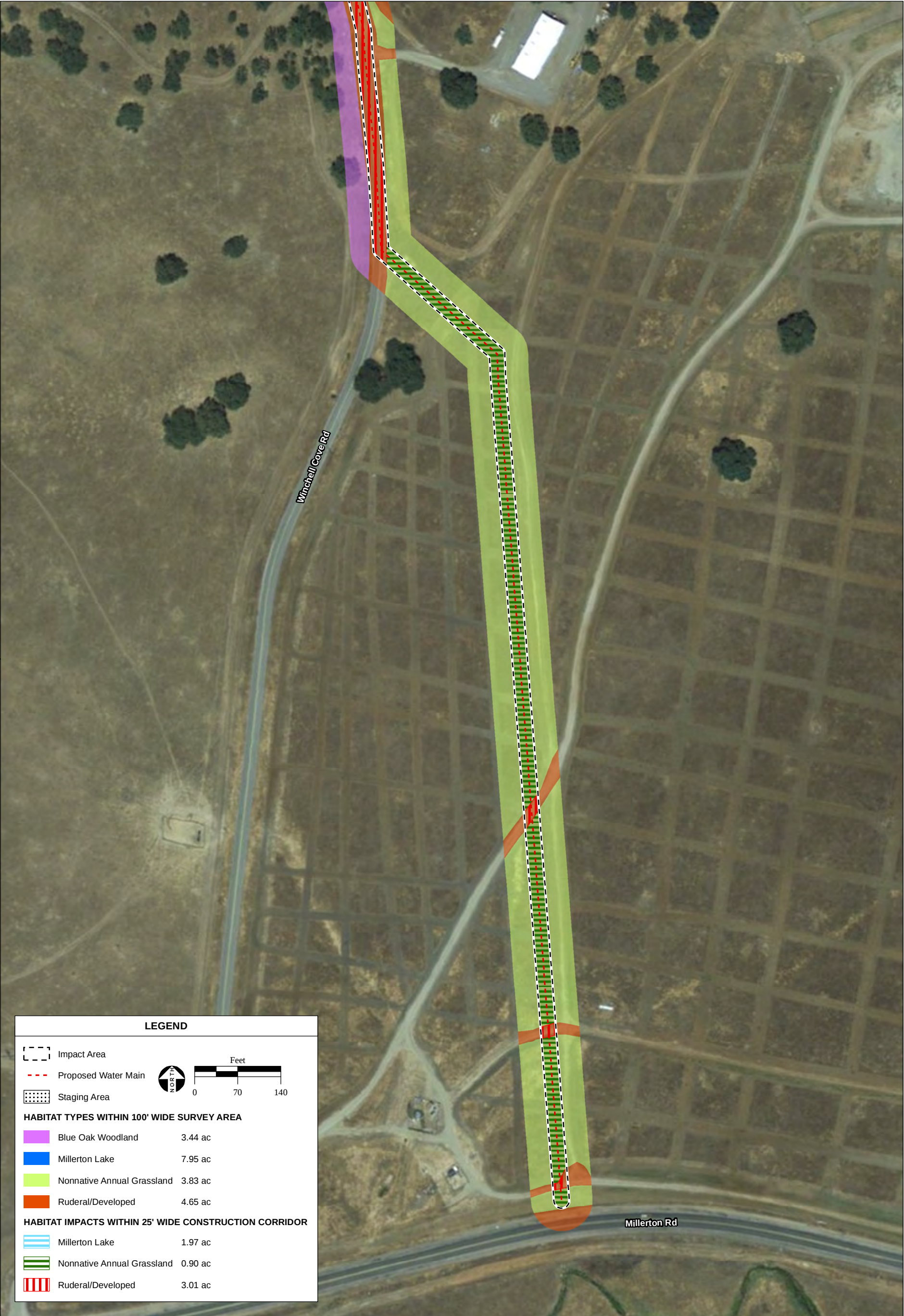
Nonnative annual grassland occurs within the southern segment of the pProposed aAction area. The nonnative annual grassland is highly disturbed, with multiple fire breaks constructed throughout. Dominant vegetation observed in the nonnative annual grassland includes: ripgut grass (*Bromus diandrus*), soft chess (*Bromus hordeaceus*), Eastwood's fiddleneck (*Amsinckia eastwoodiae*), rusty popcorn flower (*Plagiobothrys nothofulvus*), oat (*Avena* sp.), and long-beaked storksbill (*Erodium botrys*). Mammal burrows were observed within the nonnative annual grassland.



SOURCE: Aerial Express aerial photograph, 6/15/2009; AES, 2012

Winchell Cove Pipeline Project / 207518 ■

Figure 5
Habitat Map





SOURCE: Aerial Express aerial photograph, 6/15/2009; AES, 2012

Winchell Cove Pipeline Project / 207518 ■

Figure 5
Habitat Map - Sheet 2

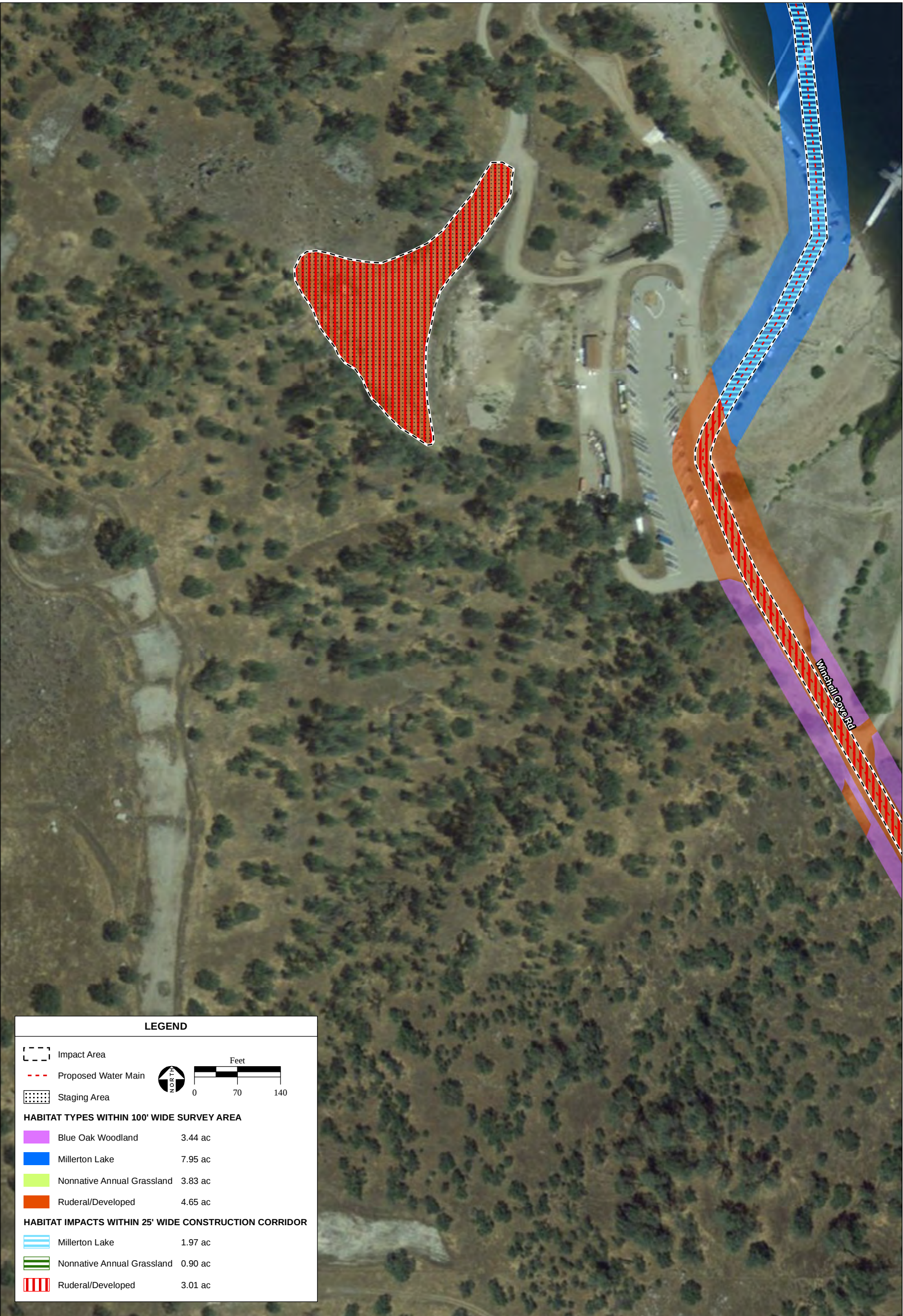






PHOTO 1: View north of the project site along Winchell Cove Road. Photograph taken on March 11, 2010.



PHOTO 2: View southeast of nonnative annual grassland in the general vicinity of the proposed footprint of the project site. Photograph taken on March 11, 2010.



PHOTO 3: View to the east of project site east of Winchell Cove Road and north of Millerton Road. Photograph taken on August 14, 2008.

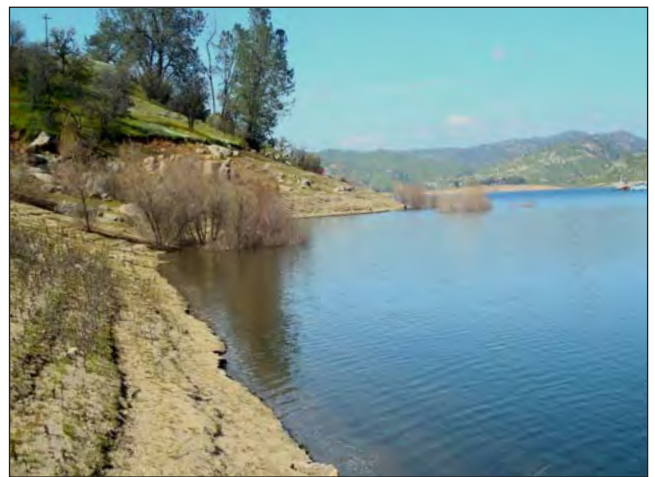


PHOTO 4: View northwest of Millerton Lake in project vicinity. Photograph taken on March 11, 2010.

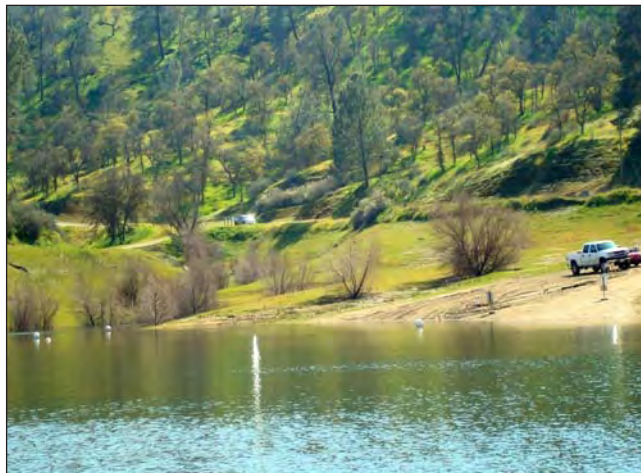


PHOTO 5: View southwest of proposed pipeline alignment along Winchell Cove Road. Blue oak, and ruderal disturbed areas adjacent to the project site also shown. Photograph taken on March 11, 2010.



PHOTO 6: View to northwest of Millerton Lake shoreline from the northern portion to the project site. Photograph taken on March 11, 2010.

Blue oak woodland occurs within the northern segment of the pProposed aAction area adjacent to the developed areas including Winchell Cove Road. Dominant overstory vegetation observed in the blue oak woodland includes: blue oak (*Quercus douglasii*) and foothill pine (*Pinus sabiniana*). Dominant understory vegetation observed in this community includes: rusty popcorn flower, Eastwood's fiddleneck, ripgut grass, and soft chess. Ruderal/developed areas occur throughout the pProposed aAction area. These areas include Winchell Cove Road, the road shoulder, graded roads, the Millerton Lake Marina parking lot, and kiosks.

Millerton Lake occurs within the northern portion of the pProposed aAction area. The portion of Millerton Lake within the pProposed aAction area lacks vegetation along the edge of the shoreline.

Waters of the U.S.

An informal wetland delineation was conducted within the pProposed aAction area. The NWI (Service, 2010a) map documents two wetland types within the portion of Millerton Lake that occurs within the pProposed aAction area: Lacustrine Limnetic Unconsolidated Bottom Diked/Impounded (L1UBHh-Lake) and Lacustrine Littoral Unconsolidated Bottom Diked/Impounded (L2UBHh-Lake). The portion of Millerton Lake within the pProposed aAction area is considered a jurisdictional feature. No additional potential wetlands or water features were identified within the pProposed aAction area on the NWI map or during the field investigations.

Special-Status Species

A table in **Appendix A** provides a summary of regionally occurring special-status species based on the Service file data and CNPS and CNDDB queries. The table provides a rationale as to whether each species has the potential to occur within the pProposed aAction area based on the presence of each species or its habitat observed during the biological surveys. Special-status species that do not have the potential to occur within the pProposed aAction area are not discussed further. **Figure 7** provides a CNDDB map of known occurrences of special-status species documented within five miles of the pProposed aAction area. Special-status species with the potential to occur within the pProposed aAction area are described in detail below.

Succulent Owl's-Clover (*Castilleja campestris* ssp. *succulenta*)

Federal Status – Threatened, Critical Habitat

State Status – Endangered

Other – 1B

Succulent owl's clover is an annual herb found in vernal pools, which are often acidic, from ~~50164~~ to ~~7502,460 meters~~feet above mean sea level (amsl). The blooming period for this species is from April to May (CNPS, 2011), which includes bright yellow to white flowers. Major threats to succulent owl's clover are agriculture, flood control projects, overgrazing, and trampling (Service, 1997).

Succulent owl's clover occurs sporadically in the San Joaquin Valley over a range of 66 miles, extending through northern Fresno, western Madera, eastern Merced, southeastern San Joaquin, western Mariposa, and Stanislaus counties (Service, 1997, CDFG, 200311). There are 88

SPECIAL STATUS SPECIES DATA

Existing Water Main
Proposed Water Main

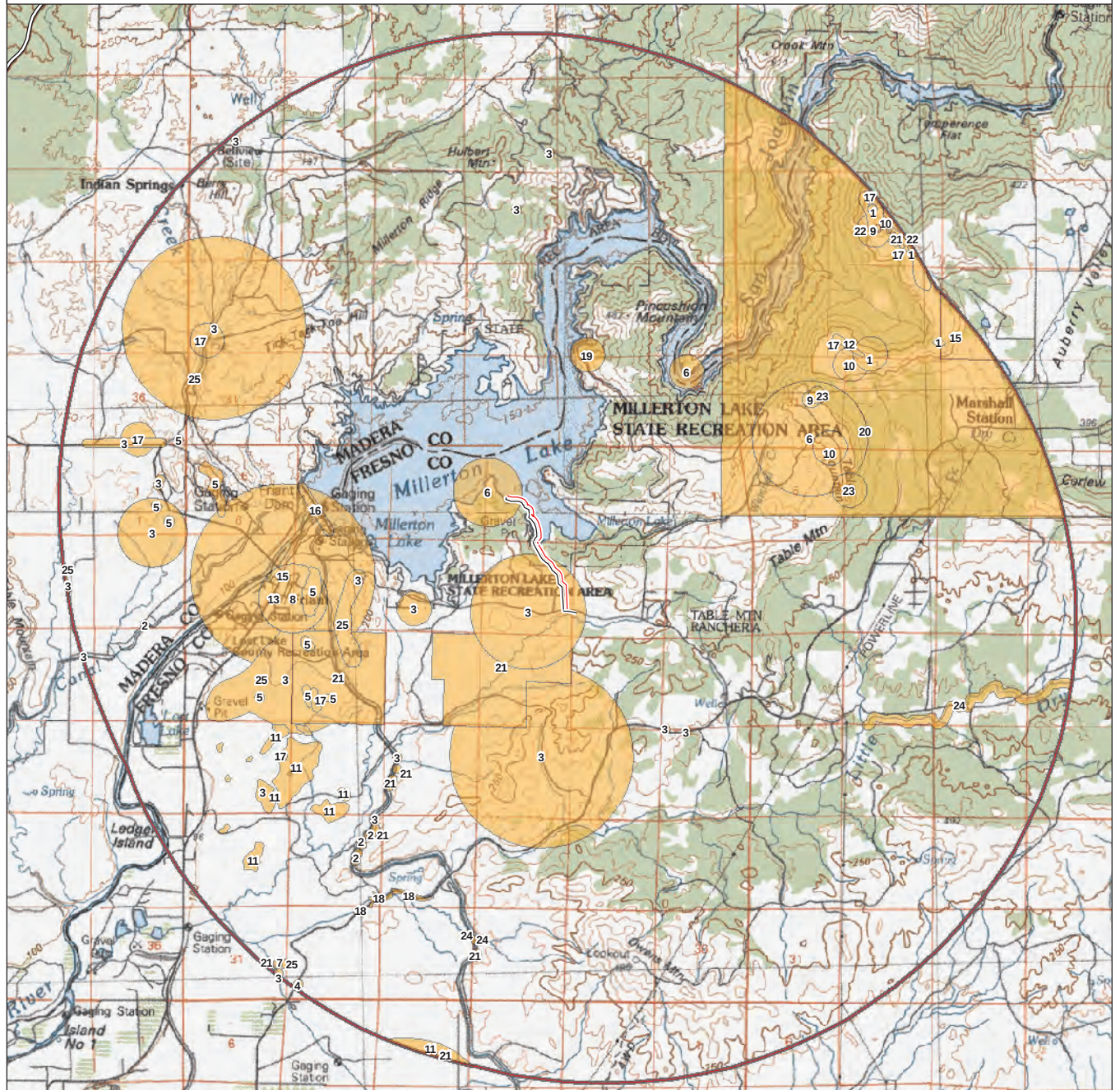
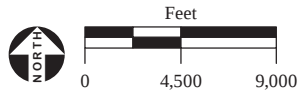
5-Mile Radius

CNDDDB Occurrences

- 1 - Boggs Lake hedge-hyssop
- 2 - California linderiella
- 3 - California tiger salamander
- 4 - dwarf downingia
- 5 - Hartweg's golden sunburst
- 6 - Madera leptosiphon
- 7 - midvalley fairy shrimp

- 8 - moestan blister beetle
- 9 - molestan blister beetle
- 10 - Northern Basalt Flow Vernal Pool
- 11 - Northern Hardpan Vernal Pool
- 12 - prairie falcon
- 13 - San Joaquin kit fox
- 14 - San Joaquin Valley Orcutt grass
- 15 - spiny-sepaed button-celery
- 16 - spotted bat

- 17 - succulent owl's-clover
- 18 - Sycamore Alluvial Woodland
- 19 - Table Mountain harvestman
- 20 - valley elderberry longhorn beetle
- 21 - vernal pool fairy shrimp
- 22 - vernal pool tadpole shrimp
- 23 - western mastiff bat
- 24 - western pond turtle
- 25 - western spadefoot



SOURCE: "Shaver Lake, CA" & "Fresno, CA" USGS 100k Topographic Quadrangles, Mt. Diablo Baseline and Meridian; California Natural Diversity Database, 2/2010; AES, 2010

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Figure 7
CNDDDB 5-Mile Radius Map

occurrences recorded for this species in the CNDDDB. ~~Several populations in Merced and Fresno counties have not been observed for years and are possibly extirpated.~~ Several populations in Merced and Fresno counties have not been observed for years and are possibly extirpated (CDFG, 2003~~11~~). There are 12 CNDDDB occurrences for this species within five miles of the ~~p~~Proposed ~~a~~Action area. The nearest CNDDDB record (CNDDDB occurrence number: 17) is from 1992 ~~is and occurs~~ approximately three miles southwest of the project footprint. The record states that 60 plants were observed within vernal pools on sandy to clay loam soils within valley grasslands.

The Service list identifies critical habitat for succulent owl's-clover on the Friant and Millerton Lake East quads. The ~~p~~Proposed ~~a~~Action area does not occur within critical habitat for this species.

No vernal pools occur in or within 300 feet of the ~~p~~Proposed ~~a~~Action area. There is one seasonal wetland that occurs approximately 150 feet west of the southern portion of the ~~p~~Proposed ~~a~~Action area. The seasonal wetland was formed as a result of a leaky water tank. The ~~p~~Proposed ~~a~~Action would not affect the hydrology or hardpan of this wetland. No succulent owl's clover or vernal pool plants were observed within the seasonal wetland during a year of vernal pool branchiopod surveys conducted within this seasonal wetland for the Millerton Road Widening project (AES, 2009). This species does not occur within or in the vicinity of the ~~p~~Proposed ~~a~~Action area.

Dwarf Downingia (*Downingia pusilla*)

Federal Status – None

State Status – None

Other – CNPS 2

Dwarf downingia is an annual herb found in Valley and foothill grassland and vernal pools from 0 to ~~1,476~~ 450 meters/feet amsl. Blooming period is from March through May (CNPS, 2011). There are no CNDDDB records for dwarf downingia within five miles of the ~~p~~Proposed ~~a~~Action area.

No vernal pools occur in or within 300 feet of the ~~p~~Proposed ~~a~~Action area. The one seasonal wetland that occurs approximately 150 feet west of the southern portion of the ~~p~~Proposed ~~a~~Action area did not contain dwarf downingia or other vernal pool plants during the 2009 vernal pool branchiopod surveys (AES, 2009). The nonnative annual grassland within the ~~p~~Proposed ~~a~~Action area provides potential habitat for dwarf downingia. The March 11 and April 29, 2010 botanical inventories were conducted within the evident and identifiable blooming period for this species. Dwarf downingia was not observed in or within 300 feet of the ~~p~~Proposed ~~a~~Action area. This species does not occur in or within 300 feet of the ~~p~~Proposed ~~a~~Action area.

Spiny-Sepaled Button-Celery (*Eryngium spinosepalum*)

Federal Status – None

State Status – None

Other – CNPS 1B

Spiny-sepaled button-celery is an annual to perennial herb found in Valley and foothill grasslands and vernal pool habitats from ~~80 to 255 meters~~ 262 to 837 feet amsl. Blooming period is from April through May (CNPS, 2011). There are two CNDDDB records for spiny-sepaled button-celery within five miles of the ~~p~~Proposed ~~a~~Action area. The nearest record is from 1928 and is approximately 2.8 miles west of the ~~p~~Proposed ~~a~~Action area on the Millerton Lake East quad (CNDDDB occurrence number: 31). The only information provided is that the occurrence was observed in beds of former winter pools and that fieldwork is needed.

No vernal pools occur in or within 300 feet of the ~~p~~Proposed ~~a~~Action area. The one seasonal wetland that occurs approximately 150 feet west of the southern portion of the ~~p~~Proposed ~~a~~Action area did not contain spiny-sepaled button-celery or other vernal pool plants during the 2009 vernal pool branchiopod surveys (AES, 2009). The nonnative annual grassland within the ~~p~~Proposed ~~a~~Action area provides potential habitat for spiny-sepaled button-celery. The April 29, 2010 botanical inventory was conducted within the evident and identifiable blooming period for this species. Spiny-sepaled button-celery was not observed in or within 300 feet of the ~~p~~Proposed ~~a~~Action area. This species does not occur in the ~~p~~Proposed ~~a~~Action area.

Madera Leptosiphon (*Leptosiphon serrulatus*)

Federal Status – None

State Status – None

Other – CNPS 1B

Madera leptosiphon is an annual herb found in cismontane woodland and lower montaine coniferous forest from ~~300 to 1,300 meters~~ 984 to 4,265 feet amsl. Blooming period is from April through May (CNPS, 2011). There are three CNDDDB records for Madera leptosiphon within five miles of the ~~p~~Proposed ~~a~~Action area. The nearest record is from 1967 and overlaps the northern portion of the ~~p~~Proposed ~~a~~Action area on the Millerton Lake West quad (CNDDDB occurrence number: 9). The only information provided is that it was found two miles north of the boat ramps on the east side of the south bay of Millerton Lake in a foothill woodland and that fieldwork is needed.

The blue oak woodland within the ~~p~~Proposed ~~A~~Action area provides potential habitat for Madera leptosiphon. The April 29, 2010 botanical inventory was conducted within the evident and identifiable blooming period for this species. Madera leptosiphon was not observed in the ~~p~~Proposed ~~a~~Action area. This species does not occur in the ~~p~~Proposed ~~a~~Action area.

San Joaquin Valley Orcutt Grass (*Orcuttia inaequalis*)

Federal Status –Threatened, Critical Habitat

State Status – Endangered

Other – CNPS 1B

San Joaquin Valley Orcutt grass is small, tufted, semi-aquatic annual plant endemic to vernal pools. San Joaquin Valley Orcutt grass is found on alluvial fans, tabletop lava flows (Stebbins et al., 1995) and both low and high stream terraces (Stone et al., 1988). The species occurs within rolling grasslands (Crampton, 1959) in northern claypan, northern hardpan, and northern basalt flow vernal pools (Sawyer and Keeler-Wolf, 1995).

Ocuttia species germinate underwater in January and February (Griggs and Jain, 1983; Keeley, 1998). In order to germinate, the seeds have to be colonized by aquatic fungi (Griggs, 1981; Keeley, 1988). The plants grow underwater for three or more months (Keeley, 1998). Peak flower production generally occurs in June and July and can extend into August and September in rainy years (Griggs, 1981). Late-spring inundation can kill flowering plants (Silveira, 1997). Beginning in the mid-1800s, much vernal pool habitat was lost to land conversion for agriculture and for water storage and conveyance facilities (Frayer et al., 1989; Kreissman, 1991). By 1997, it is estimated that three quarters of these habitats were lost in the Central Valley (Holland, 1998). Urban development and associated activities, such as off-road activity threaten the species through loss, fragmentation, and degradation of habitat, alteration of hydrology, and contaminants.

San Joaquin Valley Orcutt grass has been found from ~~30 to 755 meters~~ 98 to 2,477 feet amsl, with the highest elevations on tabletops in Madera and Fresno counties (Stebbins et al., 1995). The species has never occurred outside of the Southern Sierra Foothills Vernal Pool Region (Keeler-Wolf et al., 1998). San Joaquin Valley Orcutt grass was known from Tulare, Fresno, Madera, Merced and Stanislaus counties (Hoover, 1941). By the late seventies, none of these occurrences remained (Griggs and Jain, 1983). In the 1980s, several new observations were made, mostly in Merced County, but there were three in Madera County and one in Fresno County (Stone et al., 1988). Since 1990, six more observations were made, including one in Tulare County (Witham, 2000). It is believed that the historic occurrences within the Ivanhoe and Wahtoke quadrangles have been extirpated. There is one CNDDDB occurrence for this species within five miles of the ~~p~~Proposed ~~a~~Action area. The CNDDDB record (CNDDDB occurrence number: 47) is from 1997 is approximately 4.8 miles northeast of the ~~p~~Proposed ~~a~~Action area. The record states that over 5,000 plants were observed within two vernal pools surrounded by grassland.

The Service list identifies critical habitat for San Joaquin orcutt grass on the Friant and Millerton Lake East quads. The ~~p~~Proposed ~~a~~Action area does not occur within critical habitat for this species.

No vernal pools occur in or within 300 feet of the ~~p~~Proposed ~~a~~Action area. The one seasonal wetland that occurs approximately 150 feet west of the southern portion of the ~~p~~Proposed ~~a~~Action area did not contain San Joaquin orcutt grass or other vernal pool plants during the 2009 vernal pool branchiopod surveys (AES, 2009). The August 4 and 7, 2008 biological surveys

were conducted within the evident and identifiable blooming period for this species. This species was not observed within 300 feet of the ~~p~~Proposed ~~a~~Action area. This species does not occur within or within 300 feet of the ~~p~~Proposed ~~a~~Action area.

Hartweg's Golden Sunburst (*Pseudobahia bahiifolia*)

Federal Status – Endangered

State Status – Endangered

Other – CNPS List 1B

Hartweg's golden sunburst is an annual herb found on clay, which is often acidic, in cismontane woodland and Valley and foothill grassland from ~~15 to 150 meters~~ 49 to 492 feet amsl. Blooming period occurs from March through April (CNPS, 2011). There are nine CNDDDB records for Hartweg's golden sunburst within five miles of the ~~p~~Proposed ~~a~~Action area. The nearest record is from 2001 and is approximately 3.4 miles southwest of the ~~p~~Proposed ~~a~~Action area on the Friant quad (CNDDDB, occurrence number: 21). The record states that an unknown number of plants were observed on the tops of rolling low hills in Valley grassland and vernal pools on Rocklin loam soil.

The blue oak woodland and nonnative annual grassland within the ~~p~~Proposed ~~a~~Action area provide potential habitat for Hartweg's golden sunburst. Several Hartweg's golden sunburst were observed in bloom at a reference population (CNDDDB occurrence number: 21) on a disturbed hillslope approximately 3.4 miles southwest of the ~~p~~Proposed ~~a~~Action area on March 11, 2010. The March 11 and April 29, 2010 biological surveys were conducted within the evident and identifiable blooming period for Hartweg's golden sunburst. A member in the same family, California goldfields (*Lasthenia californica*) was observed; however, Hartweg's golden sunburst was not observed in the ~~p~~Proposed ~~a~~Action area. This species does not occur in the ~~p~~Proposed ~~a~~Action area.

California Tiger Salamander (*Ambystoma californiense*; CTS), Central Population

Federal Status – Threatened, Critical Habitat

State Status – Threatened

CTS require suitable aquatic habitat for breeding and upland habitat for aestivation. Aquatic breeding habitat includes vernal pools and seasonal and perennial ponds in grassland and oak savannah plant communities from sea level to approximately ~~1,169 meters~~ 3,835 feet amsl. Aquatic breeding ponds are almost always found in grassland (CaliforniaHerps, 2008). CTS breeding ponds have rarely been observed in grasslands with scattered oak trees or in scrub or chaparral habitats. CTS spend most of their lives in upland habitats that consist of grassland and oak savannah with burrows of small mammals. CTS have been observed in upland habitat up to 1.63 miles from breeding ponds (Austin and Shaffer, 1992), though this is a greater distance than is typical. In the Central Valley, 95 percent of the CTS reside within 0.97 miles of their breeding ponds (Trenham and Shaffer, 2005). CTS remain in their upland burrows through the dry summer and fall months. Adults emerge from their burrows on rainy nights to feed and migrate to breeding ponds once fall or winter rains begin. Adults migrate back to upland burrows from one to eight weeks (Stebbins, 2003). Metamorphosed juveniles leave the breeding sites in late spring or early summer. Adults may continue to come out nightly to feed for approximately two

weeks after returning to burrows. Overland movements occur during the night throughout the juvenile and adult phases. There are 11 CNDDDB records for CTS within five miles of the ~~p~~Proposed aAction area. The nearest record is from 1973 and is mapped as a polygon on the south side of the ~~p~~Proposed aAction area on the Friant quad (CNDDDB occurrence number: 76). The only information provided within this occurrence states that the record was mapped as a point in an imprecise location in the ~~MLSRA~~ Millerton Lake State Recreation Area. No CNDDDB records have specified that CTS is documented to occur on the north side of Millerton Road (CDFG, 200311).

The Service designated critical habitat for the Central Population of CTS on August 23, 2005 (50 CFR 17) (Service, 2005a). The Service divided the current range of the Central California population into four geographic regions: Central Valley, Southern San Joaquin Valley, East Bay, and Central Coast.

The Central California Distinct Population Segment (DPS) of CTS has the following primary constituent elements (PCEs): (1) standing bodies of fresh water, including natural and man-made (*e.g.*, stock) ponds, vernal pools, and other ephemeral or permanent water bodies that typically become inundated during winter rains and hold water for a ~~sufficient length of time necessary for the species to complete the aquatic portion of its life cycle~~ minimum of twelve weeks; (2) upland habitats adjacent and accessible to and from breeding ponds that contain small mammal burrows or other underground habitat the CTS depend upon for food, shelter, and protection from the elements and predation; and (3) accessible upland dispersal habitat between occupied locations that allow for movement between such sites. The Service-designated critical habitat for CTS that allows for dispersal between breeding ponds of extant occurrences within 0.7 miles of each other. This distance is consistent with the final listing rule (69 FR 47212; August, 2004). Barrier-free upland habitats adjacent to breeding ponds that contain small mammal burrows, including but not limited to burrows created by the California ground squirrel and valley pocket gopher are essential. ~~Small mammals are essential in creating the underground habitat that adult CTS depend upon for food, shelter, and protection from the elements and predation. (3) Upland areas between occupied locations (PCE 1) and areas with small mammal burrows (PCE 2) that allow for dispersal among such sites. (4) The geographic, topographic, and edaphic features that support aggregations or systems of hydrologically interconnected pools, swales, and other ephemeral wetlands and depressions within a matrix of surrounding uplands, which together form hydrologically and ecologically functional units called vernal pool complexes. These features contribute to the filling and drying of the vernal pool, maintain suitable periods of pool inundation for larval salamanders and their food sources, and provide breeding, feeding, and sheltering habitat for juvenile and adult CTS and small mammals that create burrow systems essential for CTS aestivation (Service, 2005a).~~

Approximately 1.14 acres of the ~~p~~Proposed aAction area occurs within designated critical habitat Unit 2 (Southern San Joaquin Region) for CTS (**Figure 8**) (Service, 2005a). A total of 4,960.5 acres was designated as critical habitat Unit 2 for CTS in Fresno County.

The ~~p~~Proposed aAction area does not provide breeding habitat for this species. Mammal burrows were observed in the nonnative annual grassland and the blue oak woodland during the biological surveys conducted within the ~~nonnative annual grassland~~ Proposed Action area that



SOURCE: U.S. Fish and Willdlife Service, Critical Habitats for Fresno County, 2/2006; Provost & Pritchard Engineering Group, 2007; Espinosa Surveying, 2009; Aerial Express aerial photography, 6/2007; AES, 2011

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Figure 8
Critical Habitat Map

provide potential upland habitat for CTS. However, as illustrated within Figure 5: Sheet 1, the nonnative annual grassland is highly disturbed as a result of the construction of multiple fire breaks and dirt roads. The one seasonal wetland that occurs approximately 150 feet west of the southern portion of the Proposed Action area does not hold water for a sufficient amount of time to complete the aquatic life cycle nor did it contain CTS metamorphs during the 2009 protocol level wet season vernal pool branchiopod surveys (AES, 2009). The nearest aquatic breeding habitat that holds water for a minimum of 12 weeks occurs approximately 1.5 miles from the Proposed Action area on the southwest side of Millerton Road. Although studies have shown that 95 percent of CTS occur within 0.97 miles of breeding habitat (Shaffer and Trenham, 2005), the PCE states that the Service designated critical habitat for CTS allows for dispersal between extant occurrences within 0.7 miles of each other. The southern portion of the Proposed Action area was designated as critical habitat based on the 1973 record (CNDDB occurrence number: 76) with no information provided except that the record was mapped in an imprecise location in the MLSRA. No CNDDB records have specified that CTS is documented to occur on the north side of Millerton Road (CDEFG, 200311). This species was not observed during the biological surveys conducted within the Proposed Action area. Although CTS is unlikely to occur within the Proposed Action area, CTS is assumed to be present within designated critical habitat, in the nonnative annual grassland on the south side of the proposed action area.

Conservancy Fairy Shrimp (*Branchinecta conservatio*)

Federal Status – Endangered, Critical Habitat

State Status – None

Conservancy fairy shrimp inhabit rather large, cool-water vernal pools with moderately turbid water (Eriksen and Belk, 1999). The pools generally last until June; however, the Conservancy fairy shrimp are gone long before then. They have been collected from early November to early April. Female Conservancy fairy shrimp carry their eggs in a ventral brood sac. The eggs are either dropped to the pool bottom or remain in the brood sac until the mother dies and sinks to the bottom. When the pool dries out, so do the eggs. They remain in the dry pool bed until rains and other environmental stimuli hatch them.

Resting fairy shrimp eggs are known as cysts. They are capable of withstanding heat, cold, and prolonged desiccation. When the pools refill, some, but not all, of the cysts may hatch. The cyst bank in the soil may contain cysts from several years of breeding. Hatching can begin within the same week that a pool starts to fill. Average time to maturity is 49 days. In warmer pools, it can be as little as 19 days (Eriksen and Belk, 1999). Holland (1978) estimated that between 60 and 85 percent of the habitat that once supported vernal pools had been destroyed by 1973. Since 1973, a substantial amount of remaining habitat has been converted for human uses. The rate of loss of vernal pool habitat in the state has been estimated at two to three percent per year (Holland and Jain, 1988).

The historical distribution of the Conservancy fairy shrimp is not known. However, the distribution of vernal pool habitats in the areas where the species is now known to occur were once more continuous and larger in area than they are today. It is likely the Conservancy fairy shrimp once occupied suitable vernal pool habitats throughout a large portion of the Central

Valley and southern coastal regions of California. It may still exist in unsurveyed pools within this region.

The species is currently known from several disjunct populations: the Vina Plains in Tehama County, south of Chico in Butte County, the Jepson Prairie Preserve and surrounding area in Solano County, Sacramento National Wildlife Refuge in Glenn County, Mapes Ranch west of Modesto, San Luis National Wildlife Refuge and the Haystack Mountain/Yosemite Lake area in Merced County, and two locations on the Los Padres National Forest in Ventura County.

The ~~p~~Proposed ~~a~~Action area does not provide habitat for this species. No vernal pools occur in or within 300 feet of the ~~p~~Proposed ~~a~~Action area. The one seasonal wetland that occurs approximately 150 feet west of the southern portion of the ~~p~~Proposed ~~a~~Action area did not contain Conservancy fairy shrimp, other vernal pool branchiopods, or vernal pool plants during the 2009 vernal pool branchiopod surveys (AES, 2009). This species does not occur in or within 300 feet of the ~~p~~Proposed ~~a~~Action area.

Vernal Pool Fairy Shrimp (*Branchinecta lynchi*; VPFS)

Federal Status – Threatened, Critical Habitat

State Status – None

VPFS inhabit vernal pools of the Central Valley and Coast Ranges from ~~10 to 290 meters~~ 33 to 951 feet amsl. VPFS are found most commonly in small swales, earth slumps, or basalt-flow depression basins with grassy or muddy bottoms in unplowed soils, and occasionally in clear depressions less than ~~one meter~~ three feet in diameter in sandstone outcrops surrounded by foothill grasslands. VPFS occur in waters between ~~4.5 and 23°C~~ 40 and 73°F, with low to moderate total dissolved solids (48 to 481 parts per million (ppm)), and a pH between 6.3 and 8.5 (Syrdahl, 1993; Eriksen and Belk, 1999). When the vernal pools fill with rainwater, VPFS hatch from eggs (shell-covered dormant embryos) present in the soil from previous years of breeding. Eggs normally hatch when water less than ~~10°C~~ 50°F fills vernal pools. VPFS reach maturity in approximately 18 days under conditions when daytime temperatures reach ~~20°C~~ 68°F, but 41 days are more typical if water remains near ~~15°C~~ 59°F (Gallagher, 1996; Helm, 1998). VPFS are known from Alameda, Butte, Contra Costa, El Dorado, Fresno, Glenn, Kings, Lake, Los Angeles, Madera, Merced, Monterey, Napa, Placer, Sacramento, San Benito, San Joaquin, San Luis Obispo, Santa Barbara, Shasta, Solano, Stanislaus, Tehama, Tulare, Riverside, and Yuba counties in California and in southern Oregon (Eriksen and Belk, 1999).

The Service designated critical habitat for VPFS and 14 other vernal pool species on August 11 2005 (70 FR 46924) (Service, 2006).

The PCEs of critical habitat for the VPFS are the habitat components that provide: (i) Topographic features characterized by mounds and swales, and depressions within a matrix of surrounding uplands that result in complexes of continuously, or intermittently, flowing surface water in the swales connecting the pools described in PCE (ii), providing for dispersal and promoting hydroperiods of adequate length in the pools. (ii) Depressional features including isolated vernal pools with underlying restrictive soil layers that become inundated during winter rains and that continuously hold water for a minimum of 18 days, in all but the driest years;

thereby providing adequate water for incubation, maturation, and reproduction. As these features are inundated on a seasonal basis, they do not promote the development of obligate wetland vegetation habitats typical of permanently flooded emergent wetlands. (iii) Sources of food, expected to be detritus occurring in the pools, contributed by overland flow from the pools' watershed, or the results of biological processes within the pools themselves, such as single-celled bacteria, algae, and dead organic matter, to provide for feeding. (iv) Structure within the pools described in PCE (ii), consisting of organic and inorganic materials, such as living and dead plants from plant species adapted to seasonally inundated environments, rocks, and other inorganic debris that may be washed, blown, or otherwise transported into the pools, that provide shelter (Service, 2006).

The Proposed Action area is within the Southern Sierra Foothills Vernal Pool Region within the Fresno core area of the Recovery Plan (Service, 2005b). Approximately 0.70 acres of the action area occurs within designated critical habitat Unit 2 for VPFS within the Northeast Fresno-Southern San Joaquin Valley Geographic Region (**Figure 8**). Critical habitat Unit 2 comprises a total of 3,919.3 acres.

No vernal pools occur in or within 300 feet of the Proposed Action area. The one seasonal wetland that occurs approximately 150 feet west of the southern portion of the Proposed Action area did not contain VPFS, other vernal pool branchiopods, or vernal pool plants during the 2009 vernal pool branchiopod surveys (AES, 2009). Although this species does not occur in or within 300 feet of the Proposed Action area, the Proposed Action area occurs within designated critical habitat.

Western Spadefoot Toad (*Spea [=Scaphiopus] hammondi*; WST)

Federal Status – None

State Status – Species of Concern

WST inhabits washes, flood plains of rivers, alluvial fans, playas, and alkali flats within Valley and foothill grasslands, open chaparral, and pine-oak woodlands. WST prefers areas of short grasses where the soil is sandy or gravelly. WST is almost completely terrestrial, entering water only to breed. WST breeds in temporary pools, such as vernal pools, or pools in ephemeral waterways from January to May. In order for young to successfully metamorphose, breeding pools must lack exotic predators, such as fish, bullfrogs, and crayfish (CDFG, 2003¹¹; Stebbins, 2003). WST excavate burrows or inhabit burrows previously excavated by other mammals to aestivate for up to nine months at a time (Jennings and Hayes, 1994). There are four CNDDDB records for WST within five miles of the Proposed Action area. The nearest record is from 1994 and is approximately 1.4 miles south of the Proposed Action area on the Friant quad (CNDDDB occurrence number: 118). The record states that spadefoot tadpoles were observed in two vernal pools.

The burrows within the nonnative annual grassland provides potential aestivation habitat for WST. This species was not observed during the biological surveys conducted within the Proposed Action area. This species has the potential to occur within the Proposed Action area.

Swainson's Hawk (*Buteo swainsoni*)

Federal Status – None

State Status – Threatened

Swainson's hawks arrive to their breeding grounds in the Central Valley in early March. They often nest peripherally to Valley riparian systems as well as utilizing lone trees or groves of trees in agricultural fields. Valley oak, Fremont cottonwood, walnut, and large willow trees, ranging in height from 41 to 82 feet, are the most commonly used nest trees in the Central Valley (CDFG, 2003¹¹). Breeding pairs immediately construct nests, eggs are laid from mid- to late-April, and are incubated into mid-May when young begin to hatch. Young remain near the nest and depend on the adults for approximately four weeks after fledging until they permanently leave the breeding territory. Nesting occurs from March 1 to August 15. Typical foraging habitat includes annual grassland, alfalfa, and other dry farm crops that provide suitable habitat for small mammals. Suitable foraging habitat nearby nesting sites is critical for fledgling success (Polite, 1988-1990). There are no CNDDDB records for Swainson's hawk within five miles of the pProposed aAction area. There is one record for Swainson's hawk within ten miles of the pProposed aAction area. The record is from 1994 (CNDDDB occurrence number: 51) and is approximately 8.26 miles northwest of the pProposed aAction area on the Little Table Mountain quad. The record states that two adults and two fledglings were observed in 1979; however, no Swainson's hawk or nests were observed during a follow-up survey conducted in 1994.

The CDFG considers whether a proposed project will adversely affect at least five acres of suitable foraging habitat within a ten-mile radius of a Swainson's hawk nest that has been active within the last five years. Suitable Swainson's hawk foraging habitat includes alfalfa, fallow fields, beet, tomato, and other low-growing row or field crops, dry-land and irrigated pasture, rice land (when not flooded), and cereal grain crops (including corn after harvest) (CDFG, 1994).

The trees within the blue oak woodland in the vicinity of the pProposed aAction area provide nesting habitat for this species. The pProposed aAction area provides foraging habitat within the nonnative annual grassland. Swainson's hawks were not observed during the biological surveys within the pProposed aAction area. However, the proposed action area appears to be outside of the known geographical range for Swainson's hawk because there has only been one documented CNDDDB record within ten miles of the pProposed aAction area and the record was documented at least 14 years ago (but the actual Swainson's hawk sighting occurred over 30 years ago). This species has a low potential to nest and forage within the pProposed aAction area.

Pallid Bat (*Antrozous pallidus*)

Federal – None

State – Species of Concern

Pallid bats are found in grasslands, shrublands, woodlands, and forests from sea level up to mixed conifer forests through ~~2,000 meters~~ 6,562 feet amsl. The species commonly occurs in open, dry habitats with rocky areas for roosting. Other roosts include cliffs, abandoned buildings, bird boxes, and under bridges. Pallid bats are most active during the dawn and dusk hours and forage over open ground. This species establishes daytime roosts in caves, crevices,

mines, large hollow trees, and unoccupied buildings. Pallid bats mate from October through February and most young are born from April through July (Harris, 2000). There are no CNDDDB records for ~~P~~pallid bat within five miles of the ~~p~~Proposed ~~a~~Action area.

The trees within the blue oak woodland provide roosting sites for this species. The ~~p~~Proposed ~~a~~Action area provides foraging habitat within the nonnative annual grassland. Pallid bats were not observed during the biological surveys within the ~~p~~Proposed ~~a~~Action area. This species has the potential to roost and forage within the ~~p~~Proposed ~~a~~Action area.

Spotted Bat (*Euderma maculatum*)

Federal Status – None

State Status – Species of Special Concern

~~Other~~—None

Spotted bats are found in foothills, mountains, and desert regions with vegetation types ranging from desert to sub-alpine meadows including desert scrub, pinyon juniper woodland, ponderosa pine, mixed conifer forest, canyon bottoms, rims of cliffs, riparian areas, fields, and open grassland from sea level to ~~3009~~84 feet amsl-meters. Spotted bats may make local movements in some areas, from high elevations in summer to lower elevations in autumn. Spotted bats may be yearlong residents, or migratory, although little is known about the California populations. Spotted bats are known throughout California except for the high Sierra Nevada from Shasta to Kern counties and the northwestern corner of California from Del Norte and western Siskiyou counties to northern Mendocino County (Harris, 2000).

There is one CNDDDB record for spotted bat within five miles of the ~~p~~Proposed ~~a~~Action area. The record is from 1970 and is approximately 3.3 miles west of the ~~p~~Proposed ~~a~~Action area on the Millerton Lake West quad (CNDDDB occurrence number: 40). The record states that a bat was collected at a CDFG fish hatchery at Friant Dam.

The trees within the blue oak woodland provide roosting sites for this species. The ~~p~~Proposed ~~a~~Action area provides foraging habitat within the nonnative annual grassland. Spotted bats were not observed during the biological surveys within the ~~p~~Proposed ~~a~~Action area. This species has the potential to roost and forage within the ~~p~~Proposed ~~a~~Action area.

American Badger (*Taxidea taxus*)

Federal Status – None

State Status – Species of Concern

American badgers are found in dry, open habitats including grassland and open woodland. Suitable burrowing habitat requires dry, often sandy soil. Breeding occurs in summer and early fall, with young being born from March to April (CDFG, 2005). American badgers are known to occur throughout California, except in the northern North Coast (Ahlborn, 2005). There are no CNDDDB records for the American badger within five miles of the ~~p~~Proposed ~~a~~Action area.

The nonnative annual grassland provides habitat for this species. This species was not observed during the biological surveys within the ~~p~~Proposed ~~a~~Action area. This species has the potential to occur within the ~~p~~Proposed ~~a~~Action area.

San Joaquin Kit Fox (*Vulpes macrotis mutica*; SJKF)

Federal Status – Endangered

State Status – Threatened

SJKF primarily inhabit grassland and scrubland communities. SJKF also inhabit oak woodland, alkali sink scrubland, and vernal pool and alkali meadow communities. Foraging habitat includes grassland, woodland, and open scrub. Denning habitat includes an open, flat area with loose, generally sandy or loamy soils (Brown et al., 2006). There is one CNDDDB record for SJKF within five miles of the ~~p~~Proposed ~~a~~Action area. The record is from the early 1990s and is approximately 3.3 miles west of the ~~p~~Proposed ~~a~~Action area on the Friant quad (occurrence number: 1113). The record states that one SJKF was sighted.

The Early Evaluation Requirements (Requirements) ~~were~~as conducted in the vicinity of the ~~p~~Proposed ~~a~~Action area in accordance with the *U.S. Fish and Wildlife Service Standardized Recommendations for Protection of the San Joaquin Kit Fox Prior To or During Ground Disturbance* (2011) (SJKF Survey Protocol) ~~(2011)~~. The results of the SJKF Survey Protocol are documented within the Biological Assessment (AES, 2012~~1a~~1a). No SJKF were observed during the biological surveys of the ~~p~~Proposed ~~a~~Action area. The ~~p~~Proposed ~~a~~Action area does not provide denning habitat for SJKF. The ~~p~~Proposed ~~a~~Action area contains only marginal foraging habitat as only one CNDDDB occurrence documented over 17 years ago has been recorded within a five-mile radius of the ~~p~~Proposed ~~a~~Action area. Several barriers, including the San Joaquin River, Millerton Lake, the Friant-Kern Canal, Auberry Road, and Friant Road, inhibit the continuity of surrounding vegetative communities, and therefore reduce the likelihood that SJKF would forage within the ~~p~~Proposed ~~a~~Action area.

Migratory Birds and Birds of Prey

Migratory birds and other birds of prey, protected under ~~50 CFR 10 of~~ the MBTA, and those protected under Sections 3503, 3503.5, 3511, and 3800 of the California Fish and Game Code, have the potential to nest in the trees within the blue oak woodland in the vicinity of the ~~p~~Proposed ~~a~~Action area. No birds were observed nesting within the ~~p~~Proposed ~~a~~Action area during the biological surveys. Migratory birds and other birds of prey have the potential to nest within the ~~p~~Proposed ~~a~~Action area.

3.3.2 Environmental Consequences

3.3.2.1 No Action

~~Under the No Action Alternative, construction activities associated with pipeline construction would not occur; therefore, potential short-term impacts to biological resources would not occur. Should the system fail, a separate environmental review would occur; any potential impacts to biological resources would be identified at that time. Under the No Action Alternative, the proposed maintenance and improvements to the existing CSA 34 water system would not be installed. Continued use of the existing pipeline at full design capacity is likely to result in~~

significant damage to this facility in the long-term, resulting in interrupted water service to existing water users within CSA 34.

Should the system fail, emergency improvements would be required to restore service to CSA 34 customers. The scope of these improvements is speculative and would depend on the location and extent of the system failure. Environmental review would be conducted by the County as required in accordance with CEQA (and possibly by Reclamation in accordance with NEPA if approval of a lease amendment is triggered) and any potential impacts to biological resources from construction and operation of the improvements would be identified at that time. Effects associated with emergency improvements would likely be similar to those identified for the Proposed Action described below.

3.3.2.2 Proposed Action

As stated in the project description, the equipment used to trench and install the pipelines would occur within 25 feet on either side of the proposed pipeline footprint and would be confined to ruderal/developed areas except within Millerton Lake and within the nonnative annual grassland in the southern portion of the Proposed Action area from the pipeline. While the total width of the Proposed Action area considered within this EA/IS is 50 feet, the actual impact area from construction activities, including areas disturbed by equipment and materials, and would be limited to a 25 foot wide corridor (disturbance may occur up to 25 feet on either side of pipeline, but would not exceed 25 feet in total width). Potential effects to federally listed species are described in further detail in the Biological Assessment (AES, 2012) and the Biological Opinion (Service, 2013).

Special-Status Species

Special-Status Plant Species

No potentially occurring special-status plants occur within the ~~p~~Proposed ~~a~~Action area. The Proposed Actions would have no impact on these species because they do not occur within the ~~p~~Proposed ~~a~~Action area. No mitigation is required.

California Tiger Salamander

~~The study~~Proposed Action area does not provide breeding habitat for CTS. The Proposed Actions would have no effect on CTS breeding habitat because none exists within the ~~project site.~~Proposed Action area. As shown in **Figure 5**, from Millerton Lake, the pipeline would be located entirely within paved roadways until it reaches the nonnative annual grassland. Vehicles and equipment would remain on the paved roadways, thus the blue oak woodland and nonnative annual grassland areas adjacent to the roadway would not be impacted. The staging area shown in **Figure 5** consists of a gravel parking area and storage yard located at the Winchell Cove Marina that does not provide suitable CTS habitat. Approximately 0.479 acres of upland habitat within the nonnative annual grassland would be temporarily disturbed due to ~~trenching activities associated with the installation of equipment used to trench and install the proposed pipeline.~~ **(Figure 5, Sheet 1).** The ~~p~~Proposed ~~a~~Actions may affect and are likely to adversely affect CTS. ~~To compensate for~~A Biological Assessment, in accordance with Service standards, was prepared and submitted to the Service to support consultation in accordance with Section 7 of the ESA. A Biological Opinion with an incidental take ~~of CTS, before~~statement for CTS was obtained on February 4 2013 (Service, 2013) **(Appendix F)**. In the Biological Opinion, the Service states the following: “the Service is quantifying take incidental to a project as the amount of acres of

habitat that will be affected for the species as a result of the action, this amounts to 0.9 acres.” The Service further states that “Upon implementation of the BMPs, proposed conservation measures, reasonable and prudent measures, and terms and conditions identified within the Biological Opinion, incidental take of CTS within this acreage in the forms of harm and harassment due to the Proposed Project activities, leading to habitat loss and degradation will become exempt from the prohibitions described in Section 9 of the ESA.” ~~construction activities within the nonnative annual grassland areas of the project site, three preservation credits will be obtained from a Service-approved conservation bank for every acre of upland habitat temporarily impacted. All conservation measures in the Biological Opinion and incidental take statement have been incorporated as mitigation measures listed in Section 3.3.3. The expansion of permanent preservation of habitat at a three-to-one ratio for CTS via the purchase of preservation credits from a Service-approved mitigation bank or alternative option approved by the Service through the Section 7 consultation would off-set the temporary loss of micro-habitat within the Proposed aAction area. Therefore, and the preservation of 0.51 acres of suitable habitat avoidance and minimization measures identified below would compensate for any minimize the potential adverse effects to this species. for actual take of CTS, as defined under CESA, from occurring.~~

Approximately 1.14 acres of the Proposed aAction impact area lies within designated critical habitat Unit 2 (Southern San Joaquin Region) for CTS. Construction activities along the portion of the pipeline that occurs within Winchell Cove Road would be confined to paved roadways. All vehicles and equipment would remain on paved surfaces. Therefore, the temporary disturbance of critical habitat from construction activities would be limited to the 0.9 acres of impacted nonnative annual grassland that occurs within critical habitat Unit 2. Critical habitat Unit 2 comprises a total of 4,960.5 acres. The proposed project Therefore, the Proposed Actions would temporarily disturb 0.023018 percent of critical habitat Unit 2. The proposed project Proposed Action would not result in a change in land use as project components would be located underground, and all surfaces would be restored to existing conditions after construction is completed. Therefore, critical habitat Unit 2 would not be permanently modified by the pProposed aActions. The Proposed Actions would not adversely affect critical habitat for CTS. The majority of construction activities associated with the Proposed Actions would extend through paved road right of ways. However, temporary construction activities associated with the proposed actions that extend through non-native grassland would adversely affect 0.17 acres of critical habitat for CTS. Before construction activities within the within the nonnative annual grassland areas of the project, three preservation credits will be obtained from a Service-approved conservation bank for every acre of upland habitat temporarily impacted. The expansion of permanent habitat at a three to one ratio for CTS via the purchase of preservation credits Specific mitigation measures developed through the Section 7 consultation process, including the purchase of preservation credits for upland habitat temporarily impacted or an alternative option that provides equal mitigation upon the Service’s approval, would off-set the temporary adverse effects to critical habitat within the action area.

Vernal Pool Fairy Shrimp

The Proposed Actions would have no effect on VPFS because no vernal pool habitat exists in the vicinity of the pProposed aAction area.

Approximately 0.70 acres of the ~~p~~Proposed ~~a~~Action impact area lies within designated critical habitat Unit 2 (Northeast Fresno-Southern San Joaquin Valley Geographic Region) for VPFS. Critical habitat Unit 2 comprises a total of 3,919.3 acres. The proposed project would temporarily disturb 0.018 percent of Critical habitat Unit 2. The proposed project would not result in a change in land use as project components would be located underground, and all surfaces would be restored to existing conditions after construction is completed. Additionally, the Biological Opinion included as Appendix F confirms that the project action area does not contain any PCEs for VPFS habitat as there are no vernal pools located within 300 feet of the proposed pipeline alignment. Therefore, critical habitat Unit 2 would not be permanently ~~modified~~-affected by the Proposed Actions. The Proposed Actions would not adversely modify or remove critical habitat for VPFS. No mitigation is required as a result of the Section 7 consultation process.

Western Spadefoot Toad

The ~~p~~Proposed ~~a~~Action area does not provide breeding habitat for WST. The Proposed Actions would have no effect on WST breeding habitat because none exists within the proposed action area. Approximately 0.47-9 acres of upland habitat within the nonnative annual grassland would be temporarily disturbed due to trenching activities associated with the installation of the proposed pipeline. Recommended mitigation measures (see Section 3.3.3, BIO-2) would minimize the potential for individuals to be harmed during construction activities.

Swainson's Hawk

Although no trees are proposed for removal, construction activities could potentially result in disturbance of potential Swainson's hawk nest sites within the blue oak woodland through temporary increases in ambient noise levels and increased human activity within the ~~p~~Proposed ~~a~~Action area. Potential disruption of nesting Swainson's hawk during trenching activities could result in the abandonment of active nests. Recommended mitigation measures would minimize the potential for disruption of Swainson's hawks through identification and avoidance of active nests. These measures comply with the *State Fish and Game Staff Report Regarding Mitigation for Impacts to Swainson's Hawks in the Central Valley of California* (CDFG, 1994) and the Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley (Swainson's Hawk Technical Advisory Committee, 2000) as they relate to the Proposed Actions.

The Proposed Actions have the potential to temporarily affect approximately 0.9 acres of Swainson's hawk foraging habitat through trenching activities within the nonnative annual grassland. ~~Approximately 0.17 acres of foraging habitat would be temporarily impacted by the Proposed Actions.~~ The CDFG considers loss of greater than five acres of foraging habitat to be significant. The Proposed Actions would not result in a change in land use as project components would be located underground, and all surfaces would be restored to existing conditions after construction is completed. No mitigation is required.

Pallid Bat and Spotted Bat

Construction activities would result in disturbance of potential roost sites for pallid bat and spotted bat within the blue oak woodland through temporary increases in ambient noise levels and increased human activity within the ~~p~~Proposed ~~a~~Action area. Recommended mitigation

measures would minimize the potential for individuals to be harmed during construction activities.

American Badger

The Proposed Actions ~~have~~ has the potential to affect American badger through trenching activities by temporarily disturbing upland habitat within the nonnative annual grassland. Recommended mitigation measures would minimize the potential for individuals to be harmed during construction activities.

San Joaquin Kit Fox

Although unlikely, SJKF has the potential to forage within the blue oak woodland and nonnative annual grassland in the vicinity of the ~~p~~Proposed ~~a~~Action area. The ~~p~~Proposed ~~a~~Action area does not provide denning habitat for SJKF. The ~~p~~Proposed ~~a~~Action area contains only marginal foraging habitat as only one CNDDDB occurrence documented over 17 years ago has been recorded within a ten-mile radius of the ~~p~~Proposed ~~a~~Action area. Several barriers, including the San Joaquin River, Millerton Lake, the Friant-Kern Canal, Auberry Road, and Friant Road, inhibit the continuity of surrounding vegetative communities, and therefore reduce the likelihood that SJKF would forage within the ~~p~~Proposed ~~a~~Action area. In its BO, the Service concurred that the Proposed Action is not likely to adversely affect SJKF. ~~Precautionary m~~Mitigation measures are recommended to minimize the potential for individuals to be harmed during construction activities (refer to Section 3.3.3, Mitigation Measure BIO-5) consistent with the conservation measures outlined in the BO (Appendix F).

Migratory Birds

Construction activities would result in disturbance of nest sites for migratory birds and other birds of prey within the blue oak woodland through temporary increases in ambient noise levels and increased human activity within the ~~p~~Proposed ~~a~~Action area. Potential disruption of nesting migratory birds and other birds of prey during construction within the ~~p~~Proposed ~~a~~Action area could result in the abandonment of active nests. Recommended mitigation measures would minimize the potential for disruption of active nests through identification and avoidance.

Riparian Habitat, Sensitive Natural Communities

The ~~p~~Proposed ~~a~~Action area does not contain any riparian habitat or sensitive natural community identified in local or regional plans, policies, or regulations, or by the CDFG or the Service. The Proposed Actions would have no impact on any riparian habitat or sensitive natural communities because none exist within the ~~p~~Proposed ~~a~~Action area. No mitigation is required.

Wetlands and Waters of the U.S.

Approximately 0.56 miles of the proposed pipeline would be located within the lakebed of Millerton Lake, a designated water of the U.S. as defined by Section 404 of the CWA. The Proposed Actions would temporarily disturb 1.97 acres within the bed and banks of Millerton Lake through installation of the pipeline. Construction activities would occur within the ordinary high water mark of Millerton Lake, but would take place when water levels are below the ~~p~~Proposed ~~a~~Action area. The pipeline would be located underground and all surfaces would be restored to existing elevations and conditions. Implementation of the Proposed Actions would require obtaining a Section 404 permit from the ~~USACE~~Corps, a Section 401 Water Quality Certification from the RWQCB, and a Streambed Alteration Agreement with the CDFG.

Adherence to the conditions of these permits would minimize the potential for impacts to Millerton Lake.

Native Resident or Migratory Fish or Wildlife Species

The ~~p~~Proposed aAction area does not contain any native resident or migratory fish or wildlife species. Millerton Lake stocks warm water fish. Construction activities within the bed and banks of Millerton Lake would take place when water levels are below the ~~p~~Proposed aAction area. The Proposed Actions would have no impact on native resident or migratory fish or wildlife species because none exist within the ~~p~~Proposed aAction area. No mitigation is required.

Local Policies

The Proposed Actions would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. The Proposed Actions would have no effect on local policies or ordinances protecting biological resources because none exist within the ~~p~~Proposed aAction area. No mitigation is required.

Habitat Conservation Plan

The Proposed Actions would not conflict with any provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. The Proposed Actions would have no effect on provisions of these plans because none exist within the ~~p~~Proposed aAction area. No mitigation is required.

3.3.2.23.3.2.3 Cumulative Impacts

No Action

In the event of system failure as a result of the No Action Alternative, cumulative effects associated with construction and operation of emergency improvements would likely be similar to those identified for the Proposed Action described below.

Proposed Action

Cumulative projects in the vicinity of the project site, including growth resulting from build-out of the Millerton New Town Plan, are anticipated to permanently remove plant and wildlife resources, which could affect special-status species and their habitat, nesting and foraging habitat for resident and migratory birds, and/or local policies or ordinances protecting biological resources. The effects of the Proposed Actions are temporary in nature, and do not contribute to a cumulative direct or indirect loss of sensitive or special-status wildlife species and their habitat (including CTS critical habitat), loss of migratory birds, or conflict with local plans or policies protecting biological resources. The Proposed Actions would not contribute to cumulative impacts to biological resources. No mitigation is required.

3.3.3 Mitigation

BIO-1: ~~A Biological Opinion with an incidental take statement shall be~~was obtained for CTS from the Service on February 4, 2013 (Service, 2013). ~~and an Incidental Take Permit shall be obtained from the CDFG for impacts to CTS habitat prior to construction. All conditions of the statement and permit~~BMPs, proposed conservation measures, reasonable and prudent measures, and terms and conditions identified within the Biological Opinion, including the purchase of preservation credits from an approved

conservation bank, shall be implemented. The County shall submit the incidental take statement to the Director of the CDFG for a 2080.1 Consistency Determination to determine whether the implementation of the protective and mitigation measures would avoid actual take of CTS -for effects occurring outside of federal and tribal trust lands. Receipt of the application by the Director starts a 30-day clock for processing the Consistency Determination. In order for the CDFG to issue a Consistency Determination, the CDFG must determine that the conditions specified in the incidental take statement are consistent with the CESA. If the CDFG determines that the incidental take permit is not consistent with the CESA, the applicant shall obtain a state Incidental Take Permit under Section 2081(b) of the Fish and Game Code prior to commencement of construction activities. All conditions of the permit shall be adhered to. At a minimum, the following proposed mitigation measures shall be implemented to compensate for the temporary disturbance of CTS habitat and the proposed avoidance and minimization measures identified below would avoid actual take of CTS, as defined under CESA, from occurringpreservation and compensatory measures required by the Service and the CDFG, shall be implemented. Future maintenance and operations activities for the Proposed Actions shall be covered within the statement and permit. At a minimum, the following proposed mitigation measures shall be implemented to compensate for take of CTS:

- Before commencement of construction activities, three preservation credits shall be obtained from a Service- and CDFG-approved mitigation bank for every acre of upland habitat temporarily disturbedThe applicant shall compensate for the temporary loss of habitat by the purchase of appropriate conservation credits from a Service-approved conservation bank at a 3:1 ratio, or an alternative option of equal mitigation as approved by the Service. -The applicant will purchase conservation credits from a Service-approved conservation bank equal to at least 2.7 acres before any ground-breaking construction activities begin on the proposed project.
- All travel within the project site will be restricted to established roadbeds. Established roadbeds include all pre-existing and project-constructed unimproved, as well as improved roads. These will be included in the preconstruction surveys. Project-related vehicles will observe a daytime speed limit of 20 miles per hour (mph) in all project areas, except on county roads and state and federal highways. If night-time work is necessary, then all project-related vehicle traffic will be restricted to ten mph. Off-road traffic outside of designated project areas will be prohibited.
- Approximately 0.17 acres of CTS habitat would be affected as a result of the Proposed Actions, requiring the purchase of 0.51 acres of preservation credits.
- Staging areas shall be located within existing ~~disturbed~~ paved and graded roads within the ruderal/developed areas. Temporary stockpiling of excavated or imported backfill material shall occur only in designated construction staging areas. Excess excavated soil shall be used onsite or disposed of at a regional landfill or other appropriate facility.
- Standard precautions shall be employed by the construction contractor to prevent the accidental release of fuel, oil, lubricant, or other hazardous materials associated

with construction activities into potentially jurisdictional features.

- Should construction activities occur from December 1 to February 28, the activities shall be limited to between 30 minutes after sunrise and 30 minutes before sunset. Construction activities shall be finished by 7 pm daily during the remainder of the year. -to the maximum extent practicable.
- Within 14 days prior to commencement of construction activities, a Service-approved biologist will conduct preconstruction surveys within a 75-foot buffer around the construction site. The biologist shall make a thorough search for potential CTS occupation and identify all burrows that may be used by CTS. A 50-foot buffer shall be clearly delineated around identified burrows using materials that will indicate to construction personnel to avoid the area. If unavoidable, a reduced buffer may be established if it is determined that a burrow is unoccupied using a fiber optic scope or similar device to thoroughly inspect the burrow.
- Should a burrow be occupied by a CTS, the Service-approved biological monitor will make the determination whether or not it may be subject to take as a result of the proposed project and construction activities. If the biological monitor determines that the CTS is subject to take, then he/she will hand excavate the burrow in order to safely remove the CTS, transfer it into a soft cooler, or similar container that will limit exposure to heat and prevent desiccation, for transportation purposes, and relocate the individual to a suitable burrow within the vicinity of the project site, at least 100 feet outside of the construction footprint. The relocation burrow shall be identified and inspected by a fiber optic scope prior to moving the CTS. The CTS will be kept within the cooler for no longer than 15 minutes. The biological monitor will inform the Service of the findings via email (including photo documentation) within 24 hours of detecting the species.
- Directly following the preconstruction surveys, exclusionary fencing (i.e., silt fencing) shall be installed and maintained in good condition during the life of the proposed project. The exclusionary construction fencing shall be installed along the outer footprint of the construction zone boundary within the nonnative annual grassland devoid of burrows in order to prevent CTS from entering the construction zone. A qualified biologist shall be present during the installation of the fencing to confirm that CTS is not present.
- ~~Within 30 days prior to commencement of construction activities, a qualified biologist approved by the Service will conduct a preconstruction survey for CTS within the vicinity of the proposed action area. A Service-approved biologist is any person who has completed at least four years of university training in wildlife biology or a related science and/or has demonstrated field experience in the identification and life history of the CTS. Resumes of all biologists proposed to capture or handle CTS and serve as biological monitors for the Proposed Actions shall be submitted by the applicant for approval by the Service no later than 20 days prior to the start of construction. No project activities shall begin until proponents have received written approval from the Service that the biologist(s) is qualified to conduct the work. The Service-approved biologist will be onsite until all trenching activities within the nonnative annual grassland are complete.~~
- Prior to initiation of any onsite preparation/construction activities, aA Service-

approved biologist shall conduct an education and ~~habitat sensitivity~~ training session for all individuals who will be involved in the site preparation or construction, including the project representative(s) responsible for reporting take to the Service construction personnel. Training sessions will be required for all new or additional personnel before they are allowed to access the project site. At a minimum, the training will include a description of the CTS, SJKF, and their habitats. Additional information will include ~~The training shall include identification of special status species, required practices before the start of construction, general measures that are being implemented to conserve these species as they relate to the Proposed Actions,; and the penalties for noncompliance with these measures; travel within the marked project site will be restricted to established roadbeds and the boundaries (work area) within which the project must be accomplished. Supporting materials containing training information will be prepared and distributed. Upon completion of training, all construction personnel will sign a form stating that they have attended the training and understand all the conservation measures.~~ Training shall be conducted in languages other than English, as appropriate. A fact sheet conveying this information will be prepared for distribution as a reference for workers. Proof of this instruction will be kept on file with the applicant. The applicant will provide the Service with a copy of the training materials and copies of the signed forms by project staff indicating that training has been completed within 30 days of the completion of the first training session. Copies of signed forms will be submitted monthly as additional training occurs for new employees. The crew foreman will be responsible for ensuring that construction personnel adhere to the guidelines and restrictions. If new construction personnel are added, the crew foreman will ensure that the personnel receive the mandatory training before starting work.

- ~~A representative shall be appointed by the applicant who will be the contact source for any contractor who might inadvertently kill or injure a CTS or find a dead, injured, or entrapped individual. The representative shall be identified during the construction personnel training. The representative's name and telephone number shall be provided to the Service prior to the initiation of ground disturbance activities. Any worker who inadvertently injures or kills a CTS or finds one dead, injured, or entrapped will immediately report the incident to the applicant's appointed representative. The applicant's representative will immediately notify the applicant, who will provide verbal notification to the Service Endangered Species Office in Sacramento, California, and to the local CDFG warden or biologist within one working day. The applicant will follow up with written notification to the Service and the CDFG within five working days. All CTS observations will be recorded on CNDDDB field sheets and sent to the CDFG.~~
- A Service-approved biologist will be available during all activities that could result in the take of listed species. Only persons permitted by the Service may handle listed species. The qualifications of the biologist(s) will be presented to the Service for review and approval at least ten working days prior to any groundbreaking at the project site. The biologist will have oversight over implementation of all the measures described in the *Terms and Conditions* of the Biological Opinion, and he/she will have the authority to stop project activities, through communication

with the Project Manager, if any of the requirements associated with these measures are not being fulfilled. If the biologist(s) exercises this authority, the Service will be notified by telephone and electronic mail within one working day. The Service contact is Mr. Thomas Leeman, Chief, San Joaquin Valley Division, Sacramento Fish and Wildlife Office, Sacramento (telephone 916-414-6600). The Service-approved biologist shall have oversight over the implementation of all conservation measures, and shall have the authority to stop project activities if any of the requirements associated with these measures is not being fulfilled. If the biologist has requested work stoppage due to take of any federally listed species, the Service and the CDFG will also be notified within one working day via email.

- If requested during or upon completion of construction activities, the Service-approved biologist will accompany the Service ~~or CDFG~~ personnel on an onsite inspection of the site to review proposed project effects to the CTS and its habitat.
- The Service-approved biological monitor will check for animals under all vehicles and equipment such as stored pipes before the start of the work day. He/she will check all excavated steep-walled holes or trenches greater than three inches deep for CTS. Excavated steep-walled holes or trenches more than two feet deep or trenches or holes of any depth with greater than 3:1 side slopes will also be covered at the close of each working day by plywood or similar material, or provided with at least one escape ramp of earth fill or wooden planks. Before such holes or trenches are filled, they will be thoroughly inspected for trapped animals. If at any time a trapped listed animal is discovered, the Service-approved biologist will immediately place escape ramps or other appropriate structures to allow the animal to escape from the opening, or will contact the Service by telephone for guidance. The Service will be notified of any such incident by telephone and electronic mail within one working day. To avoid entrapment of CTS, all excavated, steep-walled holes or trenches more than six inches deep within the nonnative annual grassland will be covered with plywood or similar materials or provided with one or more escape ramps constructed of earth fill or wooden planks at the end of each workday. All trenches will be inspected by the biological monitor daily to insure that CTS have not become entrapped. If a CTS is found, a the Service-approved biologist will remove the animal from the area and release it into a suitable burrow at least 300 feet outside the construction area.
- A litter control program shall be instituted at the entire project site. The contractor will provide closed garbage containers for the disposal of all food-related trash items (e.g., wrappers, cans, bottles, food scraps). All garbage will be removed daily from the project site. Construction personnel will not feed or otherwise attract fish or wildlife to the action area.
- No canine or feline pets or firearms (except for federal, state, or local law enforcement officers and security personnel) shall be permitted during construction within the pProposed aAction area to avoid harassing, killing, or injuring wildlife.
- The limits of the construction area will be flagged, if not already marked by other high-visibility fencing, and all activity will be confined within the demarcated area. All access to and from the project area will be clearly marked in the field with appropriate flagging and signs. Prior to commencing construction activities, the

contractor will determine construction vehicle parking sites and all access routes. All construction activity will be confined within the project site, which may include temporary access roads, haul roads, and staging areas specifically designated and marked for these purposes. At no time will equipment or personnel be allowed to adversely affect habitat areas outside the project site without authorization from the Service. Equipment staging and vehicle parking will be sited on existing parking areas to avoid any compaction of small mammal burrows or potential burrow sites.

- A post-construction compliance report prepared by the monitoring biologist will be submitted to Reclamation and the Deputy Assistant Field Supervisor at the Sacramento Fish and Wildlife Office within 30 calendar days of the completion of construction activities within the nonnative annual grassland or within 30 calendar days of any break in construction activity lasting more than 30 days within the nonnative annual grassland. The report shall detail the following information: start date of groundbreaking activities and end date of completion; pertinent information concerning the success of the Proposed Actions in meeting compensation and other conservation measures; an explanation of failure to meet such measures, if any; known project effects on CTS, if any; any occurrences of incidental take of CTS; and other pertinent information.

BIO-2: The following mitigation measures shall be implemented to avoid temporary impacts to potential habitat for WST and American badger:

- A habitat sensitivity training shall be conducted for WST and American badger. The same information would be provided to crew members for these species as was identified in the habitat sensitivity training for CTS.
- A qualified biologist shall conduct a preconstruction survey within 30 days prior to commencement of construction activities within the nonnative annual grassland. The preconstruction survey would consist of walking throughout the nonnative annual grassland, and identifying ground squirrel burrows, and pin flagging burrows in the vicinity of the proposed action area that could potentially be occupied by WST and American badger. Establishment of an avoidance buffer around the burrows, as identified under Mitigation Measure BIO-1 for CTS, will provide the same avoidance measures for WST and American badger since they utilize similar upland habitat.
- Regardless of whether WST and American badger is ~~or is not~~ observed during the preconstruction survey, the biological monitor, identified for CTS, that would be onsite during all trenching activities within the nonnative annual grassland, would also be monitoring for WST and American badger. Should WST and American badger be observed within the ~~p~~Proposed aAction area, all construction activities within the construction footprint would halt until the species exits the site on its own or until the biologist relocates the species at least 300 feet from the construction footprint.

BIO-3: The following mitigation measures shall be implemented to avoid impacts to potential nesting habitat for Swainson's hawk:

- A qualified biologist shall conduct a minimum of two protocol level preconstruction surveys during the recommended survey periods immediately prior to the anticipated commencement of construction activities, in accordance with the *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley* (Swainson's Hawk Technical Advisory Committee, 2000). The surveys shall be conducted in the ~~p~~Proposed ~~a~~Action area and within 0.25 miles of the ~~p~~Proposed ~~a~~Action area where legally permitted. The biologist will use binoculars to visually determine whether Swainson's hawk nests occur beyond the 0.25-mile survey area if access is denied on adjacent properties. If no active Swainson's hawk nests are identified on or within 0.5~~25~~ miles of the ~~p~~Proposed ~~a~~Action area, a letter report summarizing the survey results shall be submitted to the County within 30 days following the survey, and no further mitigation for nesting habitat is required.
- Construction activities include heavy equipment operation associated with construction, use of cranes or draglines, new rock crushing activities or other project-related activities that could cause nest abandonment or forced fledging within 0.25 miles of a nest site between March 1 and September 15. Should an active nest be present within 0.25 miles of construction areas, then the CDFG shall be consulted to establish an appropriate noise buffer, develop take avoidance measures, and implement a monitoring and reporting program prior to any construction activities occurring within 0.25 miles of the nest. The monitoring program would require that a qualified biologist shall monitor all activities that occur within the established buffer zone to ensure that disruption of the nest or forced fledging does not occur. Should the biologist determine that the construction activities are disturbing the nest, then the biologist shall halt construction activities until the CDFG is consulted. The construction activities shall not commence until the CDFG determines that construction activities would not result in abandonment of the nest site. If the CDFG determines that take may occur, the County would be required to obtain a CESA Incidental Take Permit. Should the biologist determine that the nest has not been disturbed during construction activities within the buffer zone, then a letter report summarizing the survey results shall be submitted to the County and CDFG and no further mitigation for nesting habitat is required.

BIO-4: The following mitigation measures shall be implemented to avoid project-related impacts to nest sites for birds of prey and migratory birds. These measures would also mitigate for impacts to state-listed roosting bats:

- A qualified biologist shall conduct a total of three preconstruction surveys for active nests should construction commence during the nesting season for birds of prey and migratory birds (between ~~February~~ January 1 and October 1). Cavities within trees in the vicinity of the ~~p~~Proposed ~~a~~Action area shall be surveyed for the roosting bats. The preconstruction surveys shall be conducted within 30 days prior to commencement of construction activities. If surveys show that there is no evidence of nests, then no additional mitigation will be required.

- If any active nests (excluding a Swainson's hawk nest for which procedures are specified above) are located within the vicinity of the Proposed Action area, a species-appropriate buffer shall be established around the nests. Buffers shall be, at minimum, 0.5 miles for species listed under the FESA or CESA; 500 feet for non-listed raptors; and 250 feet for migratory birds; and 150 feet for any other bird species. A qualified biologist shall monitor nests weekly during construction to evaluate potential nesting disturbance by construction activities. If the biologist identifies an active nest just outside the 250-foot established buffer zone, the biologist may request more frequent site visits judging by the nature of the construction activity. The biologist shall delimit the buffer zone with construction flags, tape or, pin flags within 250 feet of the active nest or other appropriate, highly visible material and maintain the buffer zone until the end of breeding season or the young have fledged. Guidance from CDFG will be requested if establishing an appropriate 250-foot buffer zone is impractical.

BIO-5: The following conservation measures shall be implemented to avoid potential short-term adverse effects to SJKF in accordance with the *U.S. Fish and Wildlife Service Standardized Recommendations for Protection of the San Joaquin Kit Fox Prior To or During Ground Disturbance* (2011) (Recommendations):

- Within 30 days prior to commencement of construction activities, a qualified biologist approved by the Service and CDFG will conduct a preconstruction survey for SJKF within the action area.

Construction and Operational Requirements

- To minimize temporary disturbances, all project-related vehicle traffic shall be restricted to established roads, construction areas, and other designated areas. These areas shall also be included in preconstruction surveys and, to the extent possible, shall be established in locations disturbed by previous activities to prevent further impacts.
 - All travel within the project site will be restricted to established roadbeds, as described in detail under CTS mitigation measure above. Project-related vehicles shall observe a daytime speed limit of 20 miles per hour (mph) in all project areas, except on county roads and State and federal highways; this is particularly important at night when SJKF are most active. To the extent possible, night time construction shall be minimized, however, if it does occur, then the speed limit should be reduced to 10 mph. Off-road traffic outside of designated project areas should be prohibited.
 - To prevent inadvertent entrapment of SJKF or other animals during the construction phase of a project, all excavated, steep-walled holes or trenches more than two feet deep shall be covered at the close of each working day by plywood or similar materials, or provided with one or more escape ramps constructed of earth fill or wooden planks. Before such holes or trenches are filled, they shall be thoroughly inspected for trapped animals. In the case of trapped animals, escape ramps or structures shall be installed immediately to allow the animal(s) to escape, or the Service should be contacted for advice. If at any time a trapped or

injured SJKF is discovered, the Service and the California Department of Fish and Game (CDFG) shall be contacted as noted below.

- o All construction pipes, culverts, or similar structures with a diameter of four inches or greater that are stored at a construction site for one or more overnight periods will be thoroughly inspected for animals before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If a listed species is discovered inside a pipe, that section of pipe will not be moved until the animal has exited on its own. Pipes and other den-like structures should be capped at both ends until just before they are used to prevent SJKF or other species from being trapped. SJKF are attracted to den-like structures, such as pipes. SJKF may enter stored pipes becoming trapped or injured. All construction pipes, culverts, or similar structures with a diameter of four inches or greater that are stored at a construction site for one or more overnight periods should be thoroughly inspected for SJKF before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If a SJKF is discovered inside a pipe, that section of pipe should not be moved until the Service has been consulted. If necessary, and under the direct supervision of the biologist, the pipe may be moved once to remove it from the path of construction activity, until the SJKF has escaped.
- o All food-related trash items, such as wrappers, cans, bottles, and food scraps, shall be disposed of in closed containers and removed at least once a week from the construction or project site.
- o No firearms shall be allowed on the project site during construction activities.
- o To prevent harassment, mortality of SJKF, or destruction of dens by dogs or cats, no pets shall be permitted on the project site during construction activities.
- o Use of rodenticides and herbicides in the project site shall be ~~restricted~~prohibited. This is necessary to prevent primary or secondary poisoning of SJKF and the depletion of prey populations on which they depend. ~~All uses of such compounds should observe label and other restrictions mandated by the U.S. Environmental Protection Agency, California Department of Food and Agriculture, and other state and federal legislation, as well as additional project-related restrictions deemed necessary by the Service. If rodent control must be conducted, zinc phosphide should be used because of proven lower risk to SJKF.~~
- ~~o A representative shall be appointed by the project proponent who will be the contact source for any employee or contractor who might inadvertently kill or injure a SJKF or who finds a dead, injured, or entrapped individual. The representative shall be identified during the employee education program. The representative's name and telephone number shall be provided to the Service.~~
- o An employee education and training session program shall be conducted for SJKF the same way in which it is described in Mitigation Measure BIO-1 above for CTS. for all construction personnel including contractors, their employees, and military and/or agency personnel involved in the project. The training shall include a brief presentation by a biologist knowledgeable in SJKF biology and

~~legislative protection to explain endangered species concerns. The program shall include a description of the SJKF and its habitat needs, a report of the occurrence in the vicinity of the project site, an explanation of the status of SJKF and its protection under the FESA, and a list of measures being taken to reduce impacts to the SJKF during project construction and implementation. A fact sheet conveying this information shall be prepared for distribution to the previously referenced people.~~

- ~~o Upon completion of the project, all areas subject to temporary ground disturbances, including storage and staging areas, temporary roads, pipeline corridors, etc. shall be recontoured if necessary, and revegetated to promote restoration of the area to pre-project conditions. An area subject to "temporary" disturbance means any area that is disturbed during the project, but that after project completion will not be subject to further disturbance and has the potential to be revegetated. Appropriate methods and plant species used to revegetate such areas shall be determined on a site-specific basis in consultation with the Service, California Department of Fish and Game (CDFG), and revegetation experts.~~
- ~~o Any contractor, employee, or military or agency personnel who inadvertently kills or injures a SJKF shall immediately report the incident to their representative. This representative shall contact the CDFG immediately in the case of a dead, injured or entrapped SJKF. The CDFG contact for immediate assistance is State Dispatch at (916) 445-0045. They will contact the local warden or biologist at (530) 934-9309.~~
- ~~o The Service's Sacramento Office and the CDFG will be notified in writing within three working days of the accidental death or injury to a SJKF during project related activities. Notification must include the date, time, and location of the incident or of the finding of a dead or injured animal and any other pertinent information. The Service contact is the Chief of the Division of Endangered Species at 2800 Cottage Way, Suite W2605, Sacramento, CA 95825, (916) 414-6620 or (916) 414-6600. The CDFG contact is Mr. Paul Hoffman at 1701 Nimbus Road, Suite A, Rancho Cordova, CA 95670, (530) 934-9309.~~
- ~~o New sightings of SJKF shall be reported to the California Natural Diversity Database (CNDDB). A copy of the reporting form and a topographic map clearly marked with the location of where the SJKF was observed shall be provided to the Service.~~

BIO-6: The following measures shall be implemented to avoid potential short-term adverse effects to waters of the U.S.:

The County shall obtain a Section 404 CWA permit from the Corps, a Section 401 Water Quality Certification from the RWQCB, and a 1600 Streambed Alteration Agreement from the CDFG for construction activities within Millerton Lake. All permit conditions shall be implemented. Best Management Practices shall be implemented to ensure that no pollutants will be discharged into jurisdictional waters. Full restoration of the site would mitigate for the temporary impacts of construction.

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, as amended, is the primary Federal legislation that outlines the U.S. Government’s responsibility to cultural resources. Section 106 of the NHPA, as outlined in its implementing regulations at 36 CFR Part 800, requires Federal agencies to take into consideration the effects of their undertakings on cultural resources included in, or eligible for inclusion in, the National Register of Historic Places (NRHP). Cultural resources that are included in, or eligible for inclusion in, the NRHP are referred to as historic properties. The eligibility of a cultural resource for NRHP inclusion is determined by evaluating the resource using criteria set forth in 36 CFR 60.4.

The California Environmental Quality Act (CEQA) requires that, for projects financed by or requiring the discretionary approval of public agencies in California, the effects that a project has on historical and unique archaeological resources must be considered (PRC Section 21083.2). Historical resources are defined as buildings, sites, structures, or objects, each of which may have historical, architectural, archaeological, cultural, or scientific importance (PRC Section 50201). Historic properties under NRHP are considered eligible for listing in the California Register of Historic Places, and thus are significant historical resources for the purposes of CEQA (PRC Section 5024.1[d][1]).

3.4.1 Affected Environment

This section provides an overview of the cultural setting within the Proposed Action area and evaluates the likelihood that significant cultural resources (i.e., historic properties or significant historical resources) would be affected by the Proposed Action. The Proposed Action area, also known as the area of potential effects (APE) for the purposes of Section 106 compliance, includes the entire pipeline construction footprint, comprising the length of the pipeline as well as lands located approximately 25 feet east and west of the pipe centerline.

Prehistory

The APE is located in the central Sierra Nevada foothills bordering the eastern margin of California’s Central Valley. Although absolute consensus on the cultural chronology for Central California as a whole is lacking, (Rosenthal et al., 2007, 150), synthesizing previously-established frameworks and new data, have recently proposed the following chronology for the region: Paleo-Indian (11,500 to 8550 B.C.), Lower Archaic (8550 to 5550 B.C.), Middle Archaic (5550 to 550 B.C.), Upper Archaic (550 B.C. to A.D. 1100), and Emergent (A.D. 1100 to Historic). These temporal divisions are based on technological differences evident in the material archaeological remains, as well as environmental data indicative of climatic shifts that influenced the depositional history of archaeological sites throughout Central California.

Basally thinned and fluted projectile points, comparable to the Paleo-Indian “Clovis” technology, associated with the hunting of now-extinct mega-fauna and dating to between 11,500 and 9550 B.C. in other parts of North America, provide the earliest evidence for human occupation in the Central Valley. A limited number of points of this type have been found in the San Joaquin Valley, most deriving from the remnant Late Pleistocene shoreline of Tulare Lake in the southern part of the valley (Rosenthal et al., 2007, 154).

Lower Archaic occupation of the Central Valley is mostly represented by isolated finds of stemmed points, chipped stone crescents, and other flaked stone tools. Foothill sites dating from the Lower Archaic have yielded similar chipped stone artifacts, as well as a variety of handstones, millingslabs, and cobble-core tools, suggesting a reliance on a variety of animal and plant resources and perhaps a seasonally structured settlement system during this period (Rosenthal et al., 2007, 151-152).

The emergence of two distinct settlement-subsistence adaptations, one centering on the foothills and the other on the valley floor, is evident from buried archaeological deposits dating to the Middle Archaic period. Foothill artifact assemblages, comprising expedient flaked and ground stone tools used for procuring and processing food, indicate high residential mobility, while valley assemblages containing more specialized tools, trade goods, and ceremonial objects reflect increased residential stability (Rosenthal et al., 2007, 152-154).

During the Upper Archaic, subsistence economies continued to vary regionally; however, seasonally structured resources that could be harvested and processed in bulk were of prime importance throughout the region. In particular, the artifact assemblages of both valley and foothill sites indicate a reliance on acorns. Cultural diversity, marked by differences in artifact styles, burial patterns, and other material culture elements, was also pronounced during this period (Rosenthal et al., 2007, 155-157).

The Emergent period is characterized by the disappearance of many archaic technologies and cultural traditions, the introduction of the bow and arrow, and increased social complexity as evidenced by the development of both large village sites and smaller residential communities in the valley and foothills. The regional cultural traditions similar to those existing at the time of Euro-American contact emerged at this time (Rosenthal et al., 2007, 157-159).

Ethnographic Context

Prior to widespread disruption of traditional lifeways resulting from Euro-American settlement in the area, the San Joaquin Valley and surrounding foothills were occupied by aboriginal groups known as Yokuts. Primary ethnographic sources for Yokuts information include: Gayton, 1948; Kroeber, 1925; Powers, 1877; Spier, 1954, 1978; and Wallace, 1978. Though loosely connected through trade and marriage, there was no Yokuts nation or overarching political unity. The distinctions between subgroups were mostly linguistic and territorial (Spier, 1978:471; Wallace, 1978:462).

The western slopes of the Sierra Nevada, from the Fresno River in the north to the Kern River in the south, were occupied by about 15 named Yokuts tribes known collectively as Foothill Yokuts. Northern Foothill Yokuts, in particular the Chukchansi, Dumna, Gashowu, and Kechayi tribes, inhabited areas in the vicinity of the ~~Proposed~~ Action area (Kroeber, 1925:481, Spier, 1978:471).

The Foothill Yokuts subsistence economy was based on hunting and gathering, with fishing as a supplement. Deer, quail, and acorns served as dietary mainstays; however, the Foothill Yokuts diet included a wide variety of animal and plant foods (Spier, 1978:472). Hunting technology

included the bow and arrow, various traps, poisons, and fish weirs. Bedrock mortars and groundstone pestles, soapstone boiling stones, and basketry were common components of the Foothill Yokuts material culture (Spier, 1978:473-474).

History

There is little evidence for Euro-American intrusion into the ~~p~~Proposed ~~a~~Action area prior to the mid-1800s. The discovery of gold in 1848 at Coloma, in the northern Sierra Nevada foothills, also precipitated an influx of settlers to the current project area. The nearby town of Millerton, now under Millerton Lake, prospered during this period (Hoover et al., 1990:88).

Like many other early towns in California, Millerton (originally called Rootville) began as a mining camp and grew as merchants, doctors, and businessmen settled in the area. The town grew rapidly but remained small, relying on the support of neighboring Fort Miller and the addition of the Alex Ball lumber mill in 1853 (Winchell, 1933:28-30).

Fresno County was established in 1856 from portions of Mariposa, Merced, and Tulare counties with the town of Millerton as its county seat (Hoover et al., 1990:87). After devastating floods in 1862 and 1867 and the fires of 1870, the county seat was moved from Millerton to the newly created Central Pacific Railroad Station in Fresno City. Millerton remained a sleepy town into the twentieth century until it was abandoned as a result of the construction of Friant Dam, which led to the inundated of the former town site (California State Parks, 2009).

The Table Mountain Rancheria was established in 1916 along Millerton Road near the town of Friant. Home to several dislocated Native American families in the Friant-Winchell Creek area, the original Rancheria consisted of 116.76 acres. In 1959 the residents of Table Mountain Rancheria had their federal recognition terminated through enactment of the California Rancheria Act of 1958. For more than two decades, the tribe appealed to the federal government to restore their rights. In December 1983, Table Mountain Rancheria was recognized as an “Indian tribal entity,” eligible to receive services from the Bureau of Indian Affairs (BIA).

Native American Consultation

~~Analytical Environmental Services (AES), the consultant hired by the County to conduct the cultural resources study related to the Proposed Action, requested that~~ A request was submitted to the State of California Native American Heritage Commission (NAHC) to review its Sacred Lands File (SLF) for information on Native American cultural resources in the project area and provide AES with a list of appropriate Native American contacts for further consultation. The results of the NAHC SLF search did not indicate the presence of Native American sacred sites within a one-half mile radius of the proposed project APE (AES, 2011b).

Pursuant to 36 CFR Part 800.3(f)(2) and 36 CFR Part 800.4(2)(4), as part of the Section 106 process Reclamation is required to identify and consult with Indian tribes that might attach religious and cultural significance to historic properties in the APE. ~~Reclamation has sent letters to~~ contacted the Table Mountain Rancheria, Big Sandy Rancheria of Mono Indians, and Cold Springs Rancheria of Mono Indians, ~~inviting their assistance in identifying such properties~~ participation as consulting parties in the Section 106 process. No culturally significant

or sacred sites have been identified by any of the tribes contacted; however, Reclamation is currently working to address tribal concerns through Section 106 consultation.

Cultural Resources Identification Efforts

In an effort to identify historic properties and other cultural resources that may be impacted by the Proposed Action, ~~AES requested that a records search and literature review for the project area be~~ was conducted by the Southern San Joaquin Valley Information Center (SSJVIC) of the California Historical Resources Information System (AES, 2011b). The results of the records search indicate that five previous cultural resources studies have been conducted within the current APE and one cultural resource, identified as a granite outcrop containing two bedrock mortar cups, had previously been recorded in this project area.

One of the previous studies, conducted by Wren (1988b), took place ahead of the original 1989 construction of the Winchell Cove pumps and pipeline. During a pedestrian survey, which covered a construction footprint more or less identical to the current Proposed Action APE and surrounding areas, Wren (1988b) relocated ~~the~~ a bedrock mortar site originally recorded by Theodoratus and Crain (1962) and updated by Brown, Sampson, and Kelly (1978). At that time, Wren (1988b:21) noted that the planned placement of the proposed 10-inch line was well above the archaeological site boundary and should not have an adverse effect on the resource.

Additional field surveys covering the Proposed Action area were conducted by AES in 2008 and 2010. The 2008 survey was performed in conjunction with the Table Mountain Rancheria 175-acre Fee-to-Trust Project, which resulted in nine parcels of land totaling approximately 175 acres being transferred into Federal trust status on behalf of the tribe in December 2010. In March and November 2010, as part of the Winchell Cove Pipeline Project cultural resources study, AES conducted intensive pedestrian surveys of the accessible portions of the Proposed Action area not located on tribal land. No historic properties or other cultural resources were identified within the Proposed Action APE during any of these identification efforts.

3.4.2 Environmental Consequences

3.4.2.1 No Action

~~Under the No Action Alternative, the project area would remain undisturbed and no potential impacts to cultural resources would occur~~ Under the No Action Alternative, the proposed maintenance and improvements to the existing CSA 34 water system would not be installed. Continued use of the existing pipeline at full design capacity is likely to result in significant damage to this facility in the long-term, resulting in interrupted water service to existing water users within CSA 34.

Should the system fail, emergency improvements would be required to restore service to CSA 34 customers. The scope of these improvements is speculative and would depend on the location and extent of the system failure. Environmental review would be conducted by the County as required in accordance with CEQA (and possibly by Reclamation in accordance with NEPA if approval of a lease amendment is triggered) and any potential impacts to cultural resources from construction and operation of the improvements would be identified at that time. Effects associated emergency improvements would likely be similar to those identified for the Proposed Action described below.

3.4.2.2 Proposed Action

Under the Proposed Action alternative, trenching for the backup pipeline would occur immediately adjacent to the area previously disturbed during the original pipeline installation. During cultural resources field surveys conducted when the first pipeline was constructed, and more recently in association with the current project, no cultural resources were identified within the Proposed Action APE. Further, based on soil survey information and geoarchaeology sensitivity studies for the region, the potential for buried archaeological resources in the Proposed Action area is low to very low (see Meyer et al., 2010). Therefore, no impacts to cultural resources are anticipated to occur through implementation of the Proposed Action. Mitigation measures presented in **Section 3.4.43** would reduce the potential for impacts to unknown buried cultural resources.

3.4.2.3 Cumulative Impacts

No Action

In the event of system failure as a result of the No Action Alternative, cumulative effects associated with construction of emergency improvements would likely be similar to those identified for the Proposed Action described below.

Proposed Action

As there are no known cultural resources recorded within the current APE, there ~~will~~would be no cumulative impacts to resources in the immediate Proposed Action area. At present the potential cumulative impacts to cultural resources outside of the current Proposed Action area resulting from possible future water transfers and development within the CSA 34 service area, which may or may not be approved, are unknown. Any such future actions would be expected to undergo appropriate regulatory review as required under local preservation ordinances, CEQA, and/or Section 106 of the NHPA, during which potential impacts to cultural resources would be considered.

3.4.3 Mitigation

CR-1: In the unlikely event that previously unknown cultural materials, such as flaked stone, groundstone, or historic debris are inadvertently discovered during ground-disturbing activities, work should stop in that area and within 100 feet of the find until a qualified archaeologist can assess the significance of the find and, if necessary, develop treatment measures in consultation with appropriate agencies in accordance with 36 CFR Part 800.13. In the case of such a discovery, Reclamation's archaeologists must be notified and be given an opportunity to assess the find prior to work starting again in the immediate vicinity of the find.

CR-2: If human remains are encountered within land not subject to federal or tribal jurisdiction, work should halt in the vicinity of the discovery and the Fresno County Coroner should be notified immediately. At the same time, an archaeologist should be contacted to evaluate the find. If the Coroner determines that the human remains are of Native American origin, the Coroner must notify the ~~Native American Heritage Commission~~ NAHC within 24 hours of this determination. The ~~Most Likely Descendant (MLD)~~ of the deceased will be contacted by the NAHC, and work will not resume until the MLD has made a recommendation for the treatment of, with appropriate dignity, the human

remains and any associated grave goods, as provided in ~~Public Resources Code~~ PRC, Section 5097.98. Work may resume if NAHC is unable to identify an MLD or the descendant fails to make a recommendation within 48 hours.

CR-3 Pursuant to Reclamation Directives and Standards LND 07-01, the inadvertent discovery of human remains on Reclamation land requires immediate oral notification of the find to Reclamation cultural resources staff, as well as a written report of the discovery within 48 hours. Additionally, activity in the area shall cease and the find stabilized and protected until authorization to proceed is provided by Reclamation. Such discoveries require compliance with all appropriate Federal cultural resources laws and may require further Section 106 consultation. If the human remains are determined to be Native American, the discovery will be handled in accordance with Native American Graves Protection and Repatriation ~~burial~~ Act (NAGPRA) regulations (43 CFR Part 10).

CR-4: If human remains are encountered on Tribal lands, work shall halt in the vicinity of the find and Table Mountain Rancheria's Cultural Resources Director shall be notified immediately, pursuant to 36 CFR Part 800.13 of NHPA, *Post-Review Discoveries*, and 43 ~~C.F.R.~~ CFR § 10.4 (2006) of NAGPRA, *Inadvertent Discoveries*. No further ground disturbance shall occur in the vicinity of the find until the Tribal Official has examined the find and agreed on an appropriate course of action.

3.5 Socioeconomics/Environmental Justice

According to guidance from the CEQ (1997) and the EPA (USEPA, 1998), communities may be considered “minority” if the cumulative percentage of minorities within a defined geographic area is greater than fifty percent (primary method of analysis) or the cumulative percentage of minorities within the defined geographic area is less than fifty percent, but the percentage of minorities is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis (secondary method of analysis). Executive Order (EO) 12898 requires that federal agencies make achieving environmental justice part of their mission by identifying and addressing disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority populations and low-income populations. Communities may be considered “low-income” under the ~~executive order~~ EO if the median household income for the defined geographic area is below the poverty line (primary method of analysis), or if other indications are present that indicate a low-income community is present within the census tract (secondary method of analysis).

3.5.1 Affected Environment

The project site is located in the vicinity of the town of Friant within unincorporated Fresno County. Land uses surrounding the project site consist of sparse residential development in addition to grazing land. Residential development is primarily located within clusters of housing communities located adjacent to Millerton Road (i.e. Eagle Springs Golf and Country Club).

Demographic data for the Friant/Millerton area (zip code 93626) represents the potentially affected population within the project area. In 2000, the estimated population of Friant/Millerton

area was approximately 1,119 persons, with the following ethnic breakdown (U.S. Census Bureau, 2000):

- White 88% (985 persons)
- Hispanic 9.3% (104 persons)
- Native American 2.1% (23 persons)
- Asian 2.3% (26 persons)
- African American 0.4% (4 persons)

U.S. Census data for the year 2000 reported the average household size in Friant as 2.4 persons, which results in a federal poverty threshold of \$11,869 (U.S. Census Bureau, 2006). ~~As identified above, the~~ 1999 median household income in Friant was \$40,170 (U.S. Census Bureau, 2000). Since the median household income level is \$28,687 above the poverty threshold, Friant is not defined as a low-income community. Pursuant to the CEQ and EPA guidance on environmental justice analysis, there are no low-income populations identified in the project area.

3.5.2 Environmental Consequences

3.5.2.1 No Action

Continued use of the existing pipeline at full design capacity is likely to result in significant damage to this facility in the long-term, resulting in interrupted water service to existing water users within CSA 34 and substantial costs associated with repair, ~~and~~ property damages, being required to finance the delivery of raw water from a distance of 3 miles (Fresno) for the community for an extended duration, and potential liability arising from water quality and sanitation issues. The No Action Alternative would not have a disproportionately high and adverse human health or environmental effect on low-income or minority populations because no low-income or minority populations are present adjacent to or near the proposed pipeline alignment.

3.5.2.2 Proposed Action

Short-term impacts of constructing the proposed pipeline would not have a disproportionately high and adverse human health or environmental effect on low-income or minority populations because no low-income or minority populations are present adjacent to or near the proposed pipeline alignment.

3.5.2.3 Cumulative Impacts

No Action

The No Action Alternative would not result in cumulative impacts associated with socioeconomics and environmental justice conditions.

Proposed Action

As discussed above, the socioeconomic conditions would not change as a result of implementing the Proposed Action and, therefore, no cumulative impact would occur.