APPENDIX D
Friant-Kern Canal Middle Reach Capacity Correction Project

Environmental Assessment/ Initial Study

BUREAU OF RECLAMATION

Bureau of Reclamation
Interior Region 10 California-Great Basin
California*, Nevada*, Oregon*
***Partial**

Friant WATER AUTHORITY

September 2020

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EA/IS-18-057

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November 2019

Mission Statements

The mission of the Department of the Interior is to conserve and manage the Nation's natural resources and cultural heritage for the benefit and enjoyment of the American people, provide scientific and other information about natural resources and natural hazards to address societal challenges and create opportunities for the American people, and honor the Nation's trust responsibilities or special commitments to American Indians, Alaska Natives, and affiliated island communities to help them prosper. The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

Friant Water Authority is a public agency formed by its members under California law to operate and maintain the Friant-Kern Canal and to represent our members in federal or state policy, and in political and operational decisions that could affect the Friant Division's water supply. Friant's goal is to provide dependable, sustainable water from Millerton Reservoir to Friant Contractors.

Project Description

Background

The Friant-Kern Canal (FKC) begins at Friant Dam, about 16 miles northeast of Fresno, California. It originates on the border between Fresno and Madera counties near the community of Friant. Constructed by the Bureau of Reclamation (Reclamation) between 1949 and 1951, the FKC extends south for 152 miles, where it terminates at the Kern River near Bakersfield. Since construction, the FKC's conveyance capacity has deteriorated due to land subsidence, vegetation growth, and localized seepage through its embankments. In the 1970s and 1980s, Reclamation made repairs to segments of the FKC to address conveyance capacity restrictions within those segments. Since then, the Middle Reach of the FKC (approximately from milepost [MP] 88 to MP 121.5) has experienced a substantial reduction in conveyance capacity due to continuing subsidence, which has adversely affected water deliveries to water contractors. In coordination with Reclamation, the Friant Water Authority (FWA), the Operating Non-Federal Entity of the FKC, has proposed to restore the capacity of the 33-mile-long Middle Reach segment of the FKC located within Tulare and Kern counties (Figure 1).

In 1988, a coalition of environmental groups led by the Natural Resources Defense Council (NRDC) filed a lawsuit entitled NRDC et al. v. Kirk Rodgers et al., challenging the renewal of long-term water service contracts between the United States and the Friant Division Contractors. NRDC, FWA, and the U.S. Departments of the Interior and Commerce, collectively known as the "Settling Parties," agreed to the terms and conditions of the Stipulation of Settlement (Settlement). Federal authorization for implementing the Settlement was provided in the San Joaquin River Restoration Settlement Act (Settlement Act; Public Law 111-11, Part I). The Settlement established a "Restoration Goal" related to, among other things, releases of water from Friant Dam to the confluence of the Merced River, a combination of channel and structural modifications along the San Joaquin River below Friant Dam, and the reintroduction of California Central Valley spring-run Chinook salmon (*Oncorhynchus tshawytscha*). The Settlement also established a "Water Management Goal" that, among other things, was intended to reduce or avoid adverse water supply impacts on Friant Division Contractors. In addition, Part III of Title X of Public Law 111-11 recognized the need to restore the capacity to the Friant-Kern Canal. Section 10201 of Public Law 111-11states:

> *(a) The Secretary of the Interior (hereafter referred to as the 'Secretary') is authorized and directed to conduct feasibility studies in coordination with appropriate Federal, State, regional, and local authorities on the following improvements and facilities in the Friant Division, Central Valley Project, California:*
>
> > *(1) Restoration of the capacity of the Friant-Kern and Madera Canal to such capacity as previously designed and constructed by the Bureau of Reclamation.*
> >
> > *(2) […]*

(b) Upon completion of and consistent with the applicable feasibility studies, the Secretary is authorized to construct the improvements and facilities identified in subsection (a) in accordance with applicable Federal and State laws.

Reclamation and FWA have prepared this Environmental Assessment/Initial Study (EA/IS) pursuant to the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA), respectively, to assess the effects of the proposed FKC Middle Reach Capacity Correction Project (hereinafter referred to as Project). The designated lead agencies for NEPA and CEQA are Reclamation and FWA, respectively.

Purpose and Need for the Proposed Project

The FKC Middle Reach has lost over 50 percent of its original design capacity due regional land subsidence and a design deficiency. This has resulted in water delivery impacts on Friant Contractors, reduced ability of the FKC to convey flood waters during wet years, reduced ability to implement provisions of the Water Management Goal as described in Paragraph 16 of the Settlement, and a reduced ability to store and manage the timing and volume of Restoration Flows in Millerton Lake and flood flows at Friant Dam.

The purpose and need of Reclamation's Proposed Action is to restore the conveyance capacity of the FKC Middle Reach to such capacity as previously designed and constructed by Reclamation, as provided for in Public Law 111-11, Section 10201 and increase the storage capacity in Millerton Lake through improved operations at Friant Dam consistent with and as allowed for by the Water Infrastructure Improvements for the Nation Act.

Proposed Project

Reclamation's federal discretionary actions associated with the Project include implementation cost-share funding pursuant to the Friant Division Improvements Legislation Public Law 111-11 § 10201 and the Water Infrastructure Improvement Act (Public Law 114-322 § 4007), as well as approvals of actions being conducted within Reclamation's right-of-way (ROW) and any needed land acquisition associated with the Project.

The Project would restore the capacity of a 33-mile-long segment of the FKC by both enlarging (raising) and realigning segments of the canal to restore its conveyance capacity to 4,500 cubic feet per second (cfs) in the upstream segment of the Middle Reach and 3,500 cfs in the downstream segment (Figure 2). The Project area consists of the FKC itself and adjacent areas that would be subject to either temporary or permanent direct or indirect effects from implementation of the Project. Enlargements of the FKC would occur in approximately 10 miles of the northernmost and southernmost segments of the canal (see Figure 2). The enlargements would occur between MP 88.2 and MP 95.7 and MP 119 to MP 121.5, and would consist of raising the banks of the existing canal liner to up to 4 feet high on the existing FKC embankments. Existing delivery turnouts (i.e., pump stations that deliver water to service areas) in these locations would be maintained.

The Project would also include construction of a new 23-mile-long realigned canal from MP 95.7 to MP 119 east of the existing canal. In two locations, a county road runs between the FKC and the proposed realignment. These locations include a 1.1-mile road segment between MP 107.3 and MP 108.4 and a 1.9-mile segment between MP 111.7 and MP 113.6. The realigned

canal segment would provide a conveyance capacity of between 3,500 and 4,000 cfs. In the area of the realigned canal, most of the existing FKC would be abandoned and the concrete lining would be demolished as necessary for construction of the new canal. The embankments of the existing FKC within the area to be realigned would be used as a source of borrow material for the realigned canal, and the concrete lining on the canal side slopes could be re-used as road base material as needed.

To accommodate water deliveries in the area of the realigned canal, new turnouts, consisting of new cast-in-place concrete structures and delivery piping, would be constructed as needed. Additionally, small segments of the FKC would be left in place to accommodate existing turnouts and maintain water deliveries to existing distribution systems. Maintaining the water deliveries in these existing turnouts would be accomplished by creating delivery pools in small portions (approximately 100 to 200 feet) of the FKC upstream of the existing pump stations. This would allow water to be delivered from the realigned canal to a controlled water level in the delivery pool without affecting existing pumps and distribution systems. Approximately 510 acres of new ROW would be required to accommodate the Project.

Within the realigned segment, replacement of the existing check structures, wasteways, and siphons at Deer Creek and White River would be required. Control buildings and associated electrical, mechanical, and control equipment at these facilities would also be replaced as required. Up to 25 bridges would be removed and replaced with new, inverted siphons. Up to 10 miles of existing utility crossings would be removed, modified, or replaced to accommodate the Project. The Project would also require modification, relocation, abandonment, or removal of facilities on lands adjacent to the FKC and the realigned canal; facilities that could be removed include wells, irrigation systems, farm roads, miscellaneous structures (such as small control buildings), and power lines.

Construction of the Project would take up to 3 years and would be continuous. Construction would begin with the relocation of facilities adjacent to the FKC (for example, utilities and wells) and excavation associated with the replacement check structures, siphons, and the realigned canal. Given the linear nature of the Project, construction activities would not be constant at any individual location. It is expected that the maximum duration of construction for any one project element would be 7 months.

The durations for construction of major facilities are expected to be as follows:

- Existing utility relocation and well abandonment: 4 months
- Deer Creek and White River check structures: 7 months each (14 months total)
- Siphons: four siphons constructed simultaneously over an approximately 3-month period (19 months total for all 25 siphons)
- Realigned canal: 16 months
- Canal enlargement: 16 months

A concrete batch plant that would primarily be used for construction of the canal lining would be built onsite. The batch plant would be centrally located near the FKC in Tulare County. The site

would also be used for contractor staging, offices, and equipment and material storage. Asphalt for the new roads would be obtained from regional commercial sources.

Construction would occur between 7 a.m. and 7 p.m. Monday through Friday. Work crews would consist of up to nine construction teams, with 15 to 30 people per team. Depending on project construction requirements, up to 150 workers could be onsite during peak construction periods.

Evaluation of Environmental Impacts

To satisfy the requirement to consider the environmental impacts of the Project pursuant to both NEPA and CEQA, possible effects on resources were assessed using the CEQA Appendix G checklist. Where there is a possibility for the Project to affect a specific resource, the context and intensity of the impact are discussed to satisfy the requirements of NEPA. Determinations of significance are specific to CEQA.

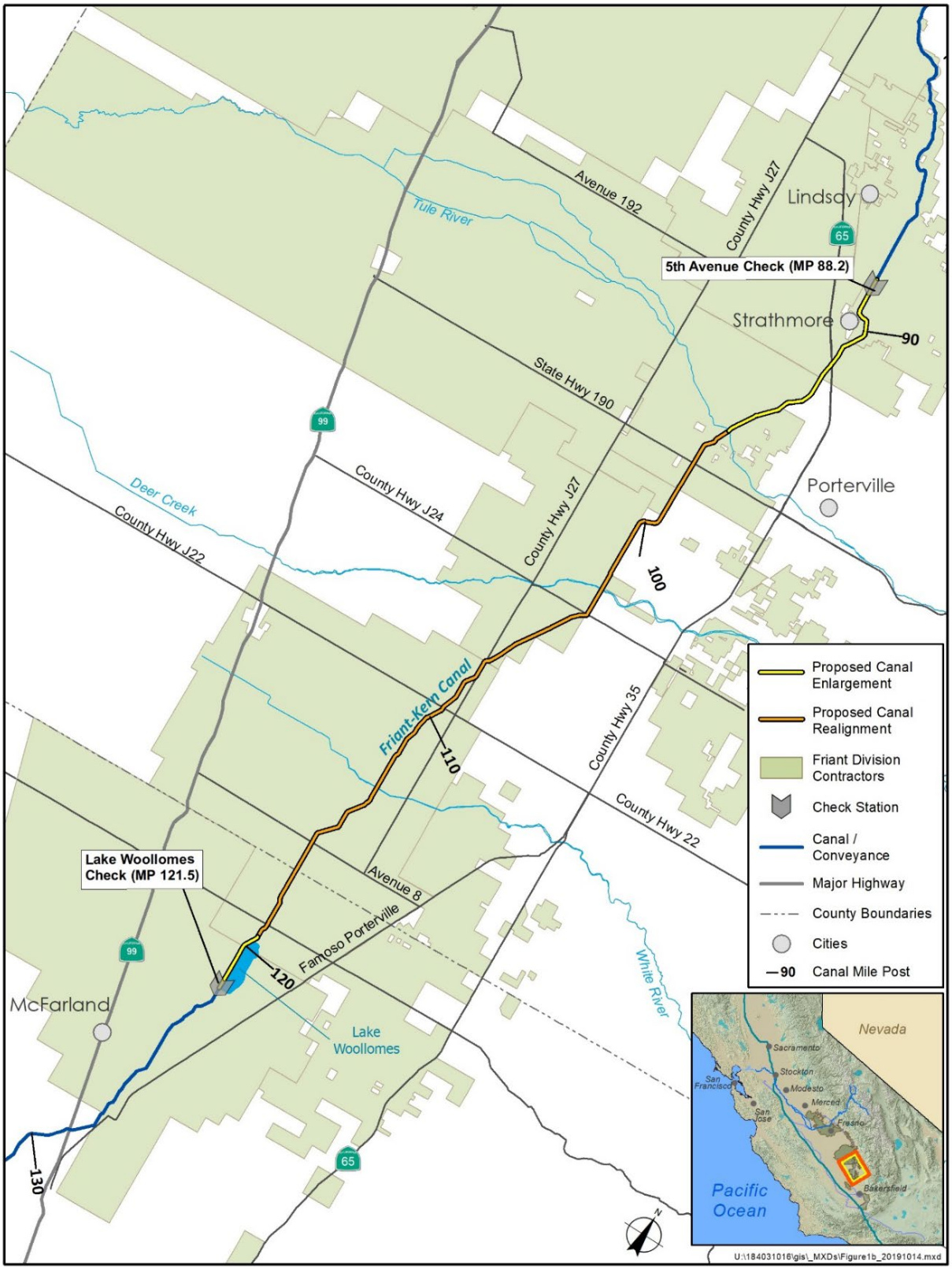

Figure 1. Location of Project

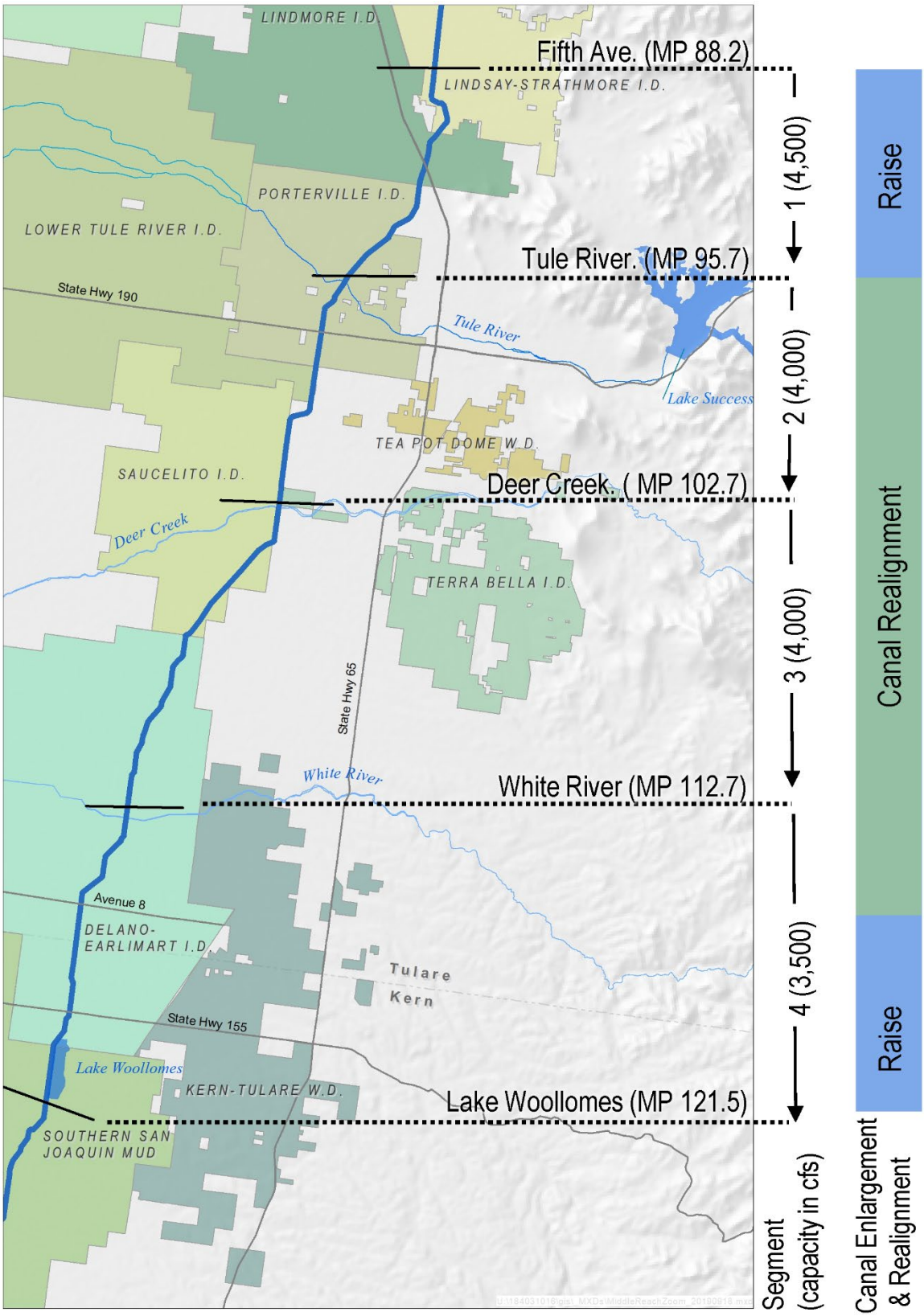

Figure 2. Project Elements

Resources Analyzed

Aesthetic Resources

I. AESTHETICS — Except as provided in Public Resources Code Section 21099, **would the project:**

		Potentially Significant Impact	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
a)	Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b)	Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c)	In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☒	☐
d)	Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

Affected Environment/Existing Setting

The Project involves restoring the capacity of a 33-mile-long segment of the FKC that traverses the San Joaquin Valley in the western regions of Tulare and Kern counties. This part of the San Joaquin Valley is characterized by flat agricultural lands and dispersed, rural residential development bordered by the Sierra Nevada foothills and mountain range to the east. There are several urbanized communities in this region, including the unincorporated community of Strathmore and the city of Porterville, which are adjacent to the existing FKC, as well as the city of Delano, which is approximately 2.5 miles west of the Project. These communities are mainly located along State Route (SR) 99 and SR 65, which are to the west and east of the FKC, respectively. Potentially sensitive visual receptors in the area include the few residences located adjacent to or relatively near the existing canal, and are primarily located in Strathmore and Porterville. The only recreational facility within the region is Lake Woollomes, adjacent to a portion of the FKC and south of the realigned canal.

Scenic resources in the region include views of the eastern foothills, agricultural areas, and water resources. Within Tulare County and Kern County, there are also several designated historic places and landmarks that reflect important visual assets and cultural features of the counties.

There are no officially designated state scenic highways in Tulare County or Kern County. However, SR 190, which traverses the FKC in the north portion of the Project near Porterville, is eligible for designation as a state scenic highway. Additionally, the Tulare County General Plan suggests preserving the rural agricultural character of SR 99 and SR 65 (Tulare County 2008). In Kern County, SR 155, which traverses the FKC in the south portion of the Project near Lake Woollomes, is designated as a scenic route by the county (Kern County 2008).

Discussion of Environmental Consequences/Impacts

a,b) The FKC is located in a rural environment and primarily traverses flat agricultural lands that range in elevation from 400 to 422 feet. No designated scenic vistas are close enough to the proposed Project to be affected; due to the flat terrain of the surroundings, the Project area would not be visually prominent. Furthermore, there are no officially designated state scenic highways in Tulare County or Kern County from which the Project would be visible. The Project would occur within and adjacent to the existing FKC and would not involve the removal of any vegetation, rock outcroppings, structures, or historic buildings that are considered scenic resources. The Project would therefore not affect a scenic vista and would not damage scenic resources within a state scenic highway. Because no Project-level impact would occur, the Project would not create a cumulatively considerable impact. Further analysis is not required.

c) The Project would enlarge and realign the existing FKC, resulting in changes that would not substantially alter the existing visual character of views toward the Project. Construction activities for the Project would include movement and storage of equipment and materials within the staging areas, as well as the operation of worker vehicles and construction equipment on the nearby roads and along the FKC. These activities would be visible to residents, motorists, recreationalists, and commercial users in the region and would contrast with the rural agricultural character of the area. However, such visual impacts would be temporary and, depending on the location of construction impacts, would be short-term as the construction activities move along the 33-mile-long segment. Once construction is complete, the Project would result in visual features that are similar to the existing landscape and would not result in a substantial or cumulatively considerable change in the existing visual character of the Project vicinity. The impacts would, therefore, be less than significant, and further analysis is not required.

d) Construction-related activities would temporarily create new sources of light and glare from construction vehicles; however, illumination of work areas with portable lighting and vehicle headlights would be limited to periods when it is dark (e.g., early morning and early evening hours). Lighting and glare effects would be minor because of the short-term, localized nature of construction. Some new additional light sources may be added to operations and maintenance (O&M) facilities such as small control buildings at the Deer Creek and White River check structures, but the extent of these new light sources would be minimal and consistent with existing conditions. Additionally, publicly accessible viewpoints of the buildings are limited and there are few sensitive receptors near these project features that would be exposed to light and glare. Consequently, the Project would not create a new source of substantial light or glare and would not create a cumulatively

considerable impact related to light or glare. The impacts would, therefore, be less than significant, and further analysis is not required.

Agricultural and Forest Resources

II. AGRICULTURAL AND FOREST RESOURCES — In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project, and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. **Would the project:**

		Potentially Significant Impact	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
a)	Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☒	☐	☐	☐
b)	Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☒	☐	☐	☐
c)	Conflict with existing zoning for, or cause rezoning of, forest land (as defined by Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production as defined by Government Code Section 51104(g))?	☐	☐	☐	☒
d)	Result in loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e)	Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☒	☐	☐	☐

Affected Environment/Existing Setting

Land uses surrounding the Project consist primarily of agriculture. Many of the lands are designated as Prime Farmland and Farmland of Statewide Importance and are used to produce high-value crops like almonds and pistachios. Some of the farmlands are currently under Williamson Act contracts (Kern County 2019 and Tulare County 2019).

Discussion of Environmental Consequences/Impacts

a,b,e) The Project would occur largely within the existing ROW; however, some improvements would require land acquisition, potentially resulting in the permanent removal of land from agricultural production and causing a loss of designated farmland, some of which is under Williamson Act contracts. The impacts are potentially significant and will, therefore, be evaluated further in the Environmental Impact Statement/Environmental Impact Report (EIS/EIR).

c,d) There are no lands within or near the Project that are zoned forest land (as defined by Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g)) (Kern County 2019, Tulare County 2019). Therefore, there would be no impact, and further analysis is not required.

Air Quality

III. AIR QUALITY — Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. **Would the project:**

		Potentially Significant Impact	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
a)	Conflict with or obstruct implementation of the applicable air quality plan?	☒	☐	☐	☐
b)	Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	☒	☐	☐	☐
c)	Expose sensitive receptors to substantial pollutant concentrations?	☒	☐	☐	☐
d)	Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

Affected Environment/Existing Setting

The Project is located in the San Joaquin Valley Air Basin, which is under the jurisdiction of the San Joaquin Valley Air Pollution Control District (SJVAPCD). The air basin is designated as non-attainment for the 8-hour ozone standard and the standard for particulate matter 2.5 microns or smaller ($PM_{2.5}$) under the Federal National Ambient Air Quality Standards (SJVAPCD 2019). Additionally, the air basin is designated as non-attainment for the standard for particulate matter 10 microns in size or smaller (PM_{10}), the $PM_{2.5}$ standard, and the 8-hour ozone standard under the California Ambient Air Quality Standards (SJVAPCD 2019). The air basin is in attainment for all other criteria pollutants under both the federal and state standards (SJVAPCD 2019). Due to their high concentrations and the air basin's current non-attainment status, the primary

pollutants of concern in the vicinity of the Project are ozone (including reactive organic gases and oxides of nitrogen), PM_{10}, and $PM_{2.5}$.

Discussion of Environmental Consequences/Impacts

a,b) Construction activities would require the use of heavy equipment such as excavators, compactors, and dump trucks and would generate vehicle emissions and fugitive dust, causing increases in PM_{10}, $PM_{2.5}$, and ozone during the construction period; these increases would cease once construction is complete. The increases in pollutants could exceed SJVAPCD's thresholds, and the potential for the Project to conflict with or obstruct the SJVAPCD's air quality attainment plan could, therefore, be a significant impact. Implementation of the Project could also contribute cumulatively to air pollutants in the basin. This potential impact will be further evaluated in the EIS/EIR.

Operations would be consistent with existing conditions and would therefore result in minimal to no increase in emissions from O&M activities. Operational impacts will, therefore, not be evaluated in the EIS/EIR.

c) As stated in Section I – Aesthetic Resources, there are a few sensitive receptors such as residences and schools located adjacent to or near the FKC. Sensitive receptors could be temporarily exposed to increased air pollutants during construction, including exposure to diesel particulate matter, which is listed as a toxic air contaminant. This is a potentially significant impact and, therefore, will be addressed further in the EIS/EIR.

d) Odors are generally regarded as an annoyance rather than a health hazard. Due to the subjective nature of odor impacts, the number of variables that can influence the potential for an odor impact, and the variety of odor sources, quantitative methodologies to determine the presence of a significant odor impact do not exist. According to the California Air Resources Board (CARB) Air Quality and Land Use Handbook, some of the most common sources of odor complaints received by local air districts are sewage treatment plants, landfills, recycling facilities, waste transfer stations, petroleum refineries, biomass operations, auto body shops, coating operations, fiberglass manufacturing, foundries, rendering plants, and livestock operations (CARB 2005).

Construction of the project would require the use of diesel-based equipment. Diesel fumes from construction equipment can be found to have objectionable odors. Diesel odors from construction may be perceived as objectionable at lower concentrations than those required to cause a health risk. Diesel emissions would be temporary and intermittent throughout construction and would follow federal, state, and local regulations, including applicable SJVAPCD rules and regulations; diesel emissions are, therefore, not anticipated to result in an adverse effect on a substantial number of people. As previously described, residences are located adjacent to the Project alignment. However, because there would be few sources of odor and because of the linear nature of the Project and the movement of construction activities along the Project alignment, construction would be short term at any given location (maximum of 7 months at any given location). Impacts due to odor would, therefore, be less than significant, and further analysis is not required.

Biological Resources

IV. BIOLOGICAL RESOURCES — Would the project:

		Potentially Significant Impact	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
a)	Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☒	☐	☐	☐
b)	Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☒	☐	☐	☐
c)	Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☒	☐	☐	☐
d)	Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☒	☐	☐	☐
e)	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☒	☐	☐	☐
f)	Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

Affected Environment/Existing Setting

The topography of the Project area is nearly level, with gentle slopes between 0 and 5 percent. Elevations range from approximately 400 to 422 feet above mean sea level. The landscape surrounding the Project is dominated by agriculture.

The region has a Mediterranean climate characterized by hot, dry summers and moderate winters, with average annual temperatures ranging from 31 to 98 degrees Fahrenheit. Precipitation primarily occurs as rain, with rare snowfall. Average annual rainfall is 7.23 inches and occurs primarily from November through April (Western Regional Climate Center 2019).

Stantec biologists conducted reconnaissance-level biological field surveys and a delineation of aquatic features within the Project area from September 30, 2019 through October 3, 2019. Vegetation communities and habitats observed in and near the Project area include non-native annual grassland, California buckwheat scrub, allscale saltbush scrub, Fremont cottonwood forest, mulefat thickets, red willow thickets, shining willow groves, smartweed-cocklebur patches, valley oak woodland, irrigated row crops, vineyards, orchards, herbaceous field crops, urban (residential housing), ruderal (recently and/or regularly disturbed areas), and barren (unvegetated or nearly unvegetated areas including levee roads). Aquatic features in and near the Project area include the FKC, Lake Woollomes, intermittent streams (Tule River, Deer Creek, Porter Slough, and White River) and associated riparian and fresh emergent wetlands, groundwater recharge basins, detention basins, agricultural ditches and canals, and agricultural ponds. No vernal pools were identified in the Project area.

Based on a review of natural resources agency databases, aerial imagery, public-domain literature, and the reconnaissance-level biological field surveys, the Project area provide potential habitat for several special-status plant and animal species (i.e., those listed by state or federal resources agencies as threatened or endangered, or having other designation owing to heightened conservation concern). Federally and state-listed species that may occur in or near the Project area include Kern mallow (*Eremalche parryi* ssp. *kernensis*), which is federally listed as endangered; San Joaquin wooly threads (*Monolopia congdonii*), which is federally listed as endangered; Swainson's hawk (*Buteo swainsoni*), which is state-listed as threatened; and San Joaquin kit fox (*Vulpes macrotis mutica*), which is federally listed as endangered and state-listed as threatened. The California Natural Diversity Database (CNDDB) includes multiple records of San Joaquin kit fox that intersect with the Project. Most of the nearby CNDDB records for the kit fox date back to 1975, with the most recent record dated 2005 (California Department of Fish and Wildlife 2019, U.S. Fish and Wildlife Service 2019).

Other important or protected biological resources in the Project area include habitat for nesting raptors and migratory birds, intermittent streams, and riparian habitats. For example, during the reconnaissance-level biological surveys, cliff swallow (*Petrochelidon pyrrhonota*) nests were observed on nearly all of the bridges crossing the FKC.

The Project is not located within designated or proposed critical habitat for federally listed species (U.S. Fish and Wildlife Service 2019). Additionally, the Project is not within the boundary of an adopted habitat conservation plan; natural community conservation plan; or other local, regional, or state habitat conservation plan. The Project is located in Tulare and Kern counties, and the general plans for these counties contain open space, biological, and conservation elements that may be applicable to the Project.

Discussion of Environmental Consequences/Impacts

a,d) Construction of the Project could affect potential habitat for Kern mallow and other special-status plant and animal species and could remove potential San Joaquin kit fox dens along the banks of the FKC. This would be a significant impact. The Project includes removal and replacement of a number of bridges, and cliff swallow nests are present on nearly all the bridges that cross the FKC. Bridge removal could result in "take" of nests, eggs, and young if nests are active at the time of bridge demolition/removal or other

construction activities, and the removal of bridges would eliminate habitat for this colonially nesting species, as well as for potentially several species of bats. Swainson's hawks and other migratory birds and raptors could also be affected by the Project if they are nesting in the vicinity of construction activities. Native and game fish (e.g., Kern brook lamprey [*Lampetra hubbsi*], several catfish species, bass [*Micropterus* spp.], and sunfish [*Lepomis* spp.]) are present in the FKC, and the Project could affect these aquatic species. Construction of the Project also has the potential to disturb riparian habitats and habitats for special-status species (e.g., bats, western spadefoot toad [*Spea hammondii*]). Effects on special-status plants and animals will be addressed further in the EIS/EIR.

b,c) The Project could require removal or replacement of existing check structures, wasteways, and siphons at Deer Creek and White River, which would require in-stream work. Adverse effects on streams and associated riparian habitats are considered potentially significant. The potential for the Project to impact riparian habitats, aquatic habitats, and other sensitive natural communities will be addressed further in the EIS/EIR.

e) It is anticipated that the Project would be in compliance with local policies (such as a tree preservation policy) and local ordinances protecting biological resources, such as County General Plans. However, given the potential for the Project to affect special-status species, aquatic habitats, riparian habitats, and other protected, jurisdictional, or high-value biological resources identified in local policies or ordinances protecting biological resources, this potential impact will be addressed further in the EIS/EIR.

f) The Project is not located within the boundary of an adopted Habitat Conservation Plan; Natural Community Conservation Plan; or other local, regional, or state habitat conservation plan. Therefore, there would be no impact, and no further analysis is required.

Cultural Resources

V. CULTURAL RESOURCES — Would the project:

		Potentially Significant Impact	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
a)	Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?	☒	☐	☐	☐
b)	Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	☒	☐	☐	☐
c)	Disturb any human remains, including those interred outside of formal cemeteries?	☒	☐	☐	☐

Affected Environment/Existing Setting

The FKC and appurtenant features, Southern California Edison's Big Creek East and West transmission lines, and the Lower Tule River Irrigation District's Poplar Ditch occur within the area of potential effects (APE). The FKC and appurtenant features and the transmission lines are considered eligible for inclusion in the National Register of Historic Places (NRHP), and the Poplar Ditch is considered eligible for inclusion in the California Register of Historical Resources (CRHR) and, for purposes of this Project, the NRHP. Additionally, some of the bridges that cross the FKC or other structures within the APE will be evaluated for inclusion in the NRHP and/or CRHR. Buried archaeological site sensitivity is low to moderate within the APE (cf., Meyer et al. 2010). Because a full evaluation of the archaeological and built environment has not yet been conducted, this topic will be further addressed in the EIS/EIR.

Discussion of Environmental Consequences/Impacts

a,b,c) The Project is considered an undertaking subject to compliance with Section 106 of the National Historic Preservation Act of 1966 (NHPA) and its implementing regulations (36 CFR § 800). Compliance with Section 106 is required because the FKC is owned by a federal agency (Reclamation), and Reclamation will provide partial funding for the Project.

As part of the Section 106 process, the APE will be delineated to encompass the Project area. The APE will consider areas with both direct and indirect effects of the Project on potential historic properties, as defined in 36 CFR § 800.16(l)(1). All cultural resources within the APE that are more than 50 years old will be evaluated for listing in the NRHP and CRHR. These resources include the FKC and appurtenant features.

Under CEQA, the Project must consider any project effects on historical resources and unique archaeological resources. Pursuant to Public Resources Code (PRC) Section 21084.1 and 21084.2, a project that may cause a substantial adverse change in the significance of an historical resource or a tribal cultural resource is a project that may have a significant effect on the environment. Section 21083.2 also requires agencies to determine whether proposed projects would have effects on unique archaeological resources.

"Historical resource" is a term defined at PRC Section 21084.1 and California Code of Regulations (CCR) Section 15064.5 (a). The term embraces any resource listed in or determined to be eligible for listing in the CRHR, which is defined at PRC Section 5024.1 and CCR Section 4852. The CRHR includes resources listed in or formally determined to be eligible for listing in the NRHP, as well as some California State Landmarks and Points of Historical Interest.

"Unique archaeological resource" is a term defined at PRC Section 21083.2 (g). The term means an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

1) Contains information needed to answer important scientific research questions and … there is a demonstrable public interest in that information.

2) Has a special and particular quality such as being the oldest of its type or the best available example of its type.

3) Is directly associated with a scientifically recognized, important prehistoric or historic event or person.

In addition, a resource included in a local register of historical resources, as defined in PRC Section 5020.1(k), or identified as significant in an historical resource survey that meets the requirements of PRC Section 5024.1(g) shall be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of the evidence demonstrates that it is not historically or culturally significant (CCR Section 21084.1 and CCR Section 4850).

Similarly, pursuant to CCR Section 21084.1, the fact that a resource is not listed in or determined to be eligible for listing in the CRHR, not included in a local register of historical resources, or not identified in an historical resources survey (i.e., meeting the criteria in PRC Section 5024.1(g)) does not preclude a lead agency from determining that the resource may be an historical resource as defined in PRC Sections 5020.1(j) or 5024.1.

There would be a potential for significant project-related impacts on cultural resources, including human remains, and this topic will, therefore, be addressed further in the EIS/EIR.

Energy Resources

VI. ENERGY — Would the project:

		Potentially Significant Impact	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
a)	Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☒	☐	☐	☐
b)	Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☒	☐

Affected Environment/Existing Setting

Electric services in Tulare and Kern counties are provided by Pacific Gas and Electric Company and Southern California Edison. The FKC conveys water primarily by gravity as opposed to energy-intensive pump stations, and only a minimal amount of electricity is used along the canal to operate check structures. FWA does not operate pumps to service laterals, they are operated by Friant Division contractors.

Discussion of Environmental Consequences/Impacts

a) The proposed modification or demolition of existing facilities and the construction of new facilities would require direct and indirect use of energy resources. Direct energy use would involve using petroleum products and electricity to operate construction equipment such as trucks, bulldozers, and tunnel boring equipment, as well as fuel by workers commuting to and from construction locations. Indirect energy use would involve consuming energy to extract raw materials, manufacture construction equipment and materials, and transport the goods necessary for construction and maintenance activities. These activities would require the use of gasoline and diesel fuel. Fuel consumption associated with the Project during the approximately three-year construction period could be wasteful, unnecessary, or used in a less efficient manner than at other construction sites in the region. This impact is, therefore, potentially significant and will be addressed further in the EIS/EIR.

   The Project includes the repair and replacement of a gravity-operated canal. It is expected that with new equipment, the energy used to operate the new check structures on the restored canal would be similar to that used for the existing canal and that additional electrical capacity for operations would not be required. Given that operations would be consistent with existing operations, the Project would not cause a cumulatively considerable increase in demand for electricity or energy. Therefore, operational impacts would be less than significant, and no further analysis of energy consumption is required.

b) The Tulare County Climate Action Plan (CAP), Tulare County General Plan, and Kern County General Plan provide renewable energy and energy reduction strategies. The strategies presented in the CAP consistency checklist are applicable to development projects (for example, subdivisions and retail developments), not to this Project. The Tulare County General Plan provides several energy conservation, efficiency, and alternative energy measures; however, none of these measures are relevant to construction activities. The Kern County General Plan Energy Element focuses on energy production throughout the County but does not provide renewable energy use or energy efficiency measures for project construction. As Project operations would be similar to existing conditions and would not include energy-intensive infrastructure, the Project would be consistent with the Tulare County CAP and the two county general plans. Additionally, the Project would continue to be powered by electricity from California's power grid, which is under state mandates (Senate Bills 350 and 100) to increase renewable energy production. Therefore, the Project would not conflict with or obstruct a state or local plan for renewable energy. The impacts would, therefore, be less than significant, and no further analysis is required.

Geology and Soils

VII. GEOLOGY AND SOILS -- Would the project:

		Potentially Significant Impact	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
a)	Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
	i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?	☐	☐	☒	☐
	ii) Strong seismic ground shaking?	☒	☐	☐	☐
	iii) Seismic-related ground failure, including liquefaction?	☒	☐	☐	☐
	iv) Landslides?	☒	☐	☐	☐
b)	Result in substantial soil erosion or the loss of topsoil?	☒	☐	☐	☐
c)	Be located on strata or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☒	☐	☐	☐
d)	Be located on expansive soil, as defined in Table 18 1 B of the Uniform Building Code, creating substantial direct or indirect risks to life or property?	☒	☐	☐	☐
e)	Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒
f)	Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☒	☐	☐	☐

Affected Environment/Existing Setting

The Project would be located in the southern portion of the Great Valley Geomorphic Province in Central California. This region is characterized as a roughly 50-mile-wide and over 400-mile-long trough in which sediments have been deposited almost continuously since the Jurassic period. The geology of the Great Valley generally consists of marine and continental deposits resting on a basement complex of metamorphic and igneous rocks.

The Project would be located in California's San Joaquin Valley, which is the southern part of the Great Valley. The geology of the San Joaquin Valley consists mainly of Jurassic to recent marine, alluvial, and lake deposits that are several thousand feet thick. The regional surficial geology along the FKC is mapped as Quaternary Alluvium and Older Alluvium (Smith 1964, Matthews 1965). Both Tulare and Kern counties are characterized as a low-severity zone for ground-shaking, with no declared landslides within the Project area (United States Geological Survey and California Geological Survey 2016, California Geological Survey 2019).

A preliminary geotechnical investigation (Stantec 2018) was conducted to assist with the design of the proposed canal modifications. With information from the investigation, a preliminary geotechnical interpretive report was prepared to assess the anticipated geotechnical hazards along the proposed canal alignment and to evaluate the proposed canal modifications with respect to the latest Fault Activity Map of California prepared by the California Department of Conservation (2018). The map shows that the Project is located in a moderately active seismic area. The southern end of the Project is closer to known active faults than the northern end. Additionally, strong ground motion accelerations from the 2014 USGS peak ground accelerations (PGA) values based on Seismic Site Class D vary between approximately 0.4g[1] to 0.46g within the Project. The estimated distance from the approximate mid-point of the Project (MP 110.3) to selected nearby mapped active faults is shown in Table 1.

Table 1. Active Faults Surrounding Project

Fault	Distance (miles)	Maximum Moment Magnitude
Great Valley 14 (Kettleman Hills)	43.9	7.2
White Wolf	48.3	7.2
South San Andreas	51.7	8.2
Pleito	55.6	7.1
Great Valley 13 (Coalinga)	57.5	7.1

Measured from 2008 National Seismic Hazard Maps – USGS (USGS 2008)

Subsidence is an ongoing regional concern that was exacerbated during the 2012 to 2016 drought (NASA 2015). Data from interferometric synthetic aperture radar show that regional land subsidence from May 2015 to September 2016 lowered the land surface elevation by as much as 25 inches (Farr et al. undated). The FKC is located in the eastern portion of the regionally subsided area. It is estimated that the FKC is approximately 12 feet below the original constructed elevation, creating a significant low point in the Middle Reach between MP 103 and MP 107.

[1] g is the acceleration of gravity

Discussion of Environmental Consequences/Impacts

ai) The Project would be located in a moderately active seismic area. The southern end of the Project is closer to known active faults than the northern area. The estimated distance from the southern end of the Project to selected nearby mapped active faults is around 40 to 60 miles, depending on the fault. The closest active fault considered in the 2008 USGS seismic hazard mapping is the Great Valley 14 (Kettleman Hills) fault, which is about 40 miles away; this fault has a maximum moment magnitude of 7.2 (U.S. Geological Survey 2014). No active faults are known to cross the Project; accordingly, the risk of failure due to fault rupture is considered low. The impacts would, therefore, be less than significant, and no further analysis is required

aii-iv) Hazards associated with seismic ground shaking, seismic-related ground failure including liquefaction, landslides, and expansive soils could be significant. Seismic-related ground failure is not expected for most of the Project alignment due to the deep groundwater table. However, localized areas with shallow groundwater at stream crossings may be susceptible to soil liquefaction or other seismic-related ground failure, including expansive soil as defined in Table 18 1b of the Uniform Building Code. Additional site-specific geotechnical investigations will be performed to evaluate the potential for seismic-related hazards and to provide recommendations to mitigate these hazards. Seismic-related impacts could, therefore, be significant and will be addressed further in the EIS/EIR.

b) Construction would require the excavation of a substantial amount of soil and, if not properly managed, erosion of stockpiled soils could occur, transporting sediment into agricultural drains or sensitive receiving waters. Coverage under the California Regional Water Quality Control Board's Construction General Permit (CGP) is required for projects that disturb 1 acre or more of land. Land disturbance would be greater than 1 acre, and CGP coverage would thus be required. The permit requires development of a site-specific stormwater pollution prevention plan (SWPPP), which must include approved best management practices (BMPs) to reduce erosion and sedimentation during construction. However, even with implementation of BMPs, impacts could be significant, and, therefore, this topic will be addressed further in the EIS/EIR.

c) Hazards associated with strata or soil that is unstable or that would become unstable as a result of the Project, on- or off-site landslides, lateral spreading, subsidence, liquefaction, or collapse, could be significant impact. Seismic-related ground failure is not expected for most of the Project alignment due to the deep groundwater table. However, localized areas with shallow groundwater at stream crossings may be susceptible to soil liquefaction or other seismic-related ground failure. Additional site-specific geotechnical investigations will be performed to evaluate the hazards and provide recommendations to mitigate these hazards. The resulting impacts could be significant and, therefore, will be addressed further in the EIS/EIR.

e) The Project does not include or require the installation of septic tanks or wastewater disposal systems. There would, therefore, be no impact and no further analysis is required.

f) There are no known paleontological resources in the Project area, but excavation activities could uncover paleontological resources. Impacts on paleontological resources could be significant and, therefore, will be addressed further in the EIS/EIR.

Greenhouse Gases

VIII. GREENHOUSE GAS EMISSIONS — Would the project:

		Potentially Significant Impact	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
a)	Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☒	☐	☐	☐
b)	Conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?	☒	☐	☐	☐

Affected Environment/Existing Setting

The effect of increased greenhouse gases (GHGs) as they relate to global climate change is inherently an adverse environmental impact, although the emissions from a single project would not cause a significant impact on global climate change. However, GHG emissions from countless past, present, and future projects and other sources (e.g., automobiles) throughout the world are cumulatively considerable. Consequently, contributions to the causes of global climate change are regarded by definition to have a cumulative effect.

As noted previously, the Project is under the jurisdiction of the SJVAPCD. The SJVAPCD requires quantification of a project's potential to emit GHGs associated with either construction or operation.

Discussion of Environmental Consequences/Impacts

a,b) Short-term GHG emissions from construction equipment, haul trucks, and worker commute vehicles would occur during construction. BMPs, such as use of alternative fuels, use of local materials, and recycling of construction and demolition waste, would be incorporated into the Project to reduce GHG emissions from construction; however, even with incorporation of BMPs, the impact of GHG emissions could be potentially significant. Additionally, the Project may conflict with an applicable plan, policy, or regulation adopted to reduce GHG emissions. GHG emissions will, therefore, be addressed further in the EIS/EIR.

Hazards and Hazardous Materials

IX. HAZARDS AND HAZARDOUS MATERIALS — Would the project:

		Potentially Significant Impact	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
a)	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b)	Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☒	☐	☐	☐
c)	Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☒	☐	☐	☐
d)	Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e)	For a project located within an airport land use compatibility plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☒	☐
f)	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☒	☐	☐	☐
g)	Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☒	☐

Affected Environment/Existing Setting

Areas that are likely to contain natural occurrences of asbestos have been mapped within an approximately 2-mile range of the Project (California Department of Conservation, Division of Mines and Geology 2000). Generally, these areas are east of SR 65 and north of Porterville.

There are three schools located within 0.25 mile of the FKC: Burton Middle School, William R. Buckley Elementary School, and Strathmore Elementary School. All three schools are located within the northern portion of the Project area where the canal lining would be raised. There are no schools located within a 0.25-mile distance of the location of the realigned canal. There are nine known hazardous waste cleanup sites within approximately 0.5 mile from the FKC on the Cortese list compiled pursuant to Government Code section 65962.5. Six of the sites are

categorized as leaking underground storage tank (LUST) cleanup sites, two are classified as cleanup program sites, and one is classified as a military cleanup site. Of these nine sites, there is one active LUST site (Kurz Trucking) located approximately 1,800 feet west of the existing FKC on Avenue 196 in Strathmore (State Water Resources Control Board 2019).

Tulare County manages airport traffic through its *Tulare County Comprehensive Airport Land-Use Plan*. In Tulare County, there is one small private airstrip, Eckert Field, within 2 miles of the FKC. Located approximately 0.5 mile east of the existing FKC north of Strathmore, Eckert Field is classified as a general aviation airport and does not accommodate commercial flights. Small portions of the FKC occur within the Eckert Field inner turning and outer approach zones, as well as within the airport safety zones and noise contours. There is also one small municipal airport, Porterville Airport, located approximately 1.5 miles east of the FKC south of Porterville. Porterville Airport is a general aviation airport and supports small to midsize aircraft. The FKC is not within the airport's safety zone or noise contour. There are no airports or airstrips within the Project area in Kern County.

In the event of an emergency, both Tulare County and Kern County rely on their respective Emergency Operations Plans to provide organizational structure and guidance through emergencies. Neither Tulare County nor Kern County specifies evacuation routes in rural areas. Emergency evacuation routes are determined on a case-by-case basis according to the location and type of the emergency. The Project is in the San Joaquin Valley, which has a low potential for wildfire, and is not located in a state responsibility area fire hazard severity zone (California Board of Forestry and Fire Protection 2019).

Discussion of Environmental Consequences/Impacts

a) Construction of the Project would include the use, transport, storage, and disposal of hazardous materials such as fuels, lubricants, and solvents associated with construction equipment, and construction staging areas could contain small amounts of these types of pollutants. Accidental releases of small quantities of these materials could expose people and the environment to hazardous materials; however, the handling and storage of these materials would be in accordance with all local, state, and federal regulatory requirements and would not present a significant hazard to local schools, the public, or the environment. Demolition debris from existing facilities and structures such as bridges would be tested as needed for hazardous materials such as lead and asbestos and handled in accordance with federal, state, and local regulations (for example, the Resource Conservation and Recovery Act and the Toxic Substances Control Act, administered by the Environmental Protection Agency; Occupational Safety and Health Act; California Occupational Safety and Health Act; and Office of Emergency Services Hazardous Materials Release Response Plans and Inventory Law).

   Neither construction nor operation would routinely generate hazardous materials. Hazardous materials are not currently stored or proposed for use or storage by the Project. Operation of the canal after construction of the Project would not involve the use or storage of any hazardous materials. Given that the Project would not create a new source of hazardous materials, there would not be a cumulatively considerable impact related to hazardous materials, and no further analysis is required.

b, c) All structures requiring removal (for example bridges) would be located in close proximity to the realigned canal. Given that there are no schools located within 0.25 mile of any structures to be removed, there would be no potential for waste materials associated with removal of these structures to be emitted near any schools; there would, therefore, be no impact to schools. However, given that bridges may contain lead or asbestos, demolition waste could create a significant hazard to the public therefore this topic will be addressed further in the EIS/EIR.

Exposure during and following construction to air borne emissions of dust derived from rocks containing naturally occurring asbestos would be potentially harmful to humans. The general location where rocks containing natural occurrences of asbestos is known. However, examination of more detailed geologic maps and, perhaps, site examinations, would be needed to assess the significance of this potential impact should naturally occurring asbestos be present, including areas within 0.25 mile of a school. This topic will be addressed further in the EIS/EIR.

d) The Project would not require any construction or operational activities within any known active or inactive hazardous waste sites, and no further analysis is required.

e) The limited use of the two local airports and the short duration that workers constructing the Project would be exposed to noise from aircraft would not result in a significant safety hazard. Noise generation resulting from Project operations would be nearly identical to current operations and would not cause a significant increase in exposure of maintenance workers or other sensitive receptors (e.g., residents) to cumulative noise. Therefore, the Project would not result in a safety hazard or excessive noise for people residing or working in the area, and the impacts would be less than significant. Additionally, once construction is complete, there would not be an increase in the number of workers onsite and the Project would not result in an increase in exposure of people to noise from aircraft. The impact would, therefore, not be directly or cumulatively significant, and no further analysis is required.

f) Temporary road closures would be necessary during construction of replacement crossings over the FKC. Detours would be provided to maintain traffic flow during construction. Although detours would be provided, the use of the detours could be lengthy and impair the implementation of each county's emergency response plans in the event of an emergency. This would be a potentially significant impact and, therefore, will be addressed further in the EIS/EIR.

g) The Project and surrounding area consist mostly of the existing FKC and ROW, road corridors, agricultural land uses such as cultivation of row crops and orchards, and a limited number of residential and commercial uses. Although the use of construction equipment in and around vegetated areas could increase the potential for fire ignition, the potential for an uncontrolled wildland fire in and around the Project is low because, as described in impact discussion XX - Wildfire (c, d) below, the flat topography and lack of brush and grasslands in the area do not induce a potential for fire ignition. Construction of the Project would not expose people or structures to a significant risk of loss, injury, or death involving wildland fire. Operation of the Project would not increase the existing

wildfire potential as operations would be nearly identical to existing conditions. No further analysis is required.

Hydrology and Water Quality

X. HYDROLOGY AND WATER QUALITY — Would the project:

	Potentially Significant Impact	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☒	☐	☐	☐
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would				
i) result in substantial erosion or siltation on- or off-site;	☒	☐	☐	☐
ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	☐	☐	☒	☐
iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☒	☐
iv) impede or redirect flood flows?	☐	☐	☒	☐
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☐	☒
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☒	☐	☐	☐-

Affected Environment/Existing Setting

The Project area is in the Tulare-Buena Vista Lakes watershed (Hydrologic Unit Code 18030012), which drains a 3,787-square-mile area in the southern portion of the San Joaquin Valley. This watershed is further subdivided into distinct hydrologic areas. The Project area intersects, from north to south, portions of the Kaweah Delta, Tule Delta, and North Kern hydrologic areas. Drainages that cross the Project area flow from east to west and include, from north to south, Porter Slough, Tule River, Deer Creek, and White River. The Tulare-Buena Vista

Lakes watershed receives imported water from the upper San Joaquin River watershed via the FKC and Madera Canal.

Porter Slough and the Tule River receive water from Lake Success, which is formed by the impoundment of the Tule River at Success Dam. Porter Slough is directed into an irrigation ditch approximately 1.9 miles to the northwest of the FKC and ultimately joins the Tule River approximately 9.3 miles to the north-northwest of the FKC. The Tule River is the largest natural drainage feature in the area. The Tule River originates in the Sierra Nevada and flows first into Lake Success and then through controlled releases at Success Dam, through Porterville, and into the Lower Tule River Irrigation District, ultimately discharging onto the historical Tulare Lake lakebed during periods of above-normal precipitation.

Deer Creek is a natural drainage that originates in the Sierra Nevada, flowing in a westerly direction north of Terra Bella and into Pixley. Discharges from Deer Creek rarely reach the historical Tulare Lake lakebed. The White River drains out of the Sierra Nevada east of the community of Richgrove in the southern portion of the Tule subbasin. The White River channel extends as far as SR 99 but does not reach the historical Tulare Lake lakebed.

Water quality objectives within the Tulare-Buena Vista Lakes watershed are established by the Tulare Lake Basin Plan. Water delivered to Friant Division contractors is representative of water quality conditions at Millerton Lake: generally soft with low mineral and nutrient concentrations (U.S. Bureau of Reclamation and California Department of Water Resources 2012). Adequate control to protect the quality of the water resources describe above is essential, as imported surface water supplies contribute nearly half the increase of salts occurring within the Tulare Lake Basin, the drainage area of the San Joaquin Valley south of the San Joaquin River (California Regional Water Quality Control Board 2018).

Buena Vista Lake and Tulare Lake, natural depressions on the valley floor, receive flood water from the Kern, Kaweah, and Tule Rivers during times of heavy runoff. The basin is essentially closed due to surrounding topography, and surface water from the Tulare Lake Basin drains north into the San Joaquin River only in years of extreme rainfall. Besides the above-mentioned rivers, the watershed also contains numerous mountain streams. Streams on the east side of the valley are fed by Sierra snowmelt and springs from granitic bedrock. All native surface waters within the watershed have designated beneficial uses. Normally, all native surface water supplies, imported water supplies, and direct precipitation percolate into valley groundwater if not lost through consumptive use, evapotranspiration, or evaporation (California Regional Water Quality Control Board 2018).

Because of the closed nature of the Tulare Lake Basin, there is little subsurface outflow. Thus, salts accumulate within the Basin due to importation and evaporative use of the water. The paramount water quality problem in the Basin is the accumulation of salts. This problem is compounded by the overdraft of groundwater for municipal, agricultural, and industrial purposes; the use of water from deeper formations and outside the basin further concentrates salts within the remaining groundwater (California Regional Water Quality Control Board 2018).

The majority of the western side of the FKC is within Federal Emergency Management Agency flood Zone X, which is considered outside the 0.2 percent annual chance floodplain (DWR

2019). The segment of the FKC that crosses under Orange Belt Drive is designated as flood Zone AO (area subject to 1 percent annual chance flood with flood depths of 1 to 3 feet [usually sheet flow on sloping terrain]; average depths determined). The segment of the FKC that crosses underneath Porterville Creek is designated as flood Zone 100-IC (area where the 1 percent annual chance flooding is contained within the channel banks and the channel is too narrow to show to scale). The segment of the FKC that crosses underneath the Tule River is designated as flood Zone A (area subject to 1 percent annual chance flood; no Base Flood Elevations determined) and flood Zone AE (area subject to 1 percent annual chance flood; Base Flood Elevations determined). The southernmost portion of the existing FKC from County Line Road (Avenue D) to Lake Woollomes traverses through an area that is designated as flood Zone A (DWR 2019).

The eastern side of the FKC is mostly designated as flood Zone X in the northern portion, and flood Zone A in the southern portion from W. Scranton Avenue to Lake Woollomes, including the crossings at Deer Creek and White River (DWR 2019).

Discussion of Environmental Consequences/Impacts

a, ci) Construction activities would be continuous over a 3-year period. Construction related to the Project would entail excavation, grading, and other ground-disturbing activities that would expose and disturb soils, resulting in the potential for increased erosion caused by wind or rainfall. To accommodate Project facilities, construction would be required in Deer Creek and White River. Construction within the stream crossings would occur during no-flow conditions whenever practicable to avoid or minimize impacts on water quality. Additionally, as described in impact discussion VII – Geology and Soils (b) above, implementation of a state-required SWPPP would further reduce water quality impacts from construction activities; however, even with these measures in place, impacts on water quality could be significant. This topic will be addressed further in the EIS/EIR.

b,e) As described above in the impact discussion for (a, ci), increased erosion in Deer Creek and White River may occur due to construction activities. Increased erosion in Deer Creek and White River could conflict with, or obstruct implementation of, the Tulare Lake Basin Plan, which could potentially be significant. This topic will, therefore, be addressed further in the EIS/EIR.

It is expected that groundwater would be encountered during excavation. Temporary dewatering wells would be installed to pump out localized groundwater and lower the water table during site excavation. The quantity of water displaced during dewatering is expected to be small, and the duration of the dewatering is expected to be short. Dewatering would thus not create a cumulatively considerable impact to the groundwater supply in the region.

Restoration of the FKC would have a beneficial impact on water resources and could potentially reduce the degree to which water contractors rely on groundwater supplies. Therefore, the Project would not cause a decrease in groundwater supplies or impede, conflict with, or obstruct implementation of sustainable groundwater management of the

basin. Impacts on the groundwater supply resulting from the Project would be less than significant, and no further analysis is required.

cii-iv) Construction activities would require the removal and replacement of existing drainages and waterways. Construction within White River and Deer Creek would occur, to the extent practicable, during the dry season when both streams are dry. Existing waterways, culverts, and agricultural drainages would be restored to pre-project conditions and would not alter existing drainage patterns such that there would be increased erosion or flooding or contribution or runoff water that would exceed the capacity of existing drainage systems. Restoration of the FKC's conveyance capacity would not create or contribute additional runoff but rather would improve the canal's ability to convey flood flows, further reducing potential flood impacts. Additionally, given that existing drainages would be restored to pre-project conditions, the Project would not impede or redirect flood flows or provide substantial additional sources of polluted runoff. The impact would, therefore, be less than significant, and no further analysis is required.

d) The Project area is not located in a tsunami or seiche zone, but is in a low flood zone. Construction-related activities would require the use of fuels and lubricants, and construction staging areas could contain small amounts of these types of pollutants. The use of pollutants within the Project area, however, would not cause a significant impact, as it is not expected that staging areas would be inundated from flood flows during construction. Additionally, as described in impact discussion VII – Geology and Soils (b) above, implementation of a state-required SWPPP would further reduce the potential for pollutants to be released. Project operation does not include the storage or use of contaminants; periodic inundation of the Project due to flooding would, therefore, not cause a release of pollutants. The impacts would be less than significant, and no further analysis is required.

Land Use and Planning

XI. LAND USE AND PLANNING — Would the project:

		Potentially Significant Impact	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
a)	Physically divide an established community?	☐	☐	☐	☒
b)	Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☒	☐	☐	☐

Affected Environment/Existing Setting

The Project is located in rural portions of Tulare and Kern counties. Land uses in these counties range from high-density urban cities to mountainous and high desert open spaces. Regionally, the linear FKC is the dominant existing land use feature.

The unincorporated community of Strathmore and the city of Porterville are located adjacent to the FKC in Tulare County. Land uses within these communities consist of residential, rural residential, and light manufacturing. The majority of the lands outside of these communities in the Project area are zoned for agriculture. Similarly, much of the land in the Project area is designated for agriculture in both counties' general plans. Currently, the dominant crops adjacent to the FKC are vineyards, citrus, and pistachios. There are isolated areas adjacent to the FKC that are zoned for light manufacturing, residential, and rural residential (Tulare County 1947, 2019; Kern County 2017, 2019).

Discussion of Environmental Consequences/Impacts

a) Construction would require the acquisition of approximately 510 acres of new ROW to accommodate Project features that would encroach onto adjacent agricultural land; however, the ROW would not encroach into established communities. Several roadways cross the FKC, and bridge crossings of the FKC would require replacement. These would primarily be replaced with inverted siphon crossings. Some roads may require temporary closures; however, detours would be provided and, upon completion of the Project, the roads would be reopened and their use restored to prevent community division. Given that closures would be temporary, there would not be a cumulatively considerable impact to established communities, and the impacts would be less than significant. No further analysis is required.

b) As discussed above in Section II – Agricultural and Forest Resources, the Project would require the permanent conversion of some lands that are currently in agricultural operations to nonagricultural uses, which could result in impacts due to conflicts with existing land use plans, policies, and regulations in Tulare and Kern counties. Conversion of agricultural lands to other uses could be a significant impact. The potential impacts will be evaluated further in the EIS/EIR.

Mineral Resources

XII. MINERAL RESOURCES — Would the project:

		Potentially Significant Impact	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
a)	Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☒	☐
b)	Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☐	☒

Affected Environment/Existing Setting

Tulare and Kern counties have mineral resources, such as sand, gravel, crushed rock, natural gas, and oil. Within Tulare County, Tule River and Deer Creek, both of which cross the FKC, are classified as MRZ-3 (DOC, CGS 1997). Lands designated as MRZ-3 are defined by the Department of Conservation, Division of Mines and Geology, Office of Mine Reclamation as "areas containing mineral occurrences of undetermined mineral resource significance" (DOC, CGS 2017). There are no lands in the area that have a zoning classification of MRZ-2, which is defined as "areas where adequate information indicates that significant mineral deposits are present, or where it is judged that a high likelihood for their presence exists" (DOC, CGS 2017). The Project is not located in an area of a locally important resource recovery site (Kern County 2004, Tulare County 2008). An aggregate plant is in operation on Deer Creek approximately 9 miles east of the FKC.

Discussion of Environmental Consequences/Impacts

a,b) The Project would not result in any impacts to Tule River. The check structure that would be constructed in Deer Creek would be similar in size to the existing structure and would be similarly used. The relatively small footprint of the structure (less than 0.5 acre) and its continued use of the structure consistent with existing conditions would not result in the loss of availability of a potential mineral resource within Deer Creek. No further analysis is required.

Noise

XIII. NOISE -- Would the project result in:

		Potentially Significant Impact	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
a)	Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☒	☐	☐	☐
b)	Generation of excessive groundborne vibration or groundborne noise levels?	☒	☐	☐	☐
c)	For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☒	☐

Affected Environment/Existing Setting

Land uses surrounding the Project area are mostly rural agricultural, with some rural residential and single-family residential tracts. Residences are primarily located in the unincorporated community of Strathmore and the city of Porterville, which are outside the Project area, but near the FKC. Potentially affected sensitive receptors exist adjacent to the Project area, but the number of those sensitive receptors is limited. Given that sound levels decrease with increasing distance from the source, a distance of 100 feet was used to identify sensitive receptors near the Project area. Sensitive noise receptors within 100 feet of the existing FKC alignment include occasional residences and one school, Burton Middle School in Porterville. Neither the City of Porterville nor Kern County has ordinances limiting noise associated with construction activities; however, Tulare County's General Plan limits construction noise to the hours of 7 a.m. to 7 p.m., Monday through Saturday, and requires that construction contractors implement best practices guidelines to avoid or minimize construction-related noise impacts to the extent practicable (Tulare County 2012). According to Tulare County General Plan HS-8.2, Noise Impacted Areas, the County shall designate areas as noise-impacted if exposed to existing or projected noise levels that exceed 60 dB Ldn or the Community Noise Equivalent Level [CNEL]) at the exterior of buildings (Tulare County 2012).

The existing noise environment is generally influenced by transportation noise from vehicle traffic on local roads, agricultural equipment operations, and occasional aircraft as well as natural sounds such as from birds, insects, and wind. Section IX – Hazards and Hazardous Materials describes the two airports located within 2 miles of the Project area.

Discussion of Environmental Consequences/Impacts

a) Construction would occur Monday through Friday between sunrise and sunset (generally 7 a.m. to 7 p.m.). It is expected that up to nine construction teams, each consisting of an average workforce of 15 to 30 people, would work on separate sections of the Project at any point in time. Construction activities would not be continuous in any one location, but instead would vary as construction activities move from site to site. The exact type of construction equipment that would be used is currently unknown; however, on-site construction equipment would likely include haul trucks, concrete trucks, pump trucks, excavators, front loaders, graders, compactors, and rollers. Based on the assumption that such construction equipment would be used, noise levels for individual equipment are expected to range from 77 to 85 decibels at 50 feet and would attenuate at farther distances. Operations would be similar to existing conditions and would not result in permanent or long-term noise increases above existing ambient levels. However, construction activities could exceed ambient noise levels in excess of standards, and further evaluation will be required in the EIS/EIR.

b) Construction activities could have the potential to generate excessive ground borne vibration from the use of construction equipment; therefore, the potential impacts will be evaluated further in the EIS/EIR.

c) See impact description Section IX – Hazards and Hazardous Materials (e). The limited use of the two local airports and the short duration that construction workers would be exposed

to noise from aircraft would not result in excessive noise exposure for people working in the area. Project operations would be nearly identical to current operations and would not cause a permanent or cumulatively considerable increase in exposure of maintenance workers to aircraft noise. Therefore, the impacts would be less than significant, and no further analysis is required.

Population and Housing

XIV. POPULATION AND HOUSING — Would the project:

		Potentially Significant Impact	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
a)	Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b)	Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Affected Environment/Existing Setting

The Project area is surrounded by agriculture and a limited number of residences. The majority of residences are located adjacent to the FKC in the unincorporated community of Strathmore and the city of Porterville. Water deliveries to water contractors along the segment of the FKC in the Project area are mainly for agricultural uses, with a minimal number of municipal and industrial clients in the upstream portion of the FKC.

Discussion of Environmental Consequences/Impacts

a) A project could induce growth if it would remove an obstacle to unplanned growth and development. This could occur through removing a constraint to development or adding an additional public service. Restoring the middle reach of the FKC would not result in unplanned growth due to the availability of a new source of water but rather would restore the capacity to continue to convey existing water supplies that are a basis for existing planning. Construction workers would likely come from the existing construction work force within the Project area. It is expected that up to nine construction teams consisting of an average workforce of 15 to 30 people would work on separate sections of the Project at any one time, a number that would not require construction workers to move from outside the area. Therefore, the Project would not directly or indirectly induce population growth. There would, therefore, be no impact, and no further analysis is required.

b) The Project would not displace substantial numbers of existing people or houses. While some amount of land would be acquired to extend the ROW to accommodate the Project, land acquisition would not result in the displacement of people or require the construction

of replacement housing. Therefore, no impact would occur, and no further analysis is required.

Public Services

XV. PUBLIC SERVICES — Would the project:

		Potentially Significant Impact	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
a)	Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:				
	Fire protection?	☐	☐	☐	☒
	Police protection?	☐	☐	☐	☒
	Schools?	☐	☐	☐	☒
	Parks?	☐	☐	☐	☒
	Other public facilities?	☐	☐	☐	☒

Affected Environment/Existing Setting

The portions of the Project located in unincorporated portions of the affected counties are served by county fire protection and police departments. Emergency services are provided by county and local fire protection and police departments, as well as by hospitals located throughout the vicinity of the Project area. Porterville is served by the city's police and fire departments.

Discussion of Environmental Consequences/Impacts

a) **Police and Fire Protection:** The Project does not include or require new fire departments or police stations or the expansion of existing fire and police protection facilities. Implementation of the Project would not directly induce population growth in the region that would require expanded fire or police protection facilities. Construction activities would involve a temporary increase in employment opportunities. However, employment opportunities associated with the construction of the Project are assumed to be filled by the local workforce and would not result in an increased housing demand, as discussed in the Population and Housing impact analysis. Additionally, operations of the Project would not

change from existing conditions and would not affect police or fire department operations. No further analysis is required.

Schools: Implementation of the Project would not directly induce population growth in the region. No new full-time employees would be required to operate facility components; therefore, there would be no demand for new housing units that could generate school-age children and no new schools would be needed to maintain acceptable performance objectives. Because the Project would not require the construction of new schools, no impacts related to school construction would occur, and no further analysis is required.

Parks and Other Public Facilities: Implementation of the Project would not include any park, recreation, or other public facilities and would not directly induce population growth. No new full-time employees would be required to operate facility components; therefore, there would be no demand for new housing units that could generate a demand for new or expanded recreational or other public facilities. Because implementation of the Project would not require the construction of new parks or other public facilities, no impact would occur, and no further analysis is required.

Recreation

XVI. RECREATION — Would the project:

		Potentially Significant Impact	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
a)	Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b)	Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒

Affected Environment/Existing Setting

The FKC is not designated for recreational use, and there are limited recreational facilities within the vicinity of the FKC. The only recreation facility in the Project area is Lake Woollomes, which is located at the southernmost portion of the Project area. Its primary use is as an equalizing reservoir for the FKC; however, Kern County leases the lake for recreational purposes such as picnicking, fishing, and boating.

Discussion of Environmental Consequences/Impacts

a,b) Implementing the Project would not generate demand for recreation facilities nor would it require the construction or expansion of recreational amenities. Lake Woollomes would not

receive a substantial number of additional recreational visits as a result of implementing the Project. Implementation of the Project would not restrict access to the lake or require construction activities at or in Lake Woollomes. Therefore, no impacts on existing recreational facilities, parks, or existing or future recreational opportunities would occur, and no further analysis is required.

Transportation

XVII. TRANSPORTATION — Would the project:

		Potentially Significant Impact	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
a)	Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☒	☐	☐	☐
b)	Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	☐	☐	☒	☐
c)	Substantially increase hazards to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
d)	Result in inadequate emergency access?	☒	☐	☐	☐

Affected Environment/Existing Setting

There are multiple improved road crossings over the FKC in the vicinity of the Project area, the majority of which are in Tulare County. There are also four unimproved road crossings underneath which the FKC passes through a siphon. Most of the roads are narrow, county-owned, undivided two-lane collector and local roads used primarily to distribute traffic between local streets and arterials and for access to agricultural and residential land. Two unnamed roads crossing the FKC in Tulare County and one unnamed road in Kern County are primarily for agricultural land access; crossings at these locations are via single-lane, unpaved bridge structures. State highways that cross the FKC include SR 65 and SR 190 in Tulare County and SR 155 in Kern County.

The importance of regional agriculture has led the Tulare County Association of Governments to identify specific routes, or Farm to Market (FTM) routes, throughout the county. This network of roads is subject to at least 300 truck trips per day (Tulare County Association of Governments 2018). FTM routes connect local farms to the state highway system and, ultimately, national and international markets. FTM roads that cross the FKC include Avenue 196, Avenue 128, Road 192, East Terra Bella Avenue (J24), Avenue 56, Avenue 24, and Avenue 8 (Tulare County Association of Governments 2018).

Discussion of Environmental Consequences/Impacts

a,d) Construction-related vehicles would temporarily increase traffic on roadways surrounding the Project area. The majority of the traffic associated with the Project would be from worker vehicles and haul trucks transporting construction materials and equipment to and from the Project area. It is expected that the workforce for the Project as well as the materials necessary to construct the Project would be generated from one of the populated areas within an approximately 50-mile range (e.g., Bakersfield). Worker vehicles and delivery trucks would not substantially increase the number of vehicles on existing roadways and would not affect the circulation systems within the counties.

Temporary closures of roads would be necessary as new roadway crossings for the new, realigned canal are constructed and when existing bridges are demolished. Detours, some of which may be lengthy, would be provided to maintain traffic flow, including for commuters, emergency vehicles, agricultural equipment, bicycles, and pedestrians throughout the region. Up to four designated FTM routes in Tulare County (Avenue 192, Avenue 128, East Terra Bella Avenue, and Sierra Avenue/County Line Road) could be affected by temporary road closures during construction. Given the potential to affect transportation routes during construction, impacts on transportation and traffic would be potentially significant and will be addressed further in the EIS/EIR. Reclamation and FWA will coordinate with the Tulare County and Kern County transportation agencies prior to and during construction. Once construction is completed, trips to conduct O&M activities would not substantially increase from existing levels. Operational impacts would, therefore, be less than significant, and no further analysis is required.

b) The Project is neither a land use project (e.g., the project would not result in new or increased land uses such as residential development) or a transportation project (e.g., the project would not result in new or expanded transportation corridors or developments). Evaluating the project for either of those criteria under CEQA Guidelines section 15064.3 (b) would, therefore, not be appropriate.

As described in impact descriptions a and d above, most of the traffic associated with the Project would be from worker vehicles and haul trucks transporting construction materials and equipment to and from the Project area. It is expected that the workforce for the Project as well as the materials necessary to construct the Project would be generated from one of the populated areas within an approximately 50-mile range (e.g., Bakersfield). It is expected that, during the peak construction of the Project, there would be up to 150 workers onsite generating traffic throughout the Project area. Once construction is complete, however, traffic volumes associated with O&M would be consistent with existing conditions.

Construction activities would be dispersed throughout the 33-mile Project area instead of at one centralized area; worker vehicles and haul trucks would, therefore, be distributed throughout the various major roadways and major and minor collector roads in the Project area. Given the proximity of the Project area to several major roadways and major and minor collector roads as well as their accessibility, the temporary increase in traffic caused by construction vehicles would not conflict with or be inconsistent with CEQA Guidelines

section 15064.3, subdivision (b). The impacts would, therefore, be less than significant, and no further analysis is required.

c) The new canal would cross existing roads via buried siphons that would be constructed within the newly acquired ROW. These crossings would not have design features that would increase hazards or introduce incompatible uses. There would, therefore, be no impact, and no further analysis is required.

Tribal Cultural Resources

XVIII. TRIBAL CULTURAL RESOURCES — Would the project: cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

		Potentially Significant Impact	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
a)	Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	☒	☐	☐	☐
b)	A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☒	☐	☐	☐

Affected Environment/Existing Setting

Cultural resources investigations and Native American outreach did not identify any traditional cultural resources (TCRs) within or near the Project APE nor any evidence to suggest that they may be present in the APE. However, outreach and consultation with Native American tribes and individuals is ongoing.

Discussion of Environmental Consequences/Impacts

a,b) Assembly Bill 52 provides specific guidelines regarding tribal consultation by state lead agencies as part of CEQA compliance and states that the lead agency shall conduct consultation with any California Native American tribe that requests consultation and is culturally and traditionally affiliated with the geographic area of a proposed project. According to Public Resources Code section 21080.3.1, consultation shall occur prior to the determination of whether a negative declaration, mitigated negative declaration, or environmental impact report is required for a project.

A TCR is defined at PRC subsection 21074 as:

(a) "Tribal cultural resources" are either of the following:

(1) Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:

(A) Included or determined to be eligible for inclusion in the CRHR.

(B) Included in a local register of historical resources as defined in subdivision (k) of Section 5020.1.

(2) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Section 5024.1. In applying the criteria set forth in subdivision (c) of Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.

(b) A cultural landscape that meets the criteria of subdivision (a) is a tribal cultural resource to the extent that the landscape is geographically defined in terms of the size and scope of the landscape.

(c) A historical resource described in Section 21084.1, a unique archaeological resource as defined in subdivision (g) of Section 21083.2, or a "nonunique archaeological resource" as defined in subdivision (h) of Section 21083.2 may also be a tribal cultural resource if it conforms with the criteria of subdivision (a).

There is a potential for significant project-related impacts on tribal cultural resources. These impacts will be further analyzed in the EIS/EIR.

Utilities and Service Systems

XIX. UTILITIES AND SERVICE SYSTEMS — Would the project:

		Potentially Significant Impact	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
a)	Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☒	☐	☐	☐
b)	Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☐	☒

		Potentially Significant Impact	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
c)	Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
d)	Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☒	☐
e)	Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☐	☒

Affected Environment/Existing Setting

There are numerous utilities located in, along, and across the Project area, including irrigation canals, elevated pipeline canal crossings, overhead power lines, adjacent wells, drainage siphons, and irrigation crossings that go under the canal, as well as utilities that are connected to existing bridges.

There are two active landfills near the Project area in Tulare County: (1) the Visalia Landfill located approximately 30 miles northwest of the Project area, with a permitted disposal capacity of 18.6 million cubic yards and a remaining capacity of approximately 14.8 million cubic yards (CalRecycle 2019a); and (2) the Teapot Dome disposal site located adjacent to the FKC, with a permitted disposal capacity of 8.3 million cubic yards and a remaining capacity of approximately 712,000 cubic yards (CalRecycle 2019b). In Kern County, the closest landfill to the Project area is the Shafter-Wasco landfill located approximately 30 miles southwest of the Project area. The Shafter-Wasco landfill has a permitted capacity of 21.9 million cubic yards, of which approximately 7.9 million cubic yards of capacity remains (CalRecycle 2019c). All three landfills are permitted to accept construction waste and non-friable asbestos. Waste Management's Kettleman Hills Facility is a fully permitted 1,600-acre hazardous waste treatment, storage, and disposal facility, with 695 acres permitted for activity related to Class I (hazardous) waste (DTSC 2019). The facility is located approximately 70 miles west of the Project area.

Discussion of Environmental Consequences/Impacts

a) The Project would not create a new demand on water, wastewater treatment, stormwater drainage, electric power, natural gas, or telecommunications facilities; however, implementation of the project would require the relocation or replacement of several utilities that traverse the FKC. Depending on the location and extent of canal modifications, these utilities would either be relocated or entirely replaced. It is estimated that up to 10 miles of existing overhead electrical power and telephone equipment would be relocated or replaced. It is anticipated that relocation of poles and electrical lines would be performed

by the utility owner; however, the anticipated footprint of these newly relocated facilities would be within the same disturbance area as the Project and would not cause potentially significant impacts beyond those already identified for other resource topics. The already-identified impacts will be analyzed in the EIS/EIR, but further analysis of utilities and service systems is not required. If utility relocations are required outside the Project area, additional environmental analysis may be needed.

b,c) Construction and operation of the Project would not result in a demand for new water supplies nor would it result in the generation of new wastewater, and no further analysis is required.

d,e) Excavation associated with using the existing FKC eastern embankments as a source of material to construct the new canal would require demolition of the existing concrete canal lining. The concrete lining would be demolished as necessary for construction of the new canal, the embankments would be used as a source of borrow fill material, and the concrete lining on the canal side slopes would be re-used as road base material as needed. The unused remainder of the side slopes lining would be buried in place, along with the lining on the bottom of the canal. Other demolition debris from existing facilities and structures such as bridges would be tested for hazardous materials such as lead and asbestos and handled in accordance with federal, state, and local regulations. Operations would include general O&M and would not result in the generation of additional waste beyond current operations.

Given the adequate capacity of the nearby landfills and the relatively small amount of solid waste that would require disposal, local landfills would be able to accommodate the solid waste generated by construction of the Project. The Project would not conflict with local management statutes and regulations related to solid waste; therefore, further analysis of this resource is not required.

Wildfire

XX. WILDFIRE — If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:

		Potentially Significant Impact	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
a)	Substantially impair an adopted emergency response plan or emergency evacuation plan?	☒	☐	☐	☐
b)	Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☐	☒

		Potentially Significant Impact	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
c)	Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☐	☒
d)	Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☐	☒

Affected Environment/Existing Setting

In the event of an emergency, both Tulare County and Kern County rely on their respective Emergency Operations Plans to provide organizational structure and guidance through emergencies. Neither county specifies evacuation routes in rural areas. Emergency evacuation routes are determined by the location and the type of the emergency. The Project area is in the San Joaquin Valley, which has a low potential for wildfire. The Project area is not located in a state-designated fire severity zone (California Board of Forestry and Fire Protection 2019). Within Tulare County, the FKC traverses a portion of the county that is mostly classified as having a low threat for wildfire, with some small isolated portions of land classified as having a high threat for wildfire (Tulare County 2010). The highest potential for wildfire is in the foothills and mountainous areas in the eastern parts of the two counties, which contain steep terrain and naturally volatile or hot-burning vegetation including brush and grasslands (Kern County 2004, Tulare County 2010). The topography of the Project area is nearly level.

Discussion of Environmental Consequences/Impacts

a) Temporary road closures would be necessary during construction of replacement crossings over the FKC. Detours would be provided to maintain traffic flow during construction. Detours could be lengthy and could impair the implementation of each county's emergency response plans in the event of an emergency, which would be a significant impact. This topic will be addressed further in the EIS/EIR.

b) Given the nearly level topography of the Project area and vicinity, there would be no potential for post-fire landslides or flooding; therefore, further analysis is not required.

c,d) The Project area and vicinity consist mostly of the existing FKC and ROW, road corridors, agricultural land uses such as cultivation of row crops and orchards, and a limited number of residential and commercial uses. Although the use of construction equipment in and around vegetated areas would increase the potential for fire ignition, the potential for an uncontrolled fire in and around the Project area is low because of the flat topography and lack of brush and grasslands. Bridges would be demolished within, and utilities would be relocated to, areas of identical terrain (e.g., flat and lacking grasslands). Construction of the

Project would not increase the potential for exposure of any populations to pollutants associated with wildfire and would not require the installation or maintenance of infrastructure that may exacerbate fire risk or result in temporary ongoing impacts to the environment. Operation of the Project would not increase the existing wildfire potential. Miscellaneous small motorized equipment would be maintained for safe operation, and further analysis is not required.

Mandatory Findings of Significance

XXI. MANDATORY FINDINGS OF SIGNIFICANCE (To be filled out by Lead Agency if required)

		Potentially Significant Impact	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
a)	Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☒	☐	☐	☐
b)	Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☒	☐	☐	☐
c)	Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☒	☐	☐	☐

Discussion of Environmental Consequences/Impacts

As discussed in the preceding sections, the Project has a potential to result in potentially significant impacts on agricultural resources, air quality, biological resources, cultural resources, energy, geology/soils, greenhouse gasses, hazardous materials, hydrology and water quality, land use, noise, transportation, tribal cultural resources, utilities and service systems, and wildfire, some of which could be cumulatively considerable. It is expected that, for some resources, mitigation measures can be developed to reduce potential impacts to a less than significant level. However, in some cases, significant unavoidable impacts may occur. All resources with potentially significant impacts will be further analyzed in the EIS/EIR.

Federal Disclosure Requirements

Department of the Interior Regulations, Executive Orders, and Reclamation guidelines require a discussion of the following items when preparing environmental documentation.

Indian Sacred Sites

Sacred sites are defined in Executive Order 13007 (May 24, 1996) as "any specific, discrete, narrowly delineated location on federal land that is identified by an Indian tribe, or Indian individual determined to be an appropriately authoritative representative of an Indian religion, as sacred by virtue of its established religious significance to, or ceremonial use by, an Indian religion; provided that the tribe or appropriately authoritative representative of an Indian religion has informed the agency of the existence of such a site." Reclamation is in the process of consulting with potentially affected Tribes and will address any potential effects on Sacred Sites should any occur in the Project area.

Indian Trust Assets

Indian Trust Assets are legal interests in assets that are held in trust by the United States for federally recognized Indian tribes or individuals. There are no Indian reservations, rancherias, or allotments in the Project area. The nearest Indian Trust Asset iis a parcel of tribal land owned by the Tule River Indian Tribe above Lake Success near the Tule River which will not be directly affected by Project activities. Reclamation is in the process of consulting with potentially affected Tribes and will address any potential effects on Indian Trust Assets should any occur in the Project area.

Environmental Justice

Executive Order 12898 requires each federal agency to identify and address disproportionately high and adverse human health or environmental effects, including social and economic effects of its program, policies, and activities on minority populations and low-income populations.

Although the Project could potentially remove approximately 500 acres of agricultural land from production, the overall Project would support continued agricultural production in the Project area. Furthermore, the Project would address capacity constraints in the FKC that limit conveyance of floodwaters when needed, reducing potential impacts from flooding. Therefore, the Project would not have a disproportionately negative impact on low-income or minority individuals or populations within the Project area, and further analysis is not required.

The Project would not cause dislocation, changes in employment, or increase flood, drought, or disease nor would it disproportionately impact economically disadvantaged or minority populations, and further analysis is not required.

List of Agencies and Persons Consulted

Reclamation and FWA is or will be consulting/coordinating with the following regarding the Project:

- U.S. Fish and Wildlife Service
- U.S. Army Corps of Engineers
- Central Valley Regional Water Quality Control Board
- California Department of Fish and Wildlife
- California Department of Transportation
- California State Historic Preservation Officer
- San Joaquin Valley Air Pollution Control District
- Tulare County
- Kern County
- Tribes
- Friant Division Long-Term Contractors

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Acronyms and Abbreviations

BMPs	best management practices
BPS	best performance standards
CARB	California Air Resources Board
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
cfs	cubic feet per second
CNDDB	California Natural Diversity Database
CRHR	California Register of Historical Resources
CGP	Construction General Permit
EA/IS	Environmental Assessment/Initial Study
EIS/EIR	Environmental Impact Statement/Environmental Impact Report
FKC	Friant-Kern Canal
FTM	Farm to Market Routes
FWA	Friant Water Authority
GHGs	greenhouse gases
LUST	leaking underground storage tank
MP	milepost
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act of 1966
NRDC	Natural Resources Defense Council
NRHP	National Register of Historic Places
O&M	operations and maintenance
$PM_{2.5}$	particulate matter 2.5 microns or smaller

PM_{10}	particulate matter 10 microns in size or smaller
PRC	Public Resources Code
Project	Friant-Kern Canal Middle Reach Capacity Correction Project
Reclamation	U.S. Department of Interior, Bureau of Reclamation
ROW	right-of-way
Settlement	Stipulation of Settlement in NRDC, et al., v. Kirk Rodgers, et al.
SGMA	Sustainable Groundwater Management Act
SJRRP	San Joaquin River Restoration Program
Settlement Act	San Joaquin River Restoration Settlement Act
SJVAPCD	San Joaquin Valley Air Pollution Control District
SR	State Route