City Of Merced Wastewater Collection System Master Plan

DRAFT ENVIRONMENTAL IMPACT REPORT

CHAPTER 3.4 BIOLOGICAL RESOURCES

September 2020

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3.4 BIOLOGICAL RESOURCES

3.4.1 Basis for Analysis

The California Environmental Quality Act (CEQA) Guidelines' Appendix G Environmental Checklist was used during the Notice of Preparation (NOP) scoping process (included in Appendix A) to identify the Program components that have the potential to cause a significant impact. The following potential impacts were determined to warrant further evaluation within this Environmental Impact Report (EIR):

- 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 Wildlife (CDFW) or United States Fish and Wildlife Service (USFWS);
- Have a substantial adverse effect on any riparian habitat or other sensitive natural communities identified in local or regional plans, policies, and regulations or by the CDFW or USFWS;
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance or potential to conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance or potential to conflict with the provisions of an adopted Habitat Conservation Plan (HCP), Natural Community Conservation Plan (NCCP), or other approved local, regional, or state HCP;
- 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; or
- 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.

The remainder of this section describes the regulatory and environmental baseline setting to support the evaluation of the potential impacts and describes the potential impacts on the existing biological resources that may result from implementation of the Program including mitigation for significant impacts, where feasible.

3.4.2 Regulatory Framework

This section discusses the federal and state regulations and local policies and objectives applicable to biological resources potentially affected by the Program and proposed Projects.

3.4.2.1 Federal

Endangered Species Act of 1973

The federal Endangered Species Act (FESA) was passed by Congress in 1973 to protect and recover imperiled species and the habitat upon which they depend. The FESA is administered by USFWS and the National Oceanic and Atmospheric Administration (NOAA), which includes the National Marine Fisheries Service (NMFS). Under the FESA, protected species are either listed as "endangered," in danger of extinction throughout all or a significant region of the species range; or as "threatened," likely to become endangered within the foreseeable future (16 United States Code [USC] section 1531 et seq.). The FESA also designates "candidate" species as those plants and

animals that USFWS has sufficient data regarding their biological status to propose them to be listed under the FESA. Candidate species do not receive statutory protection under the FESA, but cooperative conservation activities are encouraged (16 USC Section 1531 et seq., USFWS 2017a).

The FESA mandates the protection of federally listed species and the habitats on which they depend (50 Code of Federal Regulations [CFR] 17.12 for listed plants, 50 CFR 17.11 for listed animals, and various notices in the Federal Register for proposed species). Specifically, USFWS and NMFS can designate critical habitats (i.e., Designated Critical Habitat [DCH]) that are to be protected from disturbances, essential to conservation, and/or are representative of the historical geographical and ecological distributions of a federally protected species. DCH only affects federal agency actions and federally funded and permitted activities. DCH does not affect activities by private landowners if there is no federal "nexus" (i.e., a link such as federal funding or federally issued permit) to activities by a federal agency (16 USC section 1531 et seq., USFWS 2017b).

Pursuant to the FESA, USFWS and NMFS have authority over projects that may affect the continued existence of a federally listed threatened or endangered species. Section 9 of the FESA and federal regulations prohibit the "take" of federally listed species. "Take" is defined as, "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct." In addition, USFWS requires that federal agencies avoid "destruction" and "adverse modification" to any DCH for a species when "prudent and determinable" (USFWS 2017b).

Consultation with the USFWS under Section 7 of the FESA would be necessary if a federal action (such as a federal permit or federal funding) is part of the proposed action and the project is likely to adversely affect federal species or DCH. For projects with no federal nexus, the project proponent may choose to consult with USFWS and obtain incidental "take" authorization under Section 10 of the FESA and possible preparation of an HCP if the project is likely to result in death or injury to a listed species (USFWS defines likely as "reasonably certain to occur"), or if the project would modify critical habitat, and all three of the following conditions are met: 1) The habitat modification must be significant; 2) The modification must impair an essential behavior (such as feeding, breeding, or sheltering); and 3) The behavior impairment must result in the likelihood of an actual injury or death. No Incidental Take Permit (ITP) is required under the FESA for activities that involve habitat modification alone unless all three of these conditions are met (USFWS 2018a).

Migratory Bird Treaty Act of 1918 and the Bald and Golden Eagle Protection Act

The Migratory Bird Treaty Act (MBTA) (16 USC Section 703-711) and the Bald and Golden Eagle Protection Act (BGEPA) (16 USC Section 668) protect specific species of birds and prohibit intentional take (i.e., harm or harassment) when the purpose of an activity is to take migratory birds, the eggs, or nests (USFWS 2018b, USFWS 2018c). The MBTA protects migratory birds from take through the setting of hunting limits and seasons and protecting occupied nests and eggs. BGEPA prohibits the take or commerce of any part of the bald or golden eagle (USFWS 2018c). The USFWS administers both acts and reviews actions that may affect the species protected.

Clean Water Act Section 401

The U.S. Environmental Protection Agency (USEPA) regulates surface water quality in waters of the United States (WOTUS) under Section 401 of the federal Clean Water Act (CWA). CWA Section 401, Water Quality Certification, provides states and authorized tribes with an effective tool to help protect the physical, chemical, and biological integrity of water quality by providing them an opportunity to address the aquatic resource impacts of federally issued

permits and licenses (33 USC section 1341). CWA Section 401 states that no federal permit or license can be issued if a proposed action may result in a discharge to WOTUS, unless the USEPA, relevant tribe, or the state certifies that the discharge is consistent with standards and other water quality goals or waives certification (33 USC section 1341). Section 401 of the CWA is required for any project that produces a federal action with construction that could have an impact on surface water quality. In California, jurisdictional authority has been delegated to the Regional Water Quality Control Board (RWQCB) (USEPA 2016a). If a project does not require a federal license or permit but does involve activities that may result in a discharge of harmful substances to waters of the state (WOTS), the RWQCB has the option to regulate such activities under its state authority in the form of Waste Discharge Requirements or Certification of Waste Discharge Requirements (California Water Code Section 13000 et seq., SWRCB 2018).

Clean Water Act Section 404

The U.S. Army Corps of Engineers (USACE) and USEPA regulate the discharge of dredge or fill material into WOTUS under Section 404 of the CWA. The term "fill" is broadly defined in the CWA, and WOTUS include wetlands, lakes, rivers, streams, and their tributaries. Wetlands are defined for regulatory purposes as areas inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated solid conditions (33 CFR 328.3; 40 CFR 230.3). If a project discharges any fill materials into WOTUS, including wetlands, before and after the project actions, then a permit must be obtained from the USACE (USEPA 2017).

3.4.2.2 State

California Endangered Species Act

The CDFW has jurisdiction over species listed as threatened or endangered under section 2080 of the California Fish and Game Code (FGC). The California Endangered Species Act (CESA), enacted in 1970, prohibits take of state-listed threatened and endangered species. CESA differs from the FESA in that it does not include habitat destruction in its definition of take. The FGC defines take as, "[to] hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill" (FGC Section 86).

With projects where state-listed species are or have the potential to be present, consultation with CDFW ensures that a project or associated actions would not have a negative effect on state-listed species. During consultation, CDFW determines whether take would occur and identifies "reasonable and prudent alternatives" for the project to ensure adequate conservation of special status species. CDFW can authorize take of a state-listed species under Sections 2080.1 and 2081(b) of the FGC in those cases where it is demonstrated that the impacts are minimized and mitigated. Take authorized under Section 2081(b) must be minimized and fully mitigated. An ITP is required to authorize take of a state-listed species that would occur either during construction or over the life of the project. CDFW also maintains lists for candidate species to be listed under CESA. California candidate species are afforded the same level of protection as threatened or endangered species listed under CESA (CDFW 2018a). California also designates species of special concern (SSC), which are species of limited distribution; declining populations; diminishing habitat; or unusual scientific, recreational, or educational values. These species do not have the same legal protection as state-listed species but may be added to official lists in the future (CDFW 2018b).

In the 1960s, prior to the enactment of the CESA, California created a designation to provide protection to rare species. This designation remains today and is referred to as "Fully Protected" species, which "may not be taken or possessed at any time" (CDFW 2018c).

The Native Plant Protection Act: California FGC Section 1900 et seq.

The Native Plant Protection Act (NPPA) (FGC Section 1900 et seq.) was enacted in 1977 and is administered by CDFW. The NPPA prohibits take of endangered, threatened, or rare plant species native to California, with the exception of special criteria identified in the FGC. A "native plant" means a plant growing in a wild uncultivated state which is normally found native to the plant life of the state. Under the FGC, species become endangered, threatened, or rare when the plants' prospects of survival and reproduction are in immediate jeopardy for one or more causes (FGC Section 1900 et seq). "Rare" species can be defined as species that are broadly disturbed but never abundant where found, narrowly disturbed or clumped yet abundant where found, and narrowly disturbed or clumped and not abundant where found. If potential impacts are identified for a proposed project activity, then consultation with CDFW, permitting, and other mitigation may be required. Endangered, threatened, and rare plant species can be identified through the California Native Plant Society's (CNPS) California Rare Plant Rank (CRPR) (CNPS 2018a).

Nesting Migratory Birds and Raptors: California FGC Sections 3503, 3503.5, and 3800

Sections 3503, 3503.5, and 3800 of the FGC prohibit the take, possession, or destruction of birds, their nests, or eggs. Implementation of the take provisions requires that project-related disturbance at active nesting territories be reduced or eliminated during critical phases of the nesting cycle. Disturbances that cause nest abandonment, loss of reproductive effort (e.g., killing or abandonment of eggs or young), or the loss of habitat upon which the birds depend is considered taking and is potentially punishable by fines and/or imprisonment (FGC Sections 3503-3503.5).

Lake and Streambed Alteration Agreement: California FGC Sections 1600-1616

To protect, manage, and conserve rivers, streams, lakes, wetlands, etc., CDFW has jurisdictional authority under FGC Sections 1600-1616 to regulate all work under the jurisdiction of the state. Such work includes those actions that would substantially divert, obstruct, or change the natural flow of a river, stream, or lake; substantially change the bed, channel, or bank of a river, stream, or lake; or use material from a streambed. In practice, CDFW marks its jurisdictional limit at the top of the stream or lake bank, or the outer edge of the riparian vegetation (where present) and extends its jurisdiction to the edge of the 100-year floodplain (FGC Sections 1600-1616). CDFW authorizes activity within its jurisdictional authority by entering into a Lake and Streambed Alteration Agreement (LSAA) with an applicant and can impose conditions on the agreement to ensure that no net loss of wetland values or acreage would be incurred. The LSAA is not a permit, but a mutual agreement between CDFW and the applicant (CDFW 2018d).

California Environmental Quality Act: CEQA Guidelines Section 15380

The CEQA Guidelines provide protection for federal- and state-listed species, as well as species not listed federally or by the state that may be considered rare, threated, or endangered, if the species can be shown to meet specific criteria outlined in CEQA Guidelines Section 15380(b). Species that meet these criteria can include "candidate species," species "proposed for listing," and Species of Conservation Concern. Plants appearing on CRPR are considered to meet CEQA's Section 15380 criteria. Impacts on these plants would therefore be considered significant and would require mitigation (CDFW 2018e).

Section 15380 was included to address a potential situation in which a public agency is to review a project that may have a significant effect on a "candidate species," for example, which has not yet been listed by the USFWS or CDFW. Therefore, CEQA enables an agency to protect a special status species from significant project impacts until the respective government agencies have had an opportunity to list the species as protected, if warranted (CDFW 2018e).

Porter-Cologne Water Quality Control Act

Waters of the state are regulated by the RWQCB under the State Water Quality Certification Program. The State Water Quality Certification Program regulates discharges of dredged and fill material to WOTUS through the CWA Section 401 process (as described in Section 3.4.2.1, Federal) but also regulates waters of the state defined as required by the Porter-Cologne Water Quality Control Act. Waters of the state are defined as "any surface water or groundwater, including saline waters, within the boundaries of the State." The RWQCB protects all waters in its regulatory scope but has special responsibility for isolated wetlands and headwaters that may not be regulated by other programs, such as Section 404 or 401 of the CWA. Projects that require a Section 404 CWA permit, or fall under other federal jurisdiction, and have the potential to impact waters of the state are required to comply with the terms of the Section 401 Water Quality Certification Program. If a project does not require a federal license or permit but does involve activities that may result in a discharge of harmful substances to waters of the state, the RWQCB has the option to regulate such activities under its state authority in the form of Waste Discharge Requirements or Certification of Waste Discharge Requirements (California Water Code Section 13000 et seq.; SWRCB 2018).

California Oak Woodlands Conservation Act: California FGC Sections 1360-1372, Public Resource Code 21083.4

The California Oak Woodland Conservation Act (COWCA) defines an oak as "any species in the genus *Quercus*" and an oak woodland as "an oak stand with greater than ten percent canopy cover, or that may have historically supported greater than ten percent canopy cover" (FGC Sections 1360-1372). The COWCA is designed to "support and encourage voluntary, long-term private stewardship and conservation of California's oak woodlands by offering landowners financial incentives to protect and promote biologically functional oak woodlands over time" (FGC Sections 1360-1372), as mandated by the Wildlife Conservation Board (WCB). WCB has established grant programs, such as the California Oak Woodlands Conservation Program, that are designed to protect and restore oak woodlands using conservation easements, cost sharing and long-term agreements, technical assistance, and public education and outreach (WCB 2018).

CEQA Public Resources Code (PRC) Section 21083.4 requires counties to determine whether projects within their jurisdiction may result in significant impacts on the environment due to the conversion of oak woodlands and requires that counties adopt specified mitigation measures for significant impacts to oak woodlands. The requirement applies to non-commercial native oak trees with a 5 inches or greater diameter at breast height (DBH), approximately 4.5 feet above ground level. Oaks less than 5 inches DBH would still be subject to any conservation measures contained in applicable local ordinances or general plans.

3.4.2.3 Local

Merced Vision 2030 General Plan

The City of Merced (City) 2030 General Plan (2030 General Plan), adopted January 3, 2012 (City of Merced 2012) contains several policies that directly or indirectly pertain to biological resources within the Program Study Area, including the following:

Goal Area OS-1: Open Space for the Preservation of Natural Resources

- **Policy OS-1.1.** Identify and mitigate impacts to wildlife habitats which support rare, endangered, or threatened species.
- **Policy OS-1.2.** Preserve and enhance creeks in their natural state throughout the planning area.
- **Policy OS-1.4.** Improve and expand the City's urban forest.

3.4.3 Environmental Setting

A combination of desktop analysis and reconnaissance-level field studies were performed to identify existing biological resources in the Program Study Area, including existing biological resources within the footprints of the Program and proposed Projects to support the assessment of potential Program and proposed Project impacts. Sensitive biological resources, such as special status plant and wildlife species; sensitive natural communities; jurisdictional wetlands including vernal pools, streams, and drainages; and wildlife corridors, were identified by desktop analysis within the Program Study Area and by site spot-check reconnaissance-level field survey. The methodology for establishing the setting and the results of the setting review are included below.

3.4.3.1 Methodology

Defining Special Status Species

Special status species are defined as follows:

- Species listed, formally proposed, or designated as candidates for listing as threatened or endangered under the Federal Endangered Species Act (50 CFR 17.12 for listed plants, 50 CFR 17.11 for listed animals, and various notices in the Federal Register for proposed species);
- Species that are listed, formally proposed, or designated as candidates for listing by California as threatened or endangered under the CESA (14 California Code of Regulations [CCR] 670.5);
- Plants listed as rare under the California Native Plant Protection Act of 1977 (FGC Section 1900 et seq.);
- Plants considered by the CNPS to be Rank 1- a) "plants presumed extirpated in California and either rare or extinct elsewhere, or b) "rare, threatened, or endangered in California and elsewhere";
- Plants considered by CNPS to be a Rank 2- a) Plants presumed extirpated in California, but common elsewhere, or b) "rare, threatened, or endangered in California and common elsewhere";
- Bird species designated by USFWS as Birds of Conservation Concern or protected under the MBTA;

- Wildlife species designated as SSC or Fully Protected by CDFW;
- Plant and wildlife species that are designated as "special animals" or "those of greatest conservation need", by CDFW through the California Natural Diversity Database (CNDDB); and
- Species that meet the definition of rare, threatened, or endangered under Section 15380 of the CEQA guidelines.

Establishing the Biological Setting

The following resources were used to identify special status plant species, wildlife species, and associated habitats that occur or have the potential to occur within a biological study area (BSA) defined as a 5-mile search area surrounding the Program Study Area or the nine- U.S. Geological Survey (USGS) 7.5-minute quadrangles (quads) that are within and surround the Program Study Area including Winton, Yosemite Lake, Haystack Mountain, Arena, Atwater, Merced, Planada, Turner Ranch, Sandy Mush, El Nido, and Plainsburg (USGS nine-quad area):

- Fire and Resource Assessment Program (FRAP) land cover classification data to assess the amount and extent of California's forests and rangelands within the BSA (CAL FIRE 2012);
- Classification and Assessment with Landsat of Visible Ecological Groupings (CALVEG) classification system of existing vegetation to preliminarily identify vegetation types within the Program Study Area (USDA 2018);
- CNDDB records search of special status species observations within the BSA (CDFW 2020b);
- CNPS online Inventory of Rare and Endangered Plants of California within the USGS nine-quad area (CNPS 2020);
- USFWS list of federally proposed, candidate, threatened, and endangered species within the BSA (USFWS 2020a);
- USFWS list of Birds of Conservation Concern (BCC) within the BSA (USFWS 2020a);
- USFWS Critical Habitat data for federally threatened and endangered species within the BSA (USFWS 2020b);
- The National Wetland Inventory (NWI) to identify potential wetlands, potential WOTUS, and associated habitats, that may occur within the Program Study Area (USFWS 2020c); and
- Soil data, including hydric soil assessments for wetland habitat, was assessed and mapped using the United States Department of Agriculture (USDA) Web Soil Survey of the Program Study Area (USDA 2017).
- A February 11, 2019 site spot-check reconnaissance-level biological resources field survey ("field survey") of target locations within the Program Study Area and specific proposed Project areas.

Desktop Review

The sources identified above were then used to establish pertinent environmental setting details relevant to assessing potential impacts associated with implementation of the Program and the proposed Projects The desktop information was reviewed to develop a broad understanding of the vegetation types and potential special status species within the BSA. Specifically, to classify the vegetation communities in the BSA, the CALVEG and FRAP systems were used to establish broad vegetation communities and landcover. The broad classifications were then

refined with Program Study Area queries of known communities and special status species databases as well as previous EIRs for completed in the area (Merced 2010; Merced 2012).

General Spot-Check Reconnaissance-Level Biological Resources Field Survey

The refined classifications of the desktop review were then verified by the February 11, 2019, field survey. The February 11, 2019, field survey was conducted by a qualified botanist and wildlife biologist who performed a general spot-check at a reconnaissance level of the biological resources within the immediate area surrounding the Project Areas and made general observations of the Program Study Area. The survey focused on locations with the Program Study Area where Program components are proposed that are likely to contain sensitive areas, such as stream crossings, special status species habitat, wildlife corridors, and other areas where a potentially significant effect on biological resources could occur. The botanist and wildlife biologist confirmed, further characterized, and evaluated the vegetation communities and habitats occurring within the Program Study Area assessing the potential for these areas to support the identified special status plant and wildlife species, habitats, or communities.

Assessing Special Status Species Presence

This the site condition assessment was then used to further assess the potential for each special species to occur within the Program Study Area. The "potential for occur" ratings were defined by the following classifications:

- **High:** The Program Study Area provides ideal habitat conditions for the special status species and/or includes known populations of the species. Or species were observed during site surveys.
- **Moderate:** The Program Study Area provides suitable habitat for the special status species.
- **Low:** The Program Study Area provides limited habitat for the special status species.
- **Very Low to Nonexistent:** The Program Study Area provides limited to no suitable habitat for the special status species and/or is outside the species known range (geographically and/or based on elevation).

3.4.3.2 Results

The overall review of the BSA through field and desktop review is documented in this section. This information forms the basis of the environmental setting and provides the information that is necessary to reasonably assess potential impacts to biological resources within the Program Study Area. (Appendix C).

Land Cover, Habitat, and Vegetation Community Assessment

The Program Study Area lies within the Central Valley and the California Floristic Province, which is characterized by a Mediterranean climate, with cool, wet winters and hot, dry summers. Elevations within this area range from 153 feet above mean sea level (amsl) near the City's Wastewater Treatment and Reclamation Facility (WWTRF) to 208 feet amsl near the junction of State Route (SR) 140 and Kibby Road. The Program Study Area can be classified as a mix of rural residential disturbed areas with predominantly agricultural and disturbed or ruderal land covers made-up of non-native herbaceous vegetation communities (USDA 2018; CAL FIRE 2012; Merced 2006; Merced 2012; February 11, 2019 Field Survey). When not located along paved roads, the Northern Trunk Sewer Project is located on a mix of predominantly agricultural and non-native grassland land covers and lands classified as rural residential – disturbed – ruderal. Similarly, when not located within paved roads the majority of the proposed Southern Trunk

Sewer Project is predominantly located on agricultural lands characterized as rural residential – disturbed lands – ruderal. The WWTRF is classified as predominantly ruderal and disturbed lands with agricultural cover on the southern portion of the property. These land cover types and vegetation communities, located within the Program Study Area and specifically associated hydrologic features, sensitive habitats, special status species, and wildlife movement corridors that may be impacted are discussed under the subheadings below.

Agricultural

Agricultural lands are the dominant land cover type scattered throughout the Program Area outside the City limits. Agricultural land covers are found along the rural roadways and adjacent to rural residential areas within the Program Study Area. Agricultural land cover types typically include lands where farming and other agricultural practices take place. These practices may include orchards, pastures, vineyards, rice fields, row crops, and other unidentified croplands. Agricultural practices observed throughout the Program Study Area include flood-irrigation, cultivation, and spraying, followed by harvesting and discing. After discing, some fields may remain fallow for periods of time, allowing for the establishment of annual and biennial native and non-native annual grasses and broad-leaved plants. Common agricultural commodities that are produced within the Program Study Area include dairy, almonds, poultry, beef, sweet potatoes, tomatoes, corn silage, grapes for wine, alfalfa, and nurseries.

Rural Residential – Disturbed Lands – Ruderal

The second most predominant land cover type common in the Program Study Area as a whole is rural residential – disturbed – ruderal, which is defined as lands influenced by human activity and disturbance, rural and urban residences, and commercial and industrial areas. Developed land covers include commercial, residential, public and industrial buildings, roadways, schools, utilities, and parking lots. There are also a number of undeveloped lots and open spaces throughout the Program Study Area. In areas that may be impacted by the Program, much of the landscape is disturbed, and where vegetation occurs, non-native species as well as naturalized ornamental species and escaped garden cultivars are dominant. Ornamental plantings are largely made up of introduced woody trees, shrubs, and herbaceous species used in general residential, business, and roadside landscaping. Commonly observed species at the time of surveys included almond, cherry, and plum species (*Prunus* spp.); bull thistle (*Cirsium vulgare*); bur chervil (*Anthriscus caucalis*); coastal heron's bill (*Erodium cicutarium*); common mustard (*Brassica rapa*); Italian thistle (*Carduus pycnocephalus*), and oleander (*Nerium oleander*). Some of these introduced ornamental species have become locally naturalized. This land cover type is not classified as a biological vegetation community; however, its presence within the Program Study Area is noteworthy.

Non-Native Annual Grassland

Non-native annual grasslands land cover type is present throughout the Program Study Area. In areas that could be impacted by the Program this land cover type typically occurs within and adjacent to the ROWs of roads and in areas absent of agricultural fields and crops. This land cover type is an invasive herbaceous biological vegetation community dominated by non-native and often invasive annual grass species, particularly in disturbed and ruderal areas. The establishment of these species is usually due to anthropogenic activities, including livestock grazing, recreation, and development. These grasslands often have reduced biodiversity and habitat suitability for native species. Species composition in non-native annual grassland habitats is similar to those exhibited in pastures and row crop composites. Common non-native annual grasses and other herbaceous species observed at the time of field surveys include clover species (*Trifolium* spp.), common mustard, common sowthistle (*Sonchus oleraceus*),

dandelion species (*Agoseris* spp.), fiddleneck species (*Amsinckia* spp.), hairgrass species (*Deschampsia* sp.), prickly lettuce (*Lactuca serriola*), redstem stork's bill, brome grass (*Bromus* spp.), slender oat (*Avena barbata*), and brome grass species.

Riparian Assemblages

Riparian type plant species documented within the Program Study Area are primarily low stature hydrophytic species (rushes [*Juncus* sp.], ferns), including along and within the various MID ditches, canals, and detention ponds. Opportunistic and invasive species such as Himalayan blackberry, that grow in regularly maintained canals are typically not considered a sensitive natural community because they typically occur in disturbed areas and displace native plant species (Cal-IPC 2019). In addition, the regular and ongoing maintenance and operations of MID facilities and the marginal riparian canopy and potentially high velocity flows present in canals and ditches provide extremely limited habitat for non-special status fish, amphibian, and bird species. Further, no amphibian or fish species were documented in the review of various wildlife databases (e.g., CNDDB), nor during the field surveys conducted within the proposed Project areas.

Riparian vegetation within the Program Study Area varies as it is found along the hydrological features such as Fahrens, Bear, Black Rascal, Cottonwood, Miles, and Owens Creeks. Riparian zones generally provide high-value habitat for a variety of plants and animals and are also known to be areas of high productivity (City of Merced 2010). Riparian areas may provide migration corridors, roosting habitat, and valuable reproductive areas, in addition to food and water for both plants and wildlife.

Within the riparian areas found throughout the Program Study Area, willows (*Salix* spp.) and cattails (*Typha latifolia*) are the dominant plant species. Other species include Fremont's cottonwood (*Populus fremontii*) and Himalayan blackberry (*Rubus armeniacus*). Riparian areas tend to be dense, with vegetation communities dominated by shrubs and associated with running water and wet conditions (City of Merced 2010). Blue elderberry (*Sambucus mexicana*), the host plant of the federally threatened valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*) exists along Bear Creek (City of Merced 2010).

Although there are various Merced Irrigation District (MID) ditches, canals, and detention ponds throughout the Program Study Area, most MID features possess a muddy or concrete substrate and lack riparian vegetation, though there are occasional patches of cattails. Water flow and levels are generally seasonal and not consistent, which does not support adequate plant and wildlife habitat year-round; however, it may be beneficial to seasonal or migratory species (City of Merced 2010).

Wetlands and Other Hydrologic Features

The Program Study Area receives water from two primary sources: local rainfall and runoff from the Sierra Nevada mountain range to the east, which impacts both surface and groundwater resources (City of Merced 2012). Bear Creek flows east to west through central Merced. In addition, Black Rascal, Cottonwood, Miles, and Owens Creeks form the main drainage systems that flow through the Program Study Area (City of Merced 2010). Several MID ditches, canals, and detention ponds also exist throughout the Program Study Area. Seasonal wetlands and vernal pools often support special status plants and animals that have evolved to specialize in these habitats. However, due to habitat loss resulting from agricultural and residential development, much of the Central Valley, which was once dominated by seasonal wetlands, has become mostly fragmented (City of Merced 2010). There is DCH associated

with these vernal pool communities within the Program Study Area, and several known special status species occur within these areas. No DCH, seasonal wetlands, or vernal pools were identified within the specific Project areas or are anticipated within much of the area the Program would be implemented. Several MID ditches, canals, and detention ponds also exist throughout the Program Study Area and within the Project Areas. Lastly, there is a lacustrine habitat, Yosemite Lake, located adjacent to the northeastern boundary about 1.5 miles to the northeast of the Program Study Area with a high concentration of seasonal wetlands and vernal pools (City of Merced 2010; USFWS 2020c).

A section of the forcemain associated with the Northern Trunk Project would cross under Fahrens Creek in the approximately 0.2-mile segment of pipeline that spans the overland section of the alignment between West Cardella Road and East Cardella Road and under Bear Creek and Little Rascal Creek in between Santa Fe Drive and Highway 140. The proposed Northern Trunk Sewer Project would also cross under Hartley Slough just prior to reaching the existing WWTRF. In addition, the proposed Northern and Southern Trunk Sewer Projects would be located adjacent to and/or cross existing MID canals.

Special Status Species Habitats and Other Common Species

As described for the individual land cover types, the proposed Project areas are predominantly made up of agricultural and disturbed and ruderal areas, which have a lower potential to support special status or common wildlife species. However, portions of the Program Study Area include habitats that may support special status species and other common wildlife species. Creeks, irrigation canals, seasonal wetlands, and vernal pools occur within the Program Study Area, with a predominant presence of vernal pools and wetlands in the northeast portion of the Program Study Area (City of Merced 2006). These features are generally associated with DCH that provides suitable habitats (for all life-cycle stages: breeding, feeding, nesting, foraging, and migration) for a variety of special status plant and wildlife species. The Program Study Area has the potential to support a variety of these both special status and common species that may use these habitats during all stages of their life-cycles. For example, typical bird species associated with riparian habitat in this region include songbirds such as northern flicker (*Colaptes auratus*), white-crowned sparrow (*Zonotrichia leucophrys*), song sparrow (*Melospiza melodia*), black phoebe (*Sayornis nigricans*), yellow-rumped warbler (*Setophaga coronata*), and spotted towhee (*Pipilo erythrophthalmus*). Common mammal species expected to occur in this habitat type include raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), and Virginia opossum (*Didelphis virginiana*) (City of Merced 2010).

No special status species were observed in the Program Study Area, and specifically, none were observed within the proposed Project areas during the February 11, 2019 field survey. However, the common wildlife species that were observed include western scrub-jay (*Aphelocoma californica*), brown-headed cowbird (*Molothrus ater*), red-winged blackbird (*Agelaius phoeniceus*), red-tailed hawk (*Buteo jamaicensis*), and California ground squirrel (*Otospermophilus beecheyi*). Based on vegetative communities and habitat characteristics within the Program Study Area and adjacent areas, special status species that may occur within the Program Study Area include Swainson's hawk (*Buteo swainsoni*) and burrowing owl (*Athene cunicularia*) as well as other common species such as mule deer (*Odocoileus hemionus*), red-shouldered hawk (*Buteo lineatus*), coyote (*Canis latrans*), and Valley gartersnake (*Thamnophis sirtalis fitchi*).

Wildlife Corridors

Wildlife movement corridors have been recognized by USFWS and CDFW as important habitats worthy of conservation. Wildlife corridors provide migration channels seasonally (i.e., between winter and summer habitats); provide non-migratory wildlife the opportunity to move within their home range for food, cover, and reproduction; and allow for dispersal for individuals to colonize new areas (City of Merced 2010). Vegetation communities and biological communities within the Program Study Area have the potential to support wildlife movement. Specifically, the Program Study Area includes or is located adjacent to vegetation communities in association with riparian, wetland and stream channels and may be considered highly favored habitats to a variety of wildlife species. Other contributing factors that are useful for wildlife migration include undisturbed and continuous expanses of land. Although the majority of the Program Study Area is considered rural, it is largely developed for agricultural purposes and is fragmented by human-made features such as fences, canals, busy roadways (i.e., Highway 99, SR 140, and SR 59), residential areas, and other local land uses. According to CDFW's Terrestrial Connectivity dataset accessed through CDFW's Biogeographic Information and Observation System (BIOS), most of the Program Study Area is ranked as having "limited connectivity opportunity" (e.g., land use limits connectivity options and no connectivity importance identified in models). The northwestern and western region of the Program Study Area falls within the categories of having "connections with implementation flexibility" and "conservation planning linkages," which are areas that have connectivity importance or often represent the best connections between natural habitats to maintain habitat connectivity, respectively (CDFW 2020a). However, there are no designated movement corridors located within the borders of the Program Study Area (City of Merced 2010).

Special Status Species Assessment

As described in Section 3.4.3.1, Methodology, known occurrences of special status plant and wildlife species were queried for the BSA. A total of 71 species (counting nesting migratory birds and raptors as one) were identified. All 71 species identified have known occurrences or possibility to occur within the BSA (within 5 miles of the Program Study Area) were considered for their potential to occur within the Program Study Area (Appendix C, Table C.1). These 71 species can be categorized as follows:

- Thirty-three special status plant species;
- Six special status invertebrate species;
- One special status fish species;
- Four special status reptile species;
- Two special status amphibian species;
- Five special status mammal species; and
- Nineteen special status bird species.

The screening of these species for potential to occur in the Program Study Area, identified four species with high or moderate potential to occur and an additional five species as having a high regional profile despite their low potential to occur. As shown in the following subsections and Table 3.4-1, all eight of these species were wildlife species and no special status plant species were identified.

Special Status Plants

The desktop review of special status plant species identified 33 species known to or with potential to occur within the BSA (See Appendix C, Table C.1). Of these 33 species, all were determined to have a low or nonexistent potential to

occur within the Program Study Area. The habitat requirements for the 33 species were assessed and cross referenced with the land cover types, suitable habitats identified within the Program Study Area, site conditions, field survey results, and land use, soil types, and water sources. Limited to no suitable habitat was found for any of the plant species identified, and therefore, the 33 species are considered to have a low or very low to a nonexistent potential to occur within the Program Study Area (Appendix C, Table C.1) and thereby, within the proposed Project areas too. Additionally, no species were observed during the field survey conducted on February 11, 2019, it is noted, however, there are limitations on the field survey results since they were conducted outside the typical bloom period for the identified species which may mean the special status plant species were undetectable at the time of the survey.

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Table 3.4-1: Special Status Plant and Wildlife Species with High Profiles or Determined to Have a Moderate to High Potential to Occur within the Program Study Area

Common name Scientific name	Legal status			Geographic Distribution/ Floristic Province	Preferred Habitat	Identification Period	Level of Potential to Occur Within the Program Study Area
	Federal	State	CNPS				
Amphibians							
California tiger salamander *Ambystoma californiense*	T, X	T, WL	N/A	Central Valley, and additional isolated populations: Gray Lodge NWR, Sonoma County, and Santa Barbara County. 9-3,500 feet (3-1,067 meters)	Upland grassland, oak savanna, edges of mixed woodland and coniferous forest with vernal pools and ephemeral or perennial ponds for breeding.	Year-round, breed December−February	**Low.** Limited to no suitable breeding habitat (i.e., seasonal pools or ponds) within the Program Study Area, and habitat is mostly located to the northeast, in the vicinity of the UC Merced Campus. There are known occurrences of breeding CTS within 5 miles of the Program Study Area (CDFW 2020b); however, occurrences are located farther than their known dispersal distance of up to 1 mile from breeding habitat (USFWS 2017f). No suitable breeding habitat was observed within the proposed Project areas and no CTS were observed during the February 11, 2019 field survey.
Birds							
Burrowing owl *Athene cunicularia*	BCC	SCC	N/A	Year-round in southeastern California and the Central Valley. Also winters in arid coastal and foothill areas and can be found in northeastern California in the summer.	Open, dry annual or perennial grasslands, deserts, and scrublands with by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, California ground squirrel.	Year-round	**Moderate.** Suitable nesting habitat and foraging habitat for burrowing owl exists in the agricultural fields in the eastern part of Merced County and in areas within and adjacent to the Program Study Area. According to the desktop review, there have been nine occurrences from 2000 through 2017 within 5 miles of the Program Study Area (CDFW 2020b). Four observations from 2006 to 2007 were documented within approximately 1 mile of the Program Study Area, located northeast of the intersection of South Thornton Road and West Dickenson Ferry Road. The February 11 2019 field survey included a habitat assessment for burrowing owl, and although the habitat assessment was conducted outside of the burrowing owl's typical breeding season, no evidence of presence (i.e., tracks, molted feathers, cast pellets, prey remains, egg shell fragments, owl white wash, etc.) was observed within or directly adjacent to the proposed Project areas.
Swainson's hawk *Buteo swainsoni*	BCC	T	N/A	Northwestern and western United States and Canada (breeding)	For nesting, scattered stands of trees near agricultural fields and grasslands.	Breeding (March–September)	**Moderate.** Suitable nesting habitat and foraging habitat for Swainson's hawk exists in the agricultural fields in the eastern part of Merced County and surrounding Program Study Area. According to CNDDB, there have been 16 known occurrences of Swainson's hawk from 1994 to 2016 within 5 miles of the Program Study Area (CDFW 2020b). No Swainson's hawk were observed during the field survey conducted on February 11, 2019; however, Swainson's hawk are migratory and typically inhabit California during breeding season each year (CDFW 2016).
Tricolored blackbird *Agelaius tricolor*	BCC	T, SSC	N/A	Highly colonial species, most numerous in Central Valley and Coastal Range.	Nest in wetlands cattails, willows, agricultural fields, blackberry thickets near stock ponds or irrigated pastures. Forage in cultivated fields and wetlands.	Year-round	**Moderate.** Potential suitable foraging habitat for tricolored blackbird exists in the agricultural fields within the Program Study Area and adjacent to the specific Project areas. There have been seven occurrences from 2005 to 2015 within 5 miles of the Program Study Area (CDFW 2020b); however, none of these are within or in the immediate vicinity of the proposed Project areas. Additionally, no tricolored blackbirds were observed within the Program Study Area or immediately adjacent to the proposed Project areas during the February 11, 2019 field survey.
Other nesting raptors and migratory birds	MBTA	FGC	N/A	Migrants and resident species	Tree, shrub, ground, grassland, and riparian vegetation.	February–August	**High.** Ideal habitat exists within and adjacent to the Program Study Area, providing a high potential of occurrence for birds protected under the MBTA and FGC to nest within the Program Study Area as well as the proposed Project areas. Common migratory bird species that have the potential to nest and forage within or adjacent to the proposed Project areas may include ground nesting species such as killdeer (Charadrius vociferus) and western meadowlark (Sturnella neglecta); shrub or grassland nesting birds such as bushtit (Psaltriparus minimus) and loggerhead shrike (Lanius ludovicianus); and tree/cavity nesters such as western scrub-jay, acorn woodpecker (Melanerpes formicivorus), red tailed hawk, and red-shouldered hawk. A pair of red-tailed hawks were observed practicing nest building behavior within approximately 500 feet of the Northern Trunk Sewer Project during the February 11, 2019 field survey.

Common name Scientific name	Legal status			Geographic Distribution/ Floristic Province	Preferred Habitat	Identification Period	Level of Potential to Occur Within the Program Study Area
	Federal	State	CNPS				
Mammals							
Hoary bat *Lasiurus cinereus*	–	–	N/A	Throughout California from 0−13,200 feet (0−4,125 meters).	Dense foliage, medium to large trees; open habitats or habitat mosaics with access to trees for cover.	Year-round depending on location and temperature	**Low.** Limited suitable habitat within the Program Study Area. There is one known occurrence (from 1918) within 5 miles of the Program Study Area (CDFW 2020b). During the field survey conducted on February 11, 2019, no evidence of special status bat species was observed within or immediately adjacent to the Program Study Area or proposed Project areas. However, limited potential foraging habitat as well as potential roosting habitat such as tree foliage and human-made structures were observed within areas immediately adjacent to the proposed Project areas and within the Program Study Area.
San Joaquin kit fox *Vulpes macrotis mutica*	E	T	N/A	San Joaquin Valley floor and surrounding foothills of the coastal ranges, Sierra Nevada, and Tehachapi mountains.	Inhabits annual grasslands or grassy open stages with scattered shrubby vegetation.	Year-round	**Low.** Limited suitable habitat within the Program Study Area. However, there are four known occurrences of foraging adults within five miles of the Program Study Area. During the field survey conducted on February 11, 2019, no evidence of the SJKF was observed within or immediately adjacent to the Program Study Area or proposed Project areas. Although potential foraging habitat, as well as limited suitable denning habitat, may exist within the Program Study Area, habitat availability is present to a lesser extent within the proposed Project areas.
Western mastiff bat mastiff bat *Eumops perotis californicus*	–	SSC	N/A	Central Valley, Coastal Range, southern and eastern California	Open semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, and chaparral. Roosts in crevices in cliff faces, high buildings, trees, and tunnels.	Year-round	**Low.** Limited suitable habitat within the Program Study Area. There is one known occurrence (from 1991) within 5 miles of the Program Study Area (CDFW 2020b). During the field survey conducted on February 11, 2019, no evidence of special status bat species was observed within or immediately adjacent to the Program Study Area or proposed Project areas. However, limited potential foraging habitat as well as potential roosting habitat such as tree foliage and human-made structures were observed within areas immediately adjacent to the proposed Project areas and within the Program Study Area.

Notes:

Federal

T= threatened under federal Endangered Species Act
E = endangered under federal Endangered Species Act
BCC = bird of conservation concern
MBTA = Migratory Bird Treaty Act
X = Extirpated
– = no listing

State

T = threatened under the California Endangered Species Act
SSC = Species of Special Concern
FGC = Fish and Game Code
WL = Watch List
– = no listing
N/A= Not Applicable

CNPS = California Native Plant Society
NWR = National Wildlife Refuge
Source: Cal EPA 2002, CaliforniaHerps 2018, CDFW 2006, CDFW 2018f–2018h, CDFW 2020b−2020c, CNPS 2018b, Cornell 2018, UC Davis 2018, USEPA 2010, USEPA 2016b, USFWS 2017c–2017f, USFWS 2018d, USFWS 2020a, WBWG 2017

Special Status Wildlife

The desktop review of special status wildlife species within the BSA identified 38 species known to or with potential to occur within the Program Study Area (See Appendix C, Table C.1). Of these 38 species identified, burrowing owl, Swainson's hawk, tricolored blackbird, nesting raptors, and other migratory birds were considered to have a moderate or high potential to occur within the Program Study Area (Table 3.4-1 and Appendix C). No FESA or CESA special status wildlife species were observed within or immediately adjacent to the proposed Project areas or within the Program Study Area during the February 11, 2019 field survey. A pair of MBTA and FGC protected red-tailed hawks were observed practicing nest building behavior within approximately 500 feet of the proposed Northern Trunk Sewer Project alignment during the field survey. The burrowing owl is listed by USFWS as a Bird of Conservation Concern (BBC) and is also listed as a SSC, Swainson's hawk is also a BCC and is designated threatened under CESA, and both burrowing owl and Swainson's hawk, like all nesting raptors and migratory birds, are protected under the MBTA and FGC. In addition, tricolored blackbird, California tiger salamander (*Ambystoma californiense,* CTS), San Joaquin kit fox (*Vulpes macrotis mutica,* SJKF), and special status bat species, while having low potential to occur, are listed under FESA and/or CESA in addition to having a high-profile in the Sacramento/San Joaquin Valley, including known occurrences within 5 miles of the Program Study Area and warrant further consideration for potential impacts within the Program Study Area and the proposed Project areas.

3.4.4 Environmental Impacts

This section analyzes the Program and proposed Project's specific potential to result in significant impacts to biological resources. When a potential impact was determined to be potentially significant, feasible mitigation measures (MMs) were identified to reduce or avoid that impact.

3.4.4.1 Impact Analysis

Impact BIO-1	**Potential to 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 Wildlife or U.S. Fish and Wildlife Service.**

Impact BIO-1 Analysis

Generally, the Program and proposed Projects have the potential to impact the special status species identified in Section 3.4.3.2 and Appendix C, if they were determined to be present within the impact area of a Program or Project activity through habitat modification or potentially direct effect to the species themselves if present within the survey area. As described in Section 3.4.3.1 Methodology and Section 3.4.3.2 Results, the February field survey and database queries were used as screening tools to identify the potential for a species to occur. These tools, however, cannot conclusively eliminate the potential for habitat to be present during the long implementation duration of the Program and even the near-term duration of the proposed Projects. While the likelihood of encountering a special status species during Program and Project implementation is low since most activities would be located underground in existing or future roadways or disturbed areas, the presence of the species, could result in a potential substantial direct or indirect effect to the special status species or their habitat and specific mitigation (BIO MM-1 through BIO MM-10) would be required as described in the following subheadings to mitigation that potential impact.

Program Impacts

Construction

Potential Impacts to Special Status Plant Species

As discussed in the Section 3.4.3.2, Results, 33 special status plant species were identified and assessed for potential to occur within the Program Study Area. Following the analysis of potential suitable habitat characteristics (i.e., site conditions and land use, soil types, and water sources), and an assessment of each individual species' potential to occur within the Program Study Area, all these species were determined to have a low or very low to nonexistent potential to occur. The potential impacts to these species from construction and implementation of the Program were then assessed. Program facilities are reasonably anticipated to be located within future or current ROWs and other disturbed lands throughout the Program Study Area. Program activities are designed to avoid sensitive wetland and riparian habitats through the implementation of trenchless construction methods, that would limit potential impacts to sensitive plants within those communities. As such, the potential for impacts to the identified special status plant species as a result of actions under the Program is low. The likelihood of the Program significantly impacting special status plant populations with a low or nonexistent potential to occur is limited, however, limitations in the field survey (it was conducted outside the bloom period and not protocol-level) combined with the uncertainties associated with the timing and location of the specific Program activities, leave the possibility that a unique population of special status plants could be present and significantly impacted if appropriate precautions are not undertaken.

As a result, pre-construction surveys, as described by MM BIO-1, Pre-Construction Botanical Surveys during the mid-bloom period (i.e., April to June, ideally in May), would be required to confirm the absence or prescribe of special status plant species identified in Appendix C, Table C.1 that could have habitat present within a certain activity under the Program. This survey would need to occur prior to the start of ground disturbing activities in accordance with CDFW survey protocols for the associated plant communities (e.g., grassland, agricultural, riparian, etc.) (CDFW 2018i). MM BIO-1 would effectively avoid or relocate special status plant species subject to potential impacts by Program. Additionally, if special status plant species are identified during preconstruction surveys, implementation of MM BIO-2, Pre-Construction Worker Environmental Awareness Program Training (Biological Resources), would be required to implement a pre-construction Worker Environmental Awareness Program (WEAP) training that would educate construction staff on how to identify these special status species, to stop work in the immediate area in the event of identification, and the steps to avoid or relocate special status species encountered. Therefore, with the implementation of MM BIO-1 and MM BIO-2, direct impacts to special status plant species would be less than significant.

Significant indirect impacts to special status plant species could result if construction equipment or workers were to introduce non-native or invasive species that would have the potential to inhibit the success of native species survivorship by increasing competition for resources. To reduce the potential for spread of invasive noxious species and the potential for their impact on any nearby habitats for special status species, MM BIO-3, Reduce the Spread and Introduction of Invasive Noxious Weeds, would be required. MM BIO-3 would require the City to reduce the potential introduction or spread of invasive noxious weeds by requiring best management practices (BMPs) during construction to appropriately clean and inspect construction equipment brought in from other regions. Implementation

of MM BIO-3 would reduce the potential impact to special status place species from the spread of non-native or invasive species to a less than significant level.

With the implementation of MM BIO-1, MM BIO-2, and MM BIO-3, potential impacts to special status plants would be reduced to a less than significant level.

Level of Significance Prior to Mitigation: Potentially Significant

Mitigation Required: MM BIO-1, MM BIO-2, and MM BIO-3

Level of Significance After Mitigation: Less than Significant

Potential Impacts to California Tiger Salamander

While CTS has a limited potential to occur within the Program Study Area, its designation as a federal and state threatened species makes it a high-profile species warranting further discussion. CTS could be impacted by the activities under the Program if suitable habitat or if the species itself were to occur within areas impacted by Program activities. Construction activities, including trenching and grading, could directly disturb upland or aquatic habitats occupied by CTS, if present. Potentially resulting in a direct impact to individuals while they are above-ground or in underground burrows or an indirect impact by degrading aquatic, upland, or connecting habitats, increasing human presence, or degrading water quality, etc. Because of the proximity to the Program Study Area, known breeding populations of CTS were considered for potential impacts from the Program; however, the potential for impact was considered less than significant because the known occurrences are outside the 1 mile known dispersal distance of CTS, indicating that Program activities would not be likely to encounter a population of CTS (USFWS 2017f). Water features within the Program Study Area are intermittent and have marginal suitable habitat characteristics to support CTS. No CTS were observed within or immediately adjacent to the Project areas during the field survey conducted on February 11, 2019. As such, limited or no suitable habitat exists within the disturbed road ROWs or is anticipated within the disturbed future road ROWs where Program components are proposed to be located. Additionally, Program component design avoids CTS aquatic habitat by implementation of trenchless technologies. Where trenchless technologies are not implemented aquatic and upland breeding habitat has been designed around. Therefore, the potential for impacts to occur to CTS or their habitat as a result of the Program is very low and considered less than significant.

Level of Significance Prior to Mitigation: Less than Significant

Mitigation Required: None Required

Level of Significance After Mitigation: Less than Significant

Potential Impacts to Burrowing Owl

Burrowing owl could be subject to take (including adults, nests, or eggs, and/or the destruction of its burrowing habitat) prohibited by USFWS and CESA based on its listed designations as BCC and SSC. Take or other prohibited impacts could occur directly during construction activities such as grading, discing, cultivation, earth-moving, burrow blockage and crushing, levee maintenance, and flooding or indirectly through activities such as changes in vegetation

management, eradication of host burrowers, the use of pesticides or rodenticides, or the degradation of nesting, foraging, or over-wintering habitats (CDFG 2012).

As described in Section 3.4.3.2, Results, burrowing owl has a moderate potential to occur in the Program Study Area indicating that habitat or the species could be impacted if present within the area surrounding Program activities. The agricultural fields in the eastern portion of Merced County provide suitable nesting and foraging habitat for burrowing owl. There is a potential for Program activities to occur within these areas of habitat which could result in a significant impact to the species if not properly mitigated by following CDFW guidance on mitigation and avoidance as required by MM BIO-4, Avoid Disturbance to Breeding Burrowing Owl (CDFG 2012). This guidance provides the best-known scientific approach to conducting habitat assessments and surveys, as well as general conservation goals and principles for developing effective mitigation for the burrowing owl impacts (CDFG 2012). Consistent with this guidance, MM BIO-4 requires an update to the desktop assessment and a site-specific field suitable nesting habitat assessment of the area within 492 feet (150 meters) of Program activities as they are proposed (CDFG 2012). MM BIO-4 further prescribes conducting and impact assessment and avoidance or mitigation plan in accordance with the CDFW guidance if the species is found or signs of presence are encountered. MM BIO-4 also provides specific methodology for conducting the habitat assessment, breeding season and non-breeding season surveys, as well as conducting the impact assessment consistent with the CDFW guidance document (CDFG 2012).

Additionally, MM BIO-2, Pre-Construction Worker Environmental Awareness Program Training (Biological Resources), would be required to educate site personnel on identifying burrowing owl including their habitat as well as the proper procedures in the event that there was a positive identification, including stopping work immediately and consulting the appropriate regulatory agency for further guidance. Last, MM BIO-7, Avoid Disturbance to Nesting Raptors and Other Migratory Birds, would also be implemented to protect and avoid identified active burrowing owl burrow sites. As a result, no direct or indirect effects are expected to occur to the burrowing owl and impacts would be less than significant with mitigation incorporated.

Level of Significance Prior to Mitigation: Potentially Significant

Mitigation Required: MM BIO-2, MM BIO-4, and MM BIO-7

Level of Significance After Mitigation: Less than Significant

Potential Impacts to Swainson's Hawk

Swainson's hawk could be subject to take (including adults, nests, or eggs, and/or the destruction of its habitat) prohibited by USFWS and CESA based on its listed designations as BCC and threatened. Take or other prohibited impacts could occur directly during construction activities that result in a disturbance to nesting and foraging habitat or indirectly through activities such as changes in degradation of suitable nesting trees, increase in the use of pesticides on crops or a magnification of consumption in birds, or the elimination of foraging habitat (including on agricultural lands, due to development) (CDFW 2018h).

As described in Section 3.4.3.2, Results, Swainson's hawk has a moderate potential to occur in the Program Study Area indicating that habitat or the species could be impacted if present within the area surrounding Program activities and if Program activities were to occur during the species' active period within California (March to September) (CDFW 2016). Swainson's hawk nest sites are generally found in riparian corridor trees or adjacent to agricultural

fields. Swainson's hawks typically feed in agricultural lands or non-native grasslands where rodent and reptile populations may abound (CDFW 2018h). Suitable nesting habitat and foraging habitat for Swainson's hawk exists in the agricultural fields in the eastern part of the Merced County and surrounding Program Study Area. Eucalyptus trees identified within the Program Study Area make suitable nesting habitat and agricultural fields and open lands support small mammals and invertebrates that would support foraging habitat for the species. There is a potential for Program activities to occur within these areas or to impact these habitats which could result in a significant impact to the species if not properly mitigated by following CDFW guidance on mitigation and avoidance as required by MM BIO-5, Avoid Disturbance to Nesting Swainson's Hawk (SHTAC 2000).

MM BIO-5, requires Swainson's hawk surveys be conducted within 0.5 mile of all identified Program construction activities pursuant to the *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley* (SHTAC 2000), the current protocol approved by CDFW, and if an active nest is detected, MM BIO-5 requires agency consultation be conducted to determine specific avoidance and/or compensation measures should be implemented to sufficiently mitigation the impact. MM BIO-5 requires that, "to meet the minimum level of protection for the species, surveys should be completed for at least the two survey periods immediately prior to a project's initiation," consistent with the current CDFW-approved protocol (SHTAC 2000). The protocol outlined in MM BIO-5 determined survey periods by timing of migration, courtship, and nesting in a "typical" year for the majority of Swainson's hawks within the Central Valley (dates may be adjusted in consideration of early and late nesting seasons and geographic differences). With MM BIO-5, construction of the Program and proposed Projects poses a very low risk of impacting nesting Swainson's hawk nesting and foraging habitat either directly or indirectly.

Additionally, implementation of MM BIO-2, Pre-Construction Worker Environmental Awareness Program Training (Biological Resources), and MM BIO-7, Avoid Disturbance to Nesting Raptors and Other Migratory Birds, would provide construction crews training on identification and avoid potential impacts to Swainson's hawk by limiting disturbances. The potential impacts resulting from Program activities would be mitigated for foraging or nesting Swainson's hawk or their habitat since MM BIO-5, MM BIO-2, and MM BIO-7 would provide the successful identification and avoidance of this habitat and species. Therefore, direct and indirect effects related to construction activities associated with Program activities would result in a less than significant impact to Swainson's hawk with mitigation incorporated.

Level of Significance Prior to Mitigation: Potentially Significant

Mitigation Required: MM BIO-2, MM BIO-5, and MM BIO-7

Level of Significance After Mitigation: Less than Significant

Potential Impacts to Tricolored Blackbird

The tricolored blackbird is native to California, requires open water, and therefore is usually found near freshwater marshes, swamps, and wetlands, often close to agricultural areas. Specifically, the species foraging habitat includes a wide area, but adults feeding nestlings typically concentrate foraging efforts on small, highly productive habitats, including shrublands, pasturelands, wetlands, and rice paddies (UC Davis 2018). Potential foraging habitat for tricolored blackbird exists in the unimpacted habitats of the Program Study Area including cultivated fields and wetlands. However, the likelihood of the Program significantly impacting these wetted habitats is limited due to the nature of the Program serving planned developments and the general nature of placing Program infrastructure within

existing or planned road ROWs or other disturbed areas. Program impacts could occur from construction or operation activities directly affecting cultivated field foraging habitat or in indirect ways as degradation of known nesting colony sites by way of water diversions and draining of wetlands, conversion of habitat to agricultural land and urban areas, and the destruction of breeding colonies in grain fields most often adjacent to dairies (UC Davis 2018).No tricolored blackbird were observed within or immediately adjacent to the Program Study Area during the February 2019 field survey; but survey results may be inconclusive since although the species often remains in California during the winter months, they are not typically in the region at this time of year (Shuford and Gardali 2008). It is anticipated that the Program could and would be designed to avoid wetland habitat; however, the potential for direct and indirect impacts, which if they were to occur could be significant, cannot be eliminated.

MM BIO-6, Avoid Disturbance to Breeding Colonies of Tricolored Blackbird, implements the 2015 CDFW *Staff Guidance Regarding Avoidance of Impacts to Tricolored Blackbird Breeding Colonies on Agricultural Fields* (CDFW 2015) primarily designed with agricultural activities in mind and are a starting point to ensure that take is avoided and provide guidance to determine where CDFW should be consulted if there is a potential that “take” may not be avoided during construction activities associated with Program implementation. Consistent with the guidance, MM BIO-6, requires that a pre-construction survey be conducted in suitable nesting habitat within approximately 300 feet of construction activities. MM BIO-6 also requires that if an active breeding colony is observed, CDFW’s guidance be followed. Pursuant to this staff guidance, if a breeding colony is found to be within or adjacent to a construction area, potential avoidance measures available under MM BIO-6 would include establishing a buffer zone, altering the work period to according to their nesting stage, and hazing (CDFW 2015). Each measure is further described in the guidance document and is referenced within MM BIO-6.

Additionally, implementation of MM BIO-2, Pre-Construction Worker Environmental Awareness Program Training (Biological Resources), and MM BIO-7, Avoid Disturbance to Nesting Raptors and Other Migratory Birds, would provide that construction crews are properly trained on potential impacts, avoidance measures, and disturbance to nesting tricolored blackbirds. The potential impacts resulting from Program activities would be mitigated for foraging or nesting tricolored blackbirds or their habitat since MM BIO-6, MM BIO-2, and MM BIO-7 would provide the successful identification and avoidance of this habitat and species. Therefore, direct and indirect effects related to construction activities associated with Program activities would result in a less than significant impact to tricolored blackbirds with mitigation incorporated.

Level of Significance Prior to Mitigation: Potentially Significant

Mitigation Required: MM BIO-2, MM BIO-6, and MM BIO-7

Level of Significance After Mitigation: Less than Significant

Potential Impacts to Nesting Raptors and Other Migratory Birds

Migratory birds and nesting raptors are protected under the MBTA and FGC and have a high potential to occur within and adjacent to the Program Study Area. Common migratory bird species that have the potential to nest and forage within or adjacent to the proposed Project areas may include ground nesting species such as killdeer (*Charadrius vociferus*) and western meadowlark (*Sturnella neglecta*); shrub or grassland nesting birds such as bushtit (*Psaltriparus minimus*) and loggerhead shrike (*Lanius ludovicianus*); and tree/cavity nesters such as western scrub-jay, acorn woodpecker (*Melanerpes formicivorus*), red tailed hawk, and red-shouldered hawk. Although impacts from

construction or operation of Program activities would be incidental, activities during the nesting season (from about February 15 to August 31 for most species within this region) have the potential to cause direct impacts to birds from the loss of habitat and direct fatality, which could directly impact the survivorship of birds, and the removal or disturbance of active nests may result in breeding failure. Birds could be killed, injured, or disturbed by vehicles or equipment from construction activities. Any disturbance resulting in nest abandonment, the loss of eggs, or direct mortality to a nesting bird would be considered a significant impact. However, the implementation of MM BIO-2, Pre-Construction Worker Environmental Awareness Program Training (Biological Resources), and MM BIO-7, Avoid Disturbance to Nesting Raptors and Other Migratory Birds would ensure that protected bird species are identified and appropriately avoided by scheduling disturbance activities outside of the nesting season or by implementing other proscribed avoidance measures that would reduce the potential significance of any potential impact. Therefore, no direct effects are expected to occur to raptors and other migratory birds with mitigation incorporated.

Indirect impacts to birds could result from habitat changes that affect sources of food or breeding suitability. Construction disturbance, such as noise, may cause short-term avoidance of the surrounding area of a Program activity by birds. The introduction of non-native or invasive species could alter breeding or foraging habitat suitability, and habitat fragmentation may impact bird dispersal and increase populations of species that prey on special status birds (e.g., raccoons, brown-headed cowbirds). However, no indirect significant impacts to nesting raptors and other migratory birds protected under the MBTA and the FGC, including special status species, are expected to occur because the Projects would not introduce nonnative or invasive species.

With the implementation of MM BIO-2 and MM BIO-7, potential impacts to nesting migratory birds or raptors would be reduced to a less than significant level.

Level of Significance Prior to Mitigation: Potentially Significant

Mitigation Required: MM BIO-2 and MM BIO-7

Level of Significance After Mitigation: Less than Significant

Potential Impacts to Special Status Bat Species

Two special status bat species were identified as potentially occurring in the Program Study Area: the hoary bat (state rank S4, Apparently Secure) and the western mastiff bat (SSC) with known occurrences within 5 miles of the Program Study Area. However, both species have a low potential to occur within the Program Study Area due to the limited amounts of their preferred roosting habitat, which includes mostly dense foliage, larger trees, and other large structures such as cliff faces and high buildings (WBWG 2017).

Direct impacts to bats by injury or mortality may result from construction activities that destroy roosting habitat (e.g., removing trees, buildings, etc.). Indirect impacts could result from the removal of habitat, including roosting and foraging habitat, which could potentially cause displacement and decrease overall habitat availability. Construction disturbance, such as noise, may cause short-term avoidance of the immediate area surrounding a construction area. Program activities would generally be located in existing or planned roads or other disturbed areas, not likely to require removal of roosting or foraging habitat, and also not likely to require the removal of trees. Further, construction activities would generally take place during the daytime hours and would not impact the potential

foraging of bats in the Project areas or the general Program Study Area that would likely occur during dusk and nighttime hours. However, if it were required, there could be a potentially significant impact.

Implementation of MM BIO-2, Pre-Construction Worker Environmental Awareness Program Training (Biological Resources), and MM BIO-8, Avoid Disturbance to Roosting Bat Species, would ensure that roosting habitat for bats is identified and appropriately avoided if colonies or habitat are present during Program implementation. Therefore, impacts related to roosting special status bat species during construction of the Program would be less than significant with mitigation incorporated.

Level of Significance Prior to Mitigation: Potentially Significant

Mitigation Required: MM BIO-2 and MM BIO-8

Level of Significance After Mitigation: Less than Significant

Potential Impacts to San Joaquin Kit Fox

Direct impacts to the SJKF could include injury or mortality as a result of construction activities. Common impacts related to construction and facility operation include grading, disking, cultivation, earth-moving, burrow blockage and crushing, levee maintenance, and flooding. Indirect impacts typically include the conversion of native grassland habitats to agricultural or other development, changes in vegetation management, the eradication of host burrowers and prey such as California ground squirrel, the use of pesticides or rodenticides, or the degradation of nesting, foraging, or over-wintering habitats (CDFG 2012).

The desktop review for SJKF identified four observations of non-breeding adults from 1999 to 2001 within 5 miles of the Program Study Area (CDFW 2020b). However, the February 2019 field survey did not identify evidence (i.e., species observations; active den sites, tracks, scat, and prey remains) of SJKF. Although potential foraging habitat exists within the Program Study Area, fragmented development within the region has resulted in the limited availability of suitable denning habitat making the possibility for SJKF occurrence within the Program Study Area low.

Because of the lack of potential denning habitat and signs of SJKF during the field survey, combined with the majority of Project components being in-road or in disturbed areas, proposed Projects pose a low risk of contact with breeding and foraging kit fox. In addition, in recent years successful dispersal of juvenile kit foxes has shown a decrease from their core habitat areas (i.e., western Kern County and Carrizo Plain National Monument), which shows that movement of kit foxes from those core areas is becoming less likely. Although it is unlikely that there would be impacts to the SJKF as a result of Program implementation, habitat assessment and survey would need to be conducted during individual project planning to the conditions of the project site for SJKF foraging or denning habitat. Without being able to eliminate the possibility of occurrence, there could be a potentially significant impact if habitat were to occur within the impact area of a Program activity. Therefore, MM BIO-9, Avoid Disturbance to Breeding San Joaquin Kit Fox, is required to conduct surveys and assessment in accordance with the *USFWS San Joaquin Kit Fox Survey Protocol for the Northern Range* (USFWS 1999). MM BIO-9 would identify potential SJKF habitat, determine if habitat would be impacted by the Program activity, and identify protection and avoidance measures in accordance with the USFWS protocol as well as in accordance with USFWS consultation and guidance. If USFWS determines that the Program activity would not result in direct impacts (i.e., take), the City may proceed with the activity. However, if USFWS determines that take would occur as a result of the Program activity, the City shall consult with

the USFWS to determine the appropriate measures to avoid impacts to the kit fox. Measures taken could include project modifications; avoidance and minimization measures; and restoration, preservation, or compensatory actions (USFWS 1999). Specific methods and descriptions for conducting the habitat assessment, both breeding season and non-breeding season surveys, and an impact assessment are described further within the guidance document and outlined in MM BIO-9 (USFWS 2011). Implementation of MM BIO-9 would sufficiently mitigate for the risk of SJKF presence and would reduce potential significant impacts to habitat or the species.

To properly implement these measures and reduce all potential for impact, MM BIO-2, Pre-Construction Worker Environmental Awareness Program Training (Biological Resources), would need to be implemented to educate construction personnel on identification and avoidance of SJKF. Therefore, the potential for direct or indirect effects would be mitigated to a less than significant level, and impacts would be less than significant with mitigation incorporated.

Level of Significance Prior to Mitigation: Potentially Significant

Mitigation Required: MM BIO-2, MM BIO-9

Level of Significance After Mitigation: Less than Significant

Operation

Potential Impacts to Special Status Plants and Wildlife

Once construction is complete, regular operation of the constructed facilities would be restricted to previously disturbed areas and existing roads with no potential habitat or species present not previously identified or mitigated for, therefore, it is generally anticipated that no substantial adverse effects would occur to identified special status species as described in Section 3.4.5, Environmental Setting. However, nesting birds could potentially nest within areas of Program or Project operation, however, it would be assumed that the nesting birds are habituated to those pre-existing operation activities. Yet, in order to avoid take, regular maintenance and operations may require the avoidance of active bird nests if encountered within direct footprints of active operation activities such as maintenance of pipelines or pump stations or daily treatment activities at the WWTRF. Similar to the discussion of nesting birds for construction, impacts to nesting raptors or other migratory bird species could be potentially significant if the nests were physically disturbed or moved resulting in the likelihood of nest abandonment or harm. MM BIO-10, Install Exclusion Fencing for Environmentally Sensitive Areas, would provide steps to install exclusion fencing around the nest to prevent accidental impact by City staff or contractors. If an active nest cannot be avoided, the assessment, consultation, and compensation measures of MM BIO-7 would be required to reduce the potential for substantial adverse effect. Therefore, with the implementation of MM BIO-7 and MM BIO-10 this impact would be less than significant.

Level of Significance Prior to Mitigation: Potentially Significant

Mitigation Required: MM BIO-7 and MM BIO-10

Level of Significance After Mitigation: Less than Significant

Proposed Project: New Trunk Sewer Infrastructure Impacts

Construction

Potential impacts from the installation of the proposed Trunk Sewer Projects would be similar to the impacts described for the Program. However, the location and approximate footprints of proposed Trunk Sewer Project infrastructure is known, so additional assessment or exclusion of potential impacts is provided where applicable. Like the impacts and setting described for the Program, the proposed trunk sewer infrastructure has the potential for localized site impacts to sensitive species if species and their habitat exist. With the implementation of the MM BIO-1 through MM BIO-10, these impacts would be less than significant as described for the Program and supplemented by the following subsections:

Potential Impacts to Special Status Plant Species

The proposed Trunk Sewer Projects would be located within previously disturbed areas and existing roads where limited to no suitable habitat exists for special status plants as identified through the desktop screening and February field survey. However, as mentioned in the Program discussion, the field survey was not protocol-level and was conducted outside the typical bloom period for special status plant species listed in Appendix C, therefore, there may be the potential for a unique population of special status plants to be present and significantly impacted. As a result, MM BIO-1 would require preconstruction surveys to mitigate potential impacts as described for the Program. MM BIO-1 would identify and appropriately avoid or relocation previously unidentified special status plant species within the proposed Project areas in accordance with CDFW guidelines mitigating any significant effects. In addition to MM BIO-1, MM BIO-2, Pre-Construction Worker Environmental Awareness Program Training (Biological Resources), and MM BIO-3, Reduce the Spread and Introduction of Invasive Noxious Weeds, would also be implemented. The implementation of MM BIO-2 would ensure that construction personnel are educated on how to identify special status plant species, how to stop work in the immediate area in the event of identification, and how to avoid or mitigate to appropriate standards any encountered special status species. MM BIO-3 would require the City to reduce the potential introduction or spread of invasive noxious weeds by requiring BMPs during construction to appropriately clean and inspect construction equipment brought in from other regions. Therefore, with the implementation of MM BIO-1, BIO-2, and BIO-3, impacts to special status plant species would be less than significant.

Level of Significance Prior to Mitigation: Potentially Significant

Mitigation Required: MM BIO-1, MM BIO-2, and MM BIO-3

Level of Significance After Mitigation: Less than Significant

Potential Impacts to California Tiger Salamander

The New Trunk Sewer Projects have been designed to avoid potential impacts to potential CTS habitat, including both aquatic and upland habitats. Similar to the Program, the proposed Trunk Sewer Projects are located outside the dispersal area for the known occurrences of CTS, indicating that Project activities would not be likely to encounter a population of CTS (USFWS 2017f). Water features within the proposed Project areas are intermittent and have marginal suitable habitat characteristics to support CTS. No CTS were observed within or immediately adjacent to the Project areas during the February 2019 field survey. Like the Program, the placement of the new trunk sewer

infrastructure would not interfere with suitable habitat due to the location and installation methods of the Projects. Therefore, the potential for impacts to occur to CTS or their habitat as a result of the Program is very low and considered less than significant.

Level of Significance Prior to Mitigation: Less than Significant

Mitigation Required: None Required

Level of Significance After Mitigation: Less than Significant

Potential Impacts to Burrowing Owl

Potential impacts to burrowing owl from the proposed Trunk Sewer Projects would be similar to the impacts described for the Program. No evidence (i.e., tracks, molted feathers, cast pellets, prey remains, eggshell fragments, owl white wash, etc.) of burrowing owl presence was observed within or directly adjacent to the proposed Project areas during the February 2019 field survey. However, the desktop review identified nine occurrences from 2000 to 2017 within 5 miles of the Program Study Area, four of which from 2006 to 2007 were within 1 mile northeast of the intersection of South Thornton Road and West Dickenson Ferry Road (CDFW 2020b).

While the lack of potential burrow sites and signs of burrowing owl found during the field survey and proposed Project's location within mostly disturbed areas and current or future road ROWs indicate a low risk of impact, the proximity of known occurrences coupled with nearby suitable nesting habitat and foraging habitat in agricultural fields could result in burrowing owl establishment or presence within the Project areas. This potential presence while limited could result in a potentially significant impact. The MMs prescribed for the Program would also apply to the proposed Trunk Sewer Projects. MM BIO-4 would require a survey of the area within 492 feet of the proposed alignments to confirm absence of burrowing owl. If burrowing owl were to be identified, MM BIO-4, MM BIO-2, and MM BIO-7 would be implemented similar to the way described for the Program to effectively identify, mitigate, and protect burrowing owl from potential significant impacts. With the implementation of these measures, the potential impact would be reduced to a less than significant level.

Level of Significance Prior to Mitigation: Potentially Significant

Mitigation Required: MM BIO-2, MM BIO-4, and MM BIO-7

Level of Significance After Mitigation: Less than Significant

Potential Impacts to Swainson's Hawk

Potential impacts to Swainson's hawk from the proposed Trunk Sewer Projects would be similar to the impacts described for the Program. No species or evidence of active or inactive nests indicating Swainson's hawk presence was observed within or directly adjacent to the proposed Project areas during the February 2019 field survey. However, the survey was conducted slightly outside the migratory window of March through September and the desktop review identified 16 occurrences from 1994 to 2016 within 5 miles of the Program Study Area (CDFW 2016; CDFW 2020b). None of these recorded occurrences documented nesting Swainson's hawk within or immediately adjacent the proposed Project areas; however, these areas are immediately adjacent to suitable foraging habitat and nesting habitat such as eucalyptus, a common nesting tree species for breeding Swainson's hawk in the Central

Valley. In addition, the nearby agricultural lands and open fields may be used for foraging for small mammals and invertebrates. Similar to the Program, potential suitable nesting and foraging habitat exists adjacent to the Project areas, which could result in a potentially significant impact. MM BIO-2 would be required to educate construction personnel of potential sensitive resources and habitats, MM BIO-5 would be required to avoid disturbance to nesting Swainson's hawk, and MM BIO-7 would be required to avoid potential removal of nesting Swainson's hawk. Therefore, with the implementation of MM BIO-2, MM BIO-5, and MM BIO-7, impacts to Swainson's hawk would be less than significant.

Level of Significance Prior to Mitigation: Potentially Significant

Mitigation Required: MM BIO-2, MM BIO-5, and MM BIO-7

Level of Significance After Mitigation: Less than Significant

Potential Impacts to Tricolored Blackbird

No suitable breeding habitat or foraging habitat was observed within 300 feet of the proposed Project areas during the February 2019 field survey. However, there have been seven occurrences from 2005 to 2015 within 5 miles of the Program Study Area (CDFW 2020b) and the timing of the field survey does not preclude existence within the Project areas. With no potential (inactive) breeding colony sites observed within or directly adjacent to the proposed Project areas during the field survey, and with no wetlands, riparian, or foraging habitat observed that would require removal, impacts resulting from the proposed Trunk Sewer Projects are not anticipated, and impacts are expected to be less than significant. Habitat within the proposed Trunk Sewer Project areas is limited and it is anticipated that any potential habitat such as wetlands and riparian areas would be avoided by trenchless construction methods. However, to be extra protective and to confirm that no breeding habitat would be present within 300 feet of any construction activities, the implementation of MM BIO-6 would ensure that neither the tricolor blackbird nor its breeding habitat shall be impacted as a result of a Project through conducting a pre-construction survey and implementing appropriate avoidance and mitigations, if necessary. Additionally, MM BIO-2, Pre-Construction Worker Environmental Awareness Program Training (Biological Resources), would educate construction personnel on how to avoid impacts and provide that they are properly trained on the identification and potential impacts to tricolored blackbird and their habitat.

Level of Significance Prior to Mitigation: Potentially Significant

Mitigation Required: MM BIO-2, MM BIO-6, and MM BIO-7

Level of Significance After Mitigation: Less than Significant

Potential Impacts to Nesting Raptors and Other Migratory Birds

As described for the Program, suitable nesting habitat also exists within the proposed Project areas, and therefore, the construction of the proposed Projects has the potential to cause direct and/or indirect impacts to nesting raptors and other migratory birds. Further, a pair of red-tailed hawks were observed practicing nest building behavior within approximately 500 feet of the Northern Trunk Sewer Project alignment during the February 2019 field survey. Similar to the Program, direct or indirect impacts to nesting raptors or migratory birds would be a potentially significant impact. However, the location and installation methods of the proposed Trunk Sewer Projects, limits the potential for

nesting raptors and migratory birds. MM BIO-2, Pre-Construction Worker Environmental Awareness Program Training (Biological Resources), MM BIO-7, Avoid Disturbance to Nesting Raptors and Other Migratory Birds, and MM BIO-10, Install Exclusion Fencing for Environmentally Sensitive Areas impacts would be required to reduce the potential for impacts to a less than significant level. MM BIO-2 and MM BIO-7 would ensure that protected bird species are identified and appropriately avoided by scheduling disturbance activities during non-nesting season or implementing other proscribed avoidance measures that would reduce the potential significance of any potential impact including training construction personnel for how to avoid species. In addition, MM BIO-10 would ensure that active bird nests are adequately marked and avoided during Project implementation. Therefore, with the implementation of MM BIO-2, MM BIO-7, and MM BIO-10, potential impacts to nesting raptors and other migratory birds would be less than significant.

Level of Significance Prior to Mitigation: Potentially Significant

Mitigation Required: MM BIO-2, MM BIO-7, and MM BIO-10

Level of Significance After Mitigation: Less than Significant

Potential Impacts to Special Status Bat Species

No human-made suitable roosting habitat was observed within the proposed Project areas (i.e., culverts) during the February 2019 field survey. Making the likelihood of this potential impact low because the potential for roosting and foraging habitat within and immediately adjacent to the proposed Project areas where construction activities would take place is limited. Additionally, no tree removal is anticipated as a part of the proposed Projects, alleviating the potential for disturbing roosting bats. Further, construction activities would generally take place during the daytime hours and would not impact the potential foraging of bats in the Project areas that would likely occur during dusk and nighttime hours. However, similar to the impacts described for the Program, the timing and extent of the surveys do not exclude the potential for the species to occur entirely and a significant impact could occur from construction activities impacting roosting habitat. With the implementation of MM BIO-2, Pre-Construction Worker Environmental Awareness Program Training (Biological Resources), and MM BIO-8, Avoid Disturbance to Roosting Bat Species impacts to special status bat species are less than significant. MM BIO-2and MM BIO-8 would ensure that construction crews are properly trained on the identification of suitable bat roosting habitat and potential impacts to special status bat species. Therefore, with the implementation of MM BIO-2, and MM BIO-8, impacts to special status bat species are less than significant.

Level of Significance Prior to Mitigation: Potentially Significant

Mitigation Required: MM BIO-2 and MM BIO-8

Level of Significance After Mitigation: Less than Significant

Potential Impacts to San Joaquin Kit Fox

No evidence of SJKF presence was observed within or directly adjacent to the proposed Trunk Sewer Project areas during the February 2019 field survey. This lack of potential den sites or signs of SJKF combined with an examination of the proposed Trunk Sewer Projects' potential for impact, indicate that impacts area unlikely because the Projects will be largely located in highly disturbed areas in existing road ROWs, future road ROWs, or in disturbed habitats.

However, potential suitable foraging habitat may exist in the grassland habitats and agricultural fields adjacent to the Project areas, which also may inhabit an occasional dispersing SJKF. This could result in a potentially significant impact. However, with the implementation of MM BIO-9, Avoid Disturbance to Breeding San Joaquin Kit Fox, and MM BIO-2, Pre-Construction Worker Environmental Awareness Program Training (Biological Resources), impacts to the SJKF would be less than significant. MM BIO-9 would require a desktop field habitat assessment, and an effects analysis should be conducted prior to the proposed Projects (USFWS 1999), and results shall be submitted to USFWS for evaluation and further guidance. MM BIO-9 would ensure that active SJKF denning sites would be identified and appropriately avoided. Therefore, with the implementation of MM BIO-2 and MM BIO-9, potential impacts to SJKF would be less than significant.

Level of Significance Prior to Mitigation: Potentially Significant

Mitigation Required: MM BIO-2, MM BIO-9

Level of Significance After Mitigation: Less than Significant

Operation

Potential Impacts to Special Status Plants and Wildlife

Similar to the Program description above, there is the potential for migratory birds or nesting raptors to establish nests that conflict with operations of the northern trunk sewer pump station. If a nest is found during operations, MM BIO-10, Install Exclusion Fencing for Environmentally Sensitive Areas, would be required to protect the nest until hatchlings fledge. If an active nest cannot be avoided, the assessment, consultation, and compensation measures of MM BIO-7 would be required to reduce the potential for substantial adverse effect. Therefore, with the implementation of MM BIO-7 and MM BIO-10 this impact would be less than significant.

Level of Significance Prior to Mitigation: Potentially Significant

Mitigation Required: MM BIO-7 and MM BIO-10

Level of Significance After Mitigation: Less than Significant

Proposed Project: Existing WWTRF Expansion Impacts

Construction

Similar to the Program, the proposed expansions of the WWTRF would have the potential for localized site impacts to sensitive species if species or habitat are found onsite; however, the WWTRF site is comprised of disturbed developed areas and agricultural fields with limited suitable habitat for special status species. Mitigation measures and impacts would apply to the WWTRF Projects as determined by habitat suitability for special status species and species presence as described below.

Potential Impacts to Special Status Plant Species

The proposed WWTRF Expansions Projects would occur within a previously a disturbed region of the WWTRF site where suitable habitat was not found to be present for special status plant species. Therefore, impacts will be less than significant.

Level of Significance Prior to Mitigation: Potentially Significant

Mitigation Required: None Required

Level of Significance After Mitigation: Less than Significant

Potential Impacts to Burrowing Owl

The proposed WWTRF Expansions would occur within a previously a disturbed region of the WWTRF site where suitable nesting habitat for burrowing owl was not found to be present. Therefore, impacts are expected to be less than significant.

Level of Significance Prior to Mitigation: Potentially Significant

Mitigation Required: None Required

Level of Significance After Mitigation: Less than Significant

Potential Impacts to California Tiger Salamander

The proposed WWTRF Expansions would occur within a previously disturbed region of the WWTRF site where suitable aquatic and uplands habitat for CTS was not found to be present or meet the criteria for this species. Therefore, impacts are expected to be less than significant.

Level of Significance Prior to Mitigation: Potentially Significant

Mitigation Required: None Required

Level of Significance After Mitigation: Less than Significant

Potential Impacts to Swainson's Hawk

The proposed WWTRF Expansions would occur within a previously a disturbed region of the WWTRF site, where suitable nesting and foraging habitat for Swainson's hawk is not present. However, suitable nesting habitat exists (i.e., eucalyptus trees) adjacent to the WWTRF site. As described for the Program, this could result in a potentially significant impact. MM BIO-2 would be required to educate construction personnel of potential sensitive resources and habitats, MM BIO-5 would be required to avoid disturbance to nesting Swainson's hawk, and MM BIO-7 would be required to avoid potential removal of nesting Swainson's hawk. Therefore, with the implementation of MM BIO-2, MM BIO-5, and MM BIO-7, impacts to Swainson's hawk would be less than significant.

Level of Significance Prior to Mitigation: Potentially Significant

Mitigation Required: MM BIO-2, MM BIO-5, and MM BIO-7

Level of Significance After Mitigation: Less than Significant

Potential Impacts to Tricolored blackbird

The proposed WWTRF Expansions would occur within the previously disturbed portions of the WWTRF site, where suitable nesting habitat for tricolored blackbird is not present. Therefore, impacts are expected to be less than significant.

Level of Significance Prior to Mitigation: Potentially Significant

Mitigation Required: None Required

Level of Significance After Mitigation: Less than Significant

Potential Impacts to Nesting Raptors and Other Migratory Birds

The proposed WWTRF Expansions would occur within a previously the disturbed areas of the WWTRF site, but there is suitable nesting habitat adjacent to the WWTRF site as well as within the WWTRF boundary (i.e., for shorebirds, ground-nesting birds, etc.). Similar to the impacts described for the Program, this could result in a potentially significant impact. Therefore, as described for the Program, with the implementation of MM BIO-2, Pre-Construction Worker Environmental Awareness Program Training (Biological Resources), BIO-7, Avoid Disturbance to Nesting Raptors and Other Migratory Birds, and BIO-10, Install Exclusion Fencing for Environmentally Sensitive Areas, impacts would be reduced to less than significant. With the implementation of MM BIO-2, MM BIO-7, and MM BIO-10, potential impacts to nesting raptors and other migratory birds would be less than significant.

Level of Significance Prior to Mitigation: Potentially Significant

Mitigation Required: MM BIO-2, MM BIO-7, and MM BIO-10

Level of Significance After Mitigation: Less than Significant

Potential Impacts to Special Status Bat Species

The proposed WWTRF Expansions would occur within a previously the disturbed areas of the WWTRF site. Human-made structures exist within the WWTRF boundary and may provide suitable habitat for special status roosting bat species. This could result in a potentially significant impact. Similar to the Program, with the implementation of MM BIO-2, Pre-Construction Worker Environmental Awareness Program Training (Biological Resources), construction crews would be properly trained on the identification of suitable bat roosting habitat and potential impacts to special status bat species. In addition, MM BIO-8, Avoid Disturbance to Roosting Bat Species, would require a pre-construction habitat assessment on a Project-specific basis. Therefore, with the implementation of MM BIO-2 and MM BIO-8, impacts to special status bat species would be less than significant.

Level of Significance Prior to Mitigation: Potentially Significant

Mitigation Required: MM BIO-2 and MM BIO-8

Level of Significance After Mitigation: Less than Significant

Potential Impacts to San Joaquin Kit Fox

The proposed WWTRF Expansions would occur within the previously a disturbed areas of the WWTRF site, where no suitable denning habitat and limited to no suitable foraging habitat for the SJKF was found to be present. Therefore, impacts will be less than significant.

Level of Significance Prior to Mitigation: Potentially Significant

Mitigation Required: None Required

Level of Significance After Mitigation: Less than Significant

Operation

Similar to the Program description above, there is the potential for migratory birds or nesting raptors to establish nests that conflict with operations of the WWTRF expansions. If a nest is found during operations, MM BIO-10, Install Exclusion Fencing for Environmentally Sensitive Areas, would be required to protect the nest until hatchlings fledge. If an active nest cannot be avoided, the assessment, consultation, and compensation measures of MM BIO-7 would be required to reduce the potential for substantial adverse effect. Therefore, with the implementation of MM BIO-7 and MM BIO-10 this impact would be less than significant.

Level of Significance Prior to Mitigation: Potentially Significant

Mitigation Required: MM BIO-7 and MM BIO-10

Level of Significance After Mitigation: Less than Significant

Impact BIO-1 Findings

Impact BIO-1 Overall Level of Significance Prior to Mitigation: Potentially Significant

Impact BIO-1 Overall Mitigation Required: MM BIO-1 through MM BIO-10

Impact BIO-1 Overall Level of Significance After Mitigation: Less than Significant

Impact BIO-2	**Potential to have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.**

Impact BIO-2 Analysis
Program Impacts

Construction and Operation

The Program Study Area is predominantly made up of agricultural and rural residential – disturbed – ruderal lands; however, as described in Section 3.4.3, Environmental Setting, various creeks, irrigation canals, are present and seasonal wetlands and vernal pools are present and scattered to the north of the Program Study Area (City of Merced 2006). These potentially sensitive biological areas exist mainly outside of or not in conflict with, the Program Study Area or areas anticipated to have the majority of Program development. However, if the Program were required to construct facilities within a riparian or other sensitive natural community such as vernal pools, there would be a potentially significant impact. Generally, the Program has been designed with controls to prevent impacts such as implementation of trenchless technologies to avoid streams, water crossings, and sensitive communities, among other things. Wetland plant species documented within the Program Study Area were identified as primarily low stature hydrophytic and upland vegetation along and within the various MID ditches, canals, and detention ponds. Invasive species, such as Himalayan blackberry, that grow in regularly maintained canals, are typically not considered a sensitive natural community because they typically occur in disturbed areas and displace native plant species (Cal-IPC 2019).

Because of the potential for significant impact, the City would implement the following MMs to limit that impact to a less than significant level and prevent significant harm to that sensitive community. MM BIO-2, Pre-Construction Worker Environmental Awareness Program would train construction personnel to identify and avoid riparian and sensitive habitats if they were to encounter previously unmapped communities. BIO-10, Install Exclusion Fencing for Environmentally Sensitive Areas, includes the requirements to install exclusion fencing for sensitive communities that may be identified. MM BIO-11, Avoid and Reduce Disturbance and Impacts to Riparian Habitat and/or Sensitive Natural Communities, would survey Program activity footprints and limit disturbance (by provisions such as scheduling construction timing in non-wet periods) should riparian areas be identified by inclusion of avoidance procedures and permitting and consultation requirements that meet the requirements for riparian habitat or other sensitive natural communities identified in local or regional plans, policies, regulations, or by the CDFW or USFWS. MM GEO-1, Prepare an Erosion Control and Stormwater Pollution Prevention Plan (as discussed in Section 3.6, Geology and Soils, and Section 3.9, Hydrology and Water Quality) would be implemented to ensure that sediment control BMPs would be in place in any area where construction activities would approach a canal, ditch, or other hydrological feature.

Therefore, with the incorporation of MM BIO-2, MM BIO-10, MM BIO-11, and MM GEO-1, Program construction impacts would be reduced to a less than significant level.

Level of Significance Prior to Mitigation: Potentially Significant

Mitigation Required: MM BIO-2, MM BIO-10, MM BIO-11, and MM GEO-1.

Level of Significance After Mitigation: Less than Significant

Proposed Project: New Trunk Sewer Infrastructure Impacts

Construction and Operation

Similar to the impacts described for the Program, the proposed Trunk Sewer Projects have the potential to impact riparian or other sensitive natural communities if construction were to interfere with those areas. Potential impacts from the installation of new trunk sewer infrastructure would generally be the same as described for the Program; however, riparian vegetation was not identified as present within the impact areas of the proposed Projects. Outside and adjacent to the proposed Project areas, riparian vegetation is present along hydrological features such as Fahrens, Bear, Black Rascal, Cottonwood, Miles, and Owens Creeks. However, these areas are outside the proposed Project areas and would not be directly impacted by construction activities. These various creeks and MID canal crossings would, as discussed in Section 2.4.1.2, Pipeline and/or Facility Construction, use trenchless technologies to avoid riparian habitats by tunneling underneath them. Tunneling is a generally sufficient way to avoid impacts to streams and riparian habitats; however, frac outs or other potential impacts can arise during construction that have the potential to be significant if they were to result in degradation of water quality or sensitive habitats were to occur. Impacts would be avoided by compliance with existing water quality laws and regulations, which require preparation and implementation of a Stormwater Pollution Prevention Plan (SWPPP) and associated BMPs, as required by MM GEO-1, and thus, would not have a substantial adverse effect to riparian communities. MM BIO-2, Pre-Construction Worker Environmental Awareness Program Training (Biological Resources), would be required to educate construction personnel of potential impacts and MM BIO-10, Install Exclusion Fencing for Environmentally Sensitive Areas would be required to protect any riparian vegetation that may present changed conditions from the February 2019 survey. Finally, MM BIO-11 would provide specific measures for the assessment and mitigation of the riparian or sensitive habitat community to avoid or provide measures to limit the significance of the potential effect. Therefore, impacts associated with New Trunk Sewer Project would not have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by CDFW or USFWS with mitigation incorporated.

Level of Significance Prior to Mitigation: Potentially Significant

Mitigation Required: MM BIO-2, MM BIO-10, MM BIO-11, and MM GEO-1

Level of Significance After Mitigation: Less than Significant

Proposed Project: Existing WWTRF Expansion Impacts

Construction and Operation

Expansion of the existing WWTRF would occur within the existing WWTRF property which would result in impacts occurring to previously disturbed areas with no waters or riparian habitats. Given that the expansions would occur in these previously disturbed areas, impacts associated with expansion of the existing WWTRF would not have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by CDFW or USFWS and are expected to be less than significant.

Level of Significance Prior to Mitigation: Less than Significant

Mitigation Required: None Required

Level of Significance After Mitigation: Less than Significant

Impact BIO-2 Findings

Impact BIO-2 Overall Level of Significance Prior to Mitigation: Potentially Significant

Impact BIO-2 Mitigation Required: MM BIO-2, MM BIO-10, and MM GEO-1

Impact BIO-2 Overall Level of Significance After Mitigation: Less than Significant

Impact BIO-3	**Potential to conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance or potential to conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional, or state HCP.**

Impact BIO-3 Analysis
Program Impacts and Proposed Projects

Construction and Operation

Potential to Conflict with the City of Merced 2030 General Plan

The Program nor the proposed Projects do not conflict with the City of Merced General Plan Open Space, Conservation, and Recreation Element. Specifically, the Program and proposed Projects are in compliance with Goal Area OS-1: Open Space for the Preservation of Natural Resources and Policies OS-1.1, OS-1.2, and OS-1.4, because during Program and Project development, the City reviewed the wildlife and vegetation resources present within the Program Study Area to identify and protect resources with potentially significant biological, ecological, and recreational value. Habitat classifications, assessments, and field surveys were conducted for special status plant and wildlife species as well has sensitive habitats, allowing for impacts to be avoided, as discussed above.

Specific to Policy OS-1.1: Identify and mitigate impacts to wildlife habitats which support rare, endangered, or threatened species, the Program and proposed Projects have the potential to significantly impact rare, endangered, or threatened, species and their habitats. With the implementation of the MMs defined above, these impacts would be less than significant. A complete impact assessment is included in Impact BIO-1.

In addition, in accordance with General Plan Policy OS-1.2: Preserve and enhance creeks in their natural state throughout the planning area, and as discussed in Impact BIO-2, the Program and proposed Projects would not significantly impact riparian habitat or other natural communities. The Program Study Area is predominantly made up of agricultural and disturbed and ruderal areas and does not include the removal or impacts to trees, including oaks, oak woodlands, and trees along the streets of the City. Therefore, construction and operation of the Program and proposed Projects would result in a less than significant impact related to Policy OS-1.4: Improve and expand the City's urban forest.

Level of Significance Prior to Mitigation: Potentially Significant

Mitigation Required: MM BIO-1 through MM BIO-10

Level of Significance After Mitigation: Less than Significant

Potential to Conflict with an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or Other Approved Local, Regional, or State Policies and Ordinances

There are no HCPs, NCCPs, or any other approved local, regional, or state HCPs within the vicinity of the Program Study Area (CDFW 2017). The Program Study Area is predominantly made up of agricultural and disturbed and ruderal areas and does not include the removal or impacts to trees, including oaks and oak woodlands, and therefore does not conflict with the COWCA. As such, the Program nor the proposed Projects would have no potential to conflict with HCPs, NCCPs, the COWCA, or other approved local, regional, or state HCPs, ordinances, or policies. Therefore, this impact would be less than significant.

Level of Significance Prior to Mitigation: No Impact

Mitigation Required: None Required

Level of Significance After Mitigation: No Impact

Impact BIO-3 Findings

Impact BIO-3 Overall Level of Significance Prior to Mitigation: Potentially Significant

Impact BIO-3 Overall Mitigation Required: MM BIO-1 through MM BIO-10

Impact BIO-3 Overall Level of Significance After Mitigation: Less than Significant

Impact BIO-4	**Potential to 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.**

Impact BIO-4 Analysis

Program Impacts

Construction and Operation

According to the City's 2030 General Plan, the surface water system of the region is vulnerable to discharge containing contaminants, and pollution into the surface water is largely from direct stormwater and irrigation water discharges (City of Merced 2012). As described in Section 3.4.3, Environmental Setting, there is a high concentration of wetted areas including vernal pools and wetlands in northeastern portion of the Program Study Area while the remainder of the Program Study Area is predominantly made up of agricultural and disturbed and ruderal areas with the exception of the denoted creeks and MID canals traversing the Program Study Area (USFWS 2020c). Wetland plant species documented within the Program Study Area were identified as primarily low stature hydrophytic and upland vegetation along and within the various MID ditches, canals, and detention ponds.

The Program has been designed to reduce impacts to and avoid federally protected wetlands and federally and state-protected waters by designing to avoid these features by component placement in previously disturbed areas, in existing or planned roadway ROWs and trenchless techniques underneath riparian areas. Therefore, no permanent or direct impacts are expected to occur, and the potential for the Program to have a substantial adverse effect on federally and state-protected wetlands through direct removal, filling, hydrological interruption, or other means is low. However, if a frac out from trenchless technologies were to occur in the stream area or trenchless technologies where to not be feasible there could be direct or indirect significant impacts to a federally or state protected wetland, either directly or indirectly, impacts would be temporary and decreased to a less than significant level with the implementation of MM BIO-12, Avoid and Reduce Disturbance to Waters of the U.S. Other Waters, and Waters of the State. If impacts cannot be avoided, MM BIO-12 requires the City apply for a CWA Section 404 Nationwide Permit through the USACE Sacramento District, and CWA Section 401 Water Quality Certification through the Central Valley Regional Water Quality Control Board (RWQCB) for the permanent and/or temporary impacts (e.g., dredge or fill) of jurisdictional waters. The City shall also be in compliance with existing water quality laws and regulations which require preparation and implementation of a SWPPP and associated BMPs. MM BIO-2, Pre-Construction Worker Environmental Awareness Program Training (Biological Resources), MM BIO-10, Install Exclusion Fencing for Environmentally Sensitive Areas, and MM GEO-1, Prepare and Implement an Erosion Control and Stormwater Pollution Prevention Plan (as discussed in Section 3.6, Geology and Soils, and Section 3.9, Hydrology and Water Quality) would also be implemented. Therefore, with the incorporation of MM BIO-2, MM BIO-10, MM BIO-12 and MM GEO-1, Program impacts would be reduced to a less than significant level.

Level of Significance Prior to Mitigation: Potentially Significant

Mitigation Required: MM BIO-2, MM BIO-10, MM BIO-12, and MM GEO-1

Level of Significance After Mitigation: Less than Significant

Proposed Project: New Trunk Sewer Infrastructure Impacts

Construction and Operation

Potential impacts from the installation of new trunk sewer infrastructure would be expected to be similar to those described for the Program. New Trunk Sewer Infrastructure Project activities have been designed to avoid wetlands and waters by implementation of trenchless technologies that would avoid impacts. However, if proposed Project activities were not able to avoid the wetland areas there would be a potentially significant impact to federally or state-protected wetland. This impact would be reduced to less than significant with the implementation of MM BIO-12, Avoid and Reduce Disturbance to Waters of the U.S. Other Waters, and Waters of the State. If impacts cannot be avoided, MM BIO-12 would require that the City apply for a CWA Section 404 Nationwide Permit through the USACE Sacramento District, and CWA Section 401 Water Quality Certification through the Central Valley RWQCB for the permanent and temporary impacts (e.g., dredge or fill) of jurisdictional waters. In addition, MM BIO-2, Pre-Construction Worker Environmental Awareness Program Training (Biological Resources), MM BIO-10, Install Exclusion Fencing for Environmentally Sensitive Areas, and MM GEO-1, Prepare and Implement an Erosion Control and Stormwater Pollution Prevention Plan, would be implemented. Therefore, impacts associated with new trunk sewer infrastructure would not have a substantial adverse effect on federally protected wetlands as defined by Section 404 and Section 401 of the CWA with mitigation incorporated.

Level of Significance Prior to Mitigation: Potentially Significant

Mitigation Required: MM BIO-2, MM BIO-10, MM BIO-12, and MM GEO-1

Level of Significance After Mitigation: Less than Significant

Proposed Project: Existing WWTRF Expansion Impacts

Construction and Operation

Expansion of the WWTRF would occur within the existing WWTRF boundaries where there are no federally or state protected wetlands. Therefore, expansion of the existing WWTRF expansion would not have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA, and no mitigation would be required.

Level of Significance Prior to Mitigation: No Impact

Mitigation Required: None Required

Level of Significance After Mitigation: No Impact

Impact BIO-4 Findings

Impact BIO-4 Overall Level of Significance Prior to Mitigation: Potentially Significant

Impact BIO-4 Overall Mitigation Required: MM BIO-2, MM BIO-10, MM BIO-12, MM GEO-1

Impact BIO-4 Overall Level of Significance After Mitigation: Less than Significant

Impact BIO-5	**Potential to 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.**

Impact BIO-5 Analysis

Program Impacts

Construction and Operation

Wildlife movement may include behaviors such as migration (typically one direction per season), interpopulation movement or dispersal (long-term genetic exchange), and small-distance travel (daily movement) within an animal's territory or home range. The linkages between habitat types that allow for wildlife movement can extend for miles between key habitat areas and may occur on a large scale. Though small travel corridors generally facilitate movement for daily activities within a home range (e.g., foraging and avoiding predators), these corridors also provide connection between other populations, allowing gene flow between populations and resulting in a healthier and more heterogeneous population of a particular species.

The Program Study Area is predominantly made up of agricultural and disturbed and ruderal areas and includes features such as irrigation canals. Areas adjacent to the Program Study Area include habitats such as various creeks

and irrigation canals scattered to the north of the Program Study Area (City of Merced 2006), which may provide corridors to facilitate movement of wildlife species within the local region. The presence and or normal velocities of flowing water within these features would remain the same with the construction and operation the Program and would continue to receive and convey the same capacity of stormwater flows.

Although the Program Study Area includes or is located adjacent to natural communities that provide habitat that may be considered highly favored by a variety of wildlife species in regards to allowing them to move from one place to another, it is also largely developed for agricultural purposes and fragmented by human-made features such as fences, busy roadways (i.e., Highway 99, SR 140, and SR 59), residential areas, and other local land use practices. In addition, the Program Study Area does not intersect significant habitats that would increase wildlife movements, and there are no designated movement corridors located within the borders of the Program Study Area (City of Merced 2010).

Therefore, the potential for Program construction or operation activities to interfere substantially with the movement of any native resident or migratory fish or wildlife species, with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites, is unlikely. Therefore, impacts to wildlife movement would less than significant, and no mitigation would be required.

Level of Significance Prior to Mitigation: Less than Significant

Mitigation Required: None Required

Level of Significance After Mitigation: Less than Significant

Proposed Project: New Trunk Sewer Infrastructure Impacts

Construction and Operation

Potential impacts from the new trunk sewer infrastructure are expected to be the same as described within the Program impacts above and would result in a less than significant impact. Therefore, construction and operation of the New Trunk Sewer Infrastructure Project would result in a less than significant impact to the movement of any native resident or migratory fish or wildlife species, with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites.

Level of Significance Prior to Mitigation: Less than Significant

Mitigation Required: None Required

Level of Significance After Mitigation: Less than Significant

Proposed Project: Existing WWTRF Expansion Impacts

Construction and Operation

Given that the expansion of the WWTRF would occur within the existing WWTRF property boundaries, impacts associated with the expansions would not interfere substantially with the movement of any native resident or

migratory fish or wildlife species, would impact established native resident or migratory wildlife corridors, or would impede the use of native wildlife nursery sites. Therefore, there would be no impact.

Level of Significance prior to Mitigation: No Impact

Mitigation Required: None Required

Level of Significance After Mitigation: No Impact

Impact BIO-5 Findings

Impact BIO-5 Overall Level of Significance Prior to Mitigation: Less than Significant

Impact BIO-5 Overall Mitigation Required: None Required

Impact BIO-5 Overall Level of Significance After Mitigation: Less than Significant

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3.4.5 Biological Resources Mitigation

Mitigation Measure GEO-1: Prepare an Erosion Control Plan and Stormwater Pollution Prevention Plan

See MM GEO-1, Section 3.6.

Mitigation Measure BIO-1: Pre-Construction Botanical Surveys

A qualified botanist or biologist shall conduct special status botanical surveys prior to construction activities in a given work area. Surveys shall follow protocols designated by the U.S. Fish and Wildlife Service (USFWS) (1996), California Department of Fish and Wildlife (CDFW) (2018j) and California Native Plant Society (CNPS) (2001) and shall occur during the appropriate floristic bloom periods for the special status species identified as having a potential to occur in the Program Study Area (Appendix C, Table C.1). The majority of special status species with a potential to occur in the Program Study Area have an overlapping bloom period such that if surveys are conducted between April and June (i.e., ideally mid-bloom period in May), target special status species are most likely to be identifiable.

Given that Program activities would largely be conducted within disturbed areas, the probability of impacting a special status plant species is low. If special status plants are not detected during pre-construction botanical surveys, no further mitigation is required. However, if special status plant species are identified within the Program Study Area, their locations shall be mapped, and the City shall require the implementation of the following measures:

1. If feasible, construction activities shall avoid special status plants by installing an exclusion area with fencing and signage located at least 10 feet from special status plant populations.

2. If avoidance is not feasible, the City shall consult with the appropriate regulatory agency (i.e., USFWS for federally listed species and CDFW for state- and CNPS-listed species) to identify appropriate procedures and measures capable of reducing impacts to a less than significant level. Recommended measures to mitigate impacts to special status species may include those found in the *Policy on Mitigation Guidelines Regarding Impacts to Rare, Threatened, and Endangered Plants* (CNPS 1991). Other measures may include compensation for any impacts to special status plants via replacement (e.g., seed collection and replanting or transplanting of

plants) or substitute resources (e.g., mitigation fees) as defined by regulatory agencies. The City shall implement all measures recommended by the appropriate regulatory agencies.

Mitigation Measure BIO-1 Implementation

Responsible Party: The City

Timing: Pre-construction botanical surveys for special status species shall be conducted by a qualified botanist or biologist between April and June (i.e., ideally during the mid-bloom period in May), or as otherwise deemed appropriate by a qualified botanist.

Monitoring and Reporting Program: The survey shall be conducted by a qualified botanist, and a brief Botanical Survey Results Report shall be completed and kept on file with the City. If special status species are encountered, the Pre-Construction Botanical Survey Report shall be submitted to the appropriate regulatory agencies (i.e., CDFW and/or USFWS).

Standards for Success: The presence or absence of special status plant species shall be documented and, if observed, shall be handled and mitigated according to the performance standards outlined above and developed with the appropriate regulatory agencies.

Mitigation Measure BIO-2: Pre-Construction Worker Environmental Awareness Program (Biological Resources)

The purpose of a Worker Environmental Awareness Program (WEAP) training is to educate personnel (i.e., construction workers) about the existing onsite and surrounding resources and the measures required to protect these resources as well as avoidance and potential hazards within these sites to or from these resources. The WEAP, developed by the City, shall include materials and information on potentially sensitive biological and the resources identified as mitigation in other sections of this EIR that require protection, procedures, or identification during construction. The WEAP training shall educate personnel about the applicable precautions that personnel should take to reduce potential impacts.

The WEAP training shall be given to all personnel who may be responsible for causing a significant impact as identified within the Section 3.4.4 of the Draft EIR and below. The WEAP training shall be given on a Project-specific level prior to the start of construction of each Program activity and as necessary throughout the life of construction as new personnel arrive onsite. The City and the contractor are responsible for ensuring that all onsite personnel attend the WEAP training, receive a summary handout, and sign a training attendance acknowledgement form to indicate that the contents of the WEAP are understood and to provide proof of attendance. Each participant of the WEAP training shall be responsible for maintaining their copy of the WEAP reference materials and making sure that other onsite personnel are complying with the recommended precautions. The contractor shall keep the sign-in sheet onsite and shall submit copies of the WEAP sign-in sheet to the City's Project Manager, who shall keep it on file at City offices.

For the biological resources portion of the WEAP training, the following information and implementation steps shall be prepared and presented to aid in the prevention of and to raise awareness of the potential impacts to biological resources:

- How to identify the special status species identified to potentially occur within the project limits consistent with other biological mitigation measures. An overview of species identified with potential to occur in the Program Study Area (as identified in Appendix C of the Draft EIR) shall be given with an emphasis on those species identified or with a medium to high potential to occur within the project limits (identified in Table 3.4-1 of the Draft EIR and subsequently by surveys required during implementation of other mitigation measures). A review of the avoidance measures and best management practices (BMPs) incorporated to prevent impacts to those species and regulations as well as applicable civil and criminal penalties associated with violations shall also be provided;

- If special status species are encountered in the work area, construction shall cease within the species habitat range, and the City and a qualified environmental representative shall be notified for guidance on appropriate MMs to be implemented before any construction activities are resumed. Depending on the federal or state listing status, the observed species, and its persistence in the area, the City shall consult with the USFWS and CDFW for guidance;

- Remove litter and other debris that might attract animals from the construction site daily and store it in enclosed containers; and

- Exclude pets from the Program site, including access roads and staging areas.

WEAP materials shall be provided by the City and kept onsite for use by an environmentally trained foreman for training new Program personnel in the absence of the City representative. If special status species are encountered in the Project work area, construction shall cease, and the City, as well as a qualified environmental representative shall be notified for guidance on appropriate MMs, to be implemented before any construction activities are resumed. Depending on the listing of the observed special status species and its persistence in the area, the City shall consult with the USFWS and/or CDFW for guidance.

Mitigation Measure BIO-2 Implementation

Responsible Party: The City and the contractor

Timing: The WEAP training shall be conducted on a project-specific level prior to construction of each Project and throughout construction activities as new personnel arrive on the Program site. Avoidance or buffer zones will be marked before construction begins.

Monitoring and Reporting Program: Development of a WEAP and handout packet in accordance with this mitigation measure and any other resource-specific WEAP requirements. A sign-in sheet for each Project shall be completed for all workers on the construction site and shall be kept at the Program site, and copies shall be submitted to the City's Project Manager to be kept on file at City offices.

Standards for Success: The prevention of biological resources from being disturbed or destroyed by Program activities. Ensure that construction personnel are trained in the key characteristics for identifying and avoiding impacts to special status species and sensitive habitats.

Mitigation Measure BIO-3: Reduce the Spread and Introduction of Invasive Noxious Weeds

Invasive and noxious weeds have the potential to directly and indirectly impact plant communities at or near the Program Study Area. To reduce the spread and introduction of invasive and noxious weeds, the following measures shall be implemented:

1. All Program-related equipment and vehicles shall be decontaminated and inspected for soils or other evidence of materials containing invasive or noxious weed seeds prior to entering the Project region and prior to initiation of work on the Program;

2. Invasive plants and noxious weeds shall be abated by discing, mowing, or rototilling. All weeds shall be disposed of offsite at an appropriate bio-waste disposal location; and

3. Any topsoil, mulch, and seed used in Program-related activities (e.g., restoration, reseeding, erosion control, and soil stabilization) shall be certified weed-free through visual inspection and/or a signed affidavit from the contractor.

Mitigation Measure BIO-3 Implementation

Responsible Party: The City

Timing: Prior to the initiation of construction with each new piece of equipment and other materials.

Monitoring and Reporting Program: The City shall verify that all equipment and other materials brought onsite are certified weed-free through visual inspection and/or a signed affidavit from the contractor.

Standards for Success: Minimize the potential for introduction and/or spread of invasive and noxious weed species into the Program Study Area through visual inspection of equipment and other materials and/or signed affidavits from the contractor of weed free certification.

Mitigation Measure BIO-4: Avoid Disturbance to Breeding Burrowing Owl

For Program and proposed Project activities, this MM requires an update to the desktop screenings and a field suitable nesting habitat assessment of the areas within 492 feet (150 meters) of the proposed activity in accordance with the *Staff Report on Burrowing Owl Mitigation* (CDFG 2012). If burrowing owl, evidence of their presence, and/or their habitat is identified during the desktop screening and field survey the CDFW guidance shall be followed to incorporate the general conservation goals and principals prescribed for developing effective mitigation for the burrowing owl impacts (CDFG 2012). If the species is identified as present, the City shall consult with CDFW and follow the specific methodology and mitigation prescribed in the guidance (CDFG 2012). Methods for conducting the habitat assessment, breeding season and non-breeding season surveys, as well as conducting the impact assessment shall be consistent with the CDFW guidance document (CDFG 2012).

Mitigation Measure BIO-4 Implementation

Responsible Party: The City

Timing: Field habitat assessment, field surveys, and/or impact assessment shall be conducted prior to construction activities in accordance with the *Staff Report on Burrowing Owl Mitigation* (CDFG 2012).

Monitoring and Reporting Program: Surveys and data collection shall be conducted by a qualified biologist, and reporting shall be completed in accordance with the *Staff Report on Burrowing Owl Mitigation* (CDFG 2012). Results of habitat assessment, field surveys, and/or impact assessment conducted shall be compiled in a brief Burrowing Owl Survey Results Report and kept on file with the City. In addition, all mitigation methods developed and implemented by the City shall be documented and kept on file by the City.

Standards for Success: Burrowing owls would not be significantly impacted by the Program activities, and therefore the Project would help meet the conservation goals for the burrowing owl in California as stated in the *Staff Report on Burrowing Owl Mitigation* (CDFG 2012).

Mitigation Measure BIO-5: Avoid Disturbance to Nesting Swainson's Hawk

In accordance with the *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley* (SHTAC 2000), surveys shall be conducted within 0.5 mile of all Program activities. Surveys shall be completed for the two survey periods immediately prior to a Project's initiation, as defined within the protocol above. The defined survey periods are determined by timing of migration, courtship, and nesting in a typical year for the majority of Swainson's hawks within California's Central Valley. Dates may be adjusted in consideration of early and late nesting seasons, and geographic differences. If an active nest is detected, the City shall follow recommendations included within CDFW's *Staff Report Regarding Mitigation for Impacts to Swainson's Hawks (Buteo swainsoni) in the Central Valley of California* (CDFW 1994) as well as consult with CDFW to determine the most appropriate mitigation methods for a specific Project.

Mitigation Measure BIO-5 Implementation

Responsible Party: The City

Timing: Prior to the initiation of construction per suggested survey timing within the *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley* (SHTAC 2000).

Monitoring and Reporting Program: The survey shall be conducted by a qualified biologist, and results of surveys conducted will be compiled in a brief Swainson's Hawk Survey Results Report and kept on file with the City, in addition to any reporting requirements as stipulated by CDFW in the event that active Swainson's hawk nests are within 0.5 mile of the a Project area. If an active Swainson's hawk nest is observed, the City shall submit occurrence data via CDFW's online California Natural Diversity Database submission form.

Standards for Success: Nesting Swainson's hawk will not be impacted by the Program.

Mitigation Measure BIO-6: Avoid Disturbance to Breeding Colonies of Tricolored Blackbird

Prior to Program implementation, a pre-construction survey shall be conducted in accordance with the *Staff Guidance Regarding Avoidance of Impacts to Tricolored Blackbird Breeding Colonies on Agricultural Fields* (CDFW 2015). The survey shall be conducted in suitable nesting habitat within approximately 300 feet of Program activities. If an active

breeding colony is observed, CDFW's guidance should be followed (i.e., if a breeding colony is within or adjacent to the Program Study Area, potential avoidance measures include establishing a buffer zone, altering work period to according to their nesting stage, hazing, etc.). Please note that the measures described within this document were developed primarily with agricultural activities in mind and are a starting point to ensure that "take" (to "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill") is avoided. Therefore, if there is additional concern that take may not be avoided due to Program activities, CDFW shall be consulted for guidance so additional and the most appropriate avoidance measures will be developed and implemented from the specific Project.

Mitigation Measure BIO-6 Implementation

Responsible Party: The City

Timing: Pre-construction survey and applicable avoidance measures shall be conducted prior to the initiation of Project construction.

Monitoring and Reporting Program: The survey shall be conducted by a qualified biologist and results of surveys conducted will be compiled in a brief Tricolored Blackbird Survey Results Report and kept on file with the City in addition to any reporting requirements as stipulated by CDFW in the event that active breeding colonies of tricolored blackbird may be directly impacted as a result of Project activities.

Standards for Success: Breeding colonies of the tricolored blackbird will not be impacted by the Project.

Mitigation Measure BIO-7: Avoid Disturbance to Nesting Raptors and Other Migratory Birds

To the extent feasible, vegetation removal activities shall be conducted during the non-nesting season (i.e., about from September 1 to February 14). If construction, such as tree removal, trench excavation, pipe installation, etc., have the potential to disturb nesting birds occurs during the nesting season, then a qualified biologist shall conduct a pre-construction nesting bird survey prior to vegetation removal or ground disturbing activities in a given area with the following criteria:

- Surveys shall be conducted within the Program Study Area and all potential nesting habitat for passerine species within approximately 100 feet of this area, and raptor species within approximately 500 feet of this area.
- The surveys should be conducted within one week before initiation of construction activities at any time between February 15 and August 31. If no active nests are detected, then no additional mitigation is required.
- If surveys indicate the presence of nesting birds within the survey area, the biologist shall establish an exclusion buffer (consistent with MM BIO-10) around the nest in which no work would be allowed until the young have successfully fledged or the nest has been abandoned. The size of the exclusion zone shall be determined by a qualified biologist and shall depend on the status of the species present, the level of noise or construction disturbance, line of sight between the nest and the disturbance, ambient levels of noise and other disturbances, other topographical or artificial barriers, and the sensitivity of the nesting bird to the disturbance. In general, exclusion zones of up to 500 feet for raptors and approximately 150 feet for passerines are sufficient to prevent substantial disturbance to nesting birds. However, these buffers may be increased or decreased at the discretion of the biologist, as appropriate. Active nest sites shall be monitored periodically throughout the nesting season to identify any sign of disturbance.

- If nesting birds are documented to have established themselves in a given location within the Program Study Area during pre-existing construction activities, then it shall be assumed that the nesting birds are habituated to the construction activities. Under this scenario, the active nest shall be monitored by a qualified biologist periodically until the young have successfully fledged, or the nest has been abandoned, as described above.
- If active nests are identified on or immediately adjacent to the Program Study Area, then all non-essential construction activities (e.g., equipment storage and meetings) should be avoided in the immediate vicinity of the nest site, but the remainder of construction activities may proceed.

Mitigation Measure BIO-7 Implementation

Responsible Party: The City.

Timing: A pre-construction nesting survey shall be conducted by a qualified biologist within one week prior to construction in any given area of the Program, should the Program be initiated between February 15 and August 31.

Monitoring and Reporting Program: The survey(s) shall be conducted by a qualified biologist, and a brief Nesting Raptor and Migratory Bird Survey Results Report shall be documented and kept on file with the City.

Standards for Success: Special status species and nesting birds covered under the Migratory Bird Treaty Act shall not be disturbed during the Program construction activities; exclusion buffers will be installed and monitored, as necessary.

Mitigation Measure BIO-8: Avoid Disturbance to Roosting Bat Species

Special status bat species that occur in the Program Study Area may roost in human-made structures or trees within or directly adjacent to the Program Study Area. Special status bat species may be found foraging in nearby open areas, agricultural, or grasslands within the vicinity of the Program Study Area. The City shall conduct a pre-construction habitat assessment on a Project-specific basis. If a Project area includes suitable roosting habitat such as large diameter trees, snags, or human-made structures such as buildings, bridges and culverts, and that this habitat cannot be avoided, the City must conduct a pre-construction bat roosting survey at least 45 days prior to construction. If roosting habitat is identified, removal of that potential roost habitat identified during the assessment shall be avoided, and no further mitigation is required. If removal of potential roost habitat is found to be necessary, and additional pre-construction inspections for bats within the potential roosting habitat shall be conducted using an appropriate method (e.g., camera inspection, exit survey with night optics, or acoustic survey). If bats are observed during the roost habitat survey, then appropriate methods, including timing (i.e., removal of an active maternity roost shall not occur), shall be determined by a qualified biologist in communication by CDFW. Additionally, if bats are observed during the roost habitat survey, construction hours shall be limited to 6:00 a.m. and 6:00 p.m. If an active roost or maternity roost is identified within the Program Study Area, but not subject to removal, exclusion fencing shall be installed in accordance with MM BIO-10.

Mitigation Measure BIO-8 Implementation

Responsible Party: The City

Timing: Prior to the construction of a proposed Project, a habitat assessment shall be completed for the presence of bat roosting habitat. If bat roosting habitat is present within the project area and cannot be avoided, the City shall conduct a pre-construction bat roosting survey shall be conducted by a qualified biologist within 45 days prior to of commencement of construction, including vegetation removal to determine the presence or absence of roosting bats. If roosting bats are observed in the Project area and cannot be avoided, CDFW shall be consulted for further guidance to define the appropriate avoidance measures to move forward. Construction may not commence prior to the removal of the roost habitat according to a method determined by a qualified biologist in communication with CDFW.

Monitoring and Reporting Program: Each Project-specific habitat assessment and bat roost survey shall be conducted by a qualified biologist familiar with California bat species. If removal of bat roosting habitat is necessary, methods shall be determined by a qualified bat biologist in communication with CDFW. Following all required surveys and roosting habitat removal, all results shall be documented in a brief Special Status Bat Survey Results Memo that shall be kept on file with the City.

Standards for Success: Special status roosting bat species shall not be directly impacted as a result of Program activities.

Mitigation Measure BIO-9: Avoid Disturbance to Breeding San Joaquin Kit Fox

In accordance with the *USFWS San Joaquin Kit Fox Survey Protocol for the Northern Range* (USFWS 1999), a desktop, field habitat assessment, and effects analysis shall be conducted, and the results shall be submitted to the USFWS so that they may evaluate the assessment to determine the presence, quality, and value of kit fox habitat. If USFWS determines that the Project will not result in direct impacts (i.e., take), the City may proceed with the Project. However, if the USFWS determines that take will occur as a result of the Project, the City shall work with USFWS to determine the appropriate measures to avoid impacts to the kit fox. This may include project modifications; avoidance and minimization measures; and restoration, preservation, or compensatory actions (USFWS 1999). Specific and typical recommendations for measures for the protection of SJKF may also be found in the *USFWS Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior To or During Ground Disturbance* (USFWS 2011).

Mitigation Measure BIO-9 Implementation

Responsible Party: The City

Timing: A desktop field habitat assessment and effects analysis shall be conducted prior to Program construction activities, results submitted to USFWS at least 30 days prior to construction of the proposed Project activities. In accordance with the *USFWS San Joaquin Kit Fox Survey Protocol for the Northern Range (USFWS*).

Monitoring and Reporting Program: Surveys and data collection shall be conducted by a qualified biologist and reporting shall be completed in accordance with the *USFWS San Joaquin Kit Fox Survey Protocol for the Northern Range (USFWS)*. Results of habitat assessments, field surveys, and impact assessments conducted will be submitted to USFWS and kept on file with the City. In addition, all mitigation methods developed and implemented by the City shall be documented and kept on file with the City.

Standards for Success: SJKF will not be impacted by the Program.

Mitigation Measure BIO-10: Install Exclusion Fencing for Environmentally Sensitive Areas

Where necessary, the City shall install exclusionary fencing around environmentally sensitive areas prior to construction or during operation. The fencing shall delineate environmentally sensitive area buffers to assist the Program personnel avoid impacts to environmentally sensitive areas (e.g., special status plant occurrences, active bird nests, riparian habitat, sensitive biological communities, and waters of the U.S. [WOTUS]) by staying within the Program construction footprint or avoiding sensitive areas within operational areas (i.e., active bird nest). During the construction phase of a Project, these avoidance areas will be identified prior to initiating construction activities, will be included within construction plans as appropriate, and will be protected by the installation of appropriate exclusion zone fencing. Sensitive areas observed during the operational phase of a project (i.e., active bird nests) will be addressed as needed.

Mitigation Measure BIO-10 Implementation

Responsible Party: The City

Timing: During the construction phase, a qualified biologist shall delineate biologically sensitive areas prior to construction via flagging, and the contractor shall then install exclusion fencing, also prior to Program construction. Sensitive areas observed during regular operation will be addressed as needed.

Monitoring and Reporting Program: The City shall verify the exclusion area fencing is properly installed and maintained throughout Program activities.

Standards of Success: No impacts shall occur to environmentally sensitive areas.

Mitigation Measure BIO-11: Avoid and Reduce Disturbance and Impacts to Riparian Habitat and/or Sensitive Natural Communities

The City plans to avoid and reduce potential impacts to riparian habitat and/or sensitive natural communities. If avoidance is not feasible, the City shall apply and obtain a Lake and Streambed Alteration Agreement (LSAA) through CDFW prior to Program activities.

Work including those actions that would substantially divert, obstruct, or change the natural flow of a river, stream, or lake; substantially change the bed, channel, or bank of a river, stream, or lake; or use material from a streambed shall be addressed within the approved LSAA, including temporary impacts to riparian vegetation. To avoid and reduce disturbance and impacts to riparian habitat and sensitive natural communities, the following shall be implemented:

1. If riparian habitat or any other natural communities are present within the Program Study Area, then they shall be identified and flagged and/or mapped by a qualified biologist prior to construction activities. Specifically, when working within 100 feet of a water feature (e.g., creeks, irrigation canals, seasonal wetlands, and vernal pools) exclusion fencing shall be installed that delineates the area to be avoided.

2. All riparian vegetation disturbance shall be avoided during Program implementation. Activities shall be confined to the defined Program work areas, including access routes and staging areas. Active work shall not occur in areas designated as exclusionary by the qualified biologist.

3. If riparian habitat or other sensitive natural communities are present within and/or adjacent to the Program Study Area, all onsite personnel shall be instructed on the importance of avoiding and reducing disturbance in these areas if present within the Program Study Area.

4. If impacts to riparian habitat cannot be avoided, the City shall obtain a LSAA from CDFW prior to Program activities.

Mitigation Measure BIO-11 Implementation

Responsible Party: The City shall ensure that a qualified biologist conducts pre-construction sensitive area and habitat delineation of environmentally sensitive areas, and where appropriate, flag where exclusion fencing shall be installed to show what areas shall be avoided. If Program activities cannot avoid riparian habitat or sensitive communities, the City shall obtain an LSAA from CDFW.

Timing: Exclusion fencing and buffer distances shall be established prior to any work, including staging or ground-disturbing activities within the Program Study Area, including staging and access areas. If necessary, a LSAA must be obtained prior to the commencement of Program activities.

Monitoring and Reporting Program: Following the pre-construction sensitive area/habitat delineation and flagging of exclusion areas within the Program Study Area, a brief technical memorandum shall be completed and kept on file with the City. If a LSAA is required for the Program, the City shall complete required reporting per LSAA permit stipulations.

Standards for Success: Impacts to riparian habitat and other sensitive natural communities shall be avoided and minimized to the greatest extent feasible.

Mitigation Measure BIO-12: Avoid and Reduce Disturbance to Waters of the United States, Other Waters, and Waters of the State

The City plans to avoid potential impacts to WOTUS, other waters, and waters of the state (WOTS) to the extent feasible. If avoidance is not feasible, the City shall apply for a Clean Water Act (CWA) Section 404 Nationwide Permit through the U.S. Army Corps of Engineers Sacramento District, and CWA Section 401 Water Quality Certification through the Central Valley RWQCB for the permanent and/or temporary impacts (e.g., dredge or fill) of jurisdictional waters. Temporary impacts to jurisdictional waters shall be addressed with first, on-site restoration, if possible, then if not possible through compensatory mitigation, for impacts from Program activities.

Mitigation Measure BIO-12 Implementation

Responsible Party: The City is responsible for applying for all permits and acquiring the appropriate approvals needed for temporary and/or permanent impacts to WOTUS, other waters, and WOTS within the proposed Program Study Area.

Timing: Permits shall be obtained prior to construction.

Monitoring and Reporting Program: The City shall ensure that all permits are obtained prior to construction and the appropriate fees paid, including any for compensatory mitigation, as needed. The City

shall comply with Program permit stipulations. The City shall prepare a brief technical memorandum on the compliance with this mitigation measure for City files and the permitting agencies, as needed.

Standards for Success: No permanent impacts to WOTUS, other waters, and/or WOTS.

3.4.6 Abbreviations

amsl	Above Mean Sea Level
BGEPA	Bald and Golden Eagle Protection Act
BCC	Birds of Conservation Concern
BMP	Best Management Practice
BSA	Biological Study Area
CAL FIRE	California Department of Forestry and Fire Protection
CALVEG	Classification and Assessment with Landsat of Visible Ecological Groupings
CCR	California Code of Regulations
CDFG	California Department of Fish and Game
CDFW	California Department of Fish and Wildlife
CESA	California Endangered Species Act
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
City	City of Merced
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
County	Merced County
COWCA	California Oak Woodland Conservation Act
CRPR	California Rare Plant Rank
CTS	California Tiger Salamander
CVRWQCB	Central Valley Regional Water Quality Control Board
CWA	Clean Water Act
DCH	Designated Critical Habitat
EIR	Environmental Impact Report
ESA	Endangered Species Act
FGC	California Fish and Game Code
FRAP	Fire and Resources Assessment Program
HCP	Habitat Conservation Plan
ITP	Incidental Take Permit
LSAA	Lake and Streambed Alternation Agreement
MBTA	Migratory Bird Treaty Act
MCV	Manual of California Vegetation
Mgal/d	Million Gallons Per Day
MID	Merced Irrigation District
MM	Mitigation Measure
NCCP	Natural Community Conservation Plan

NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NOP	Notice of Preparation
NPPA	Native Plant Protection Act
NVC	National Vegetation Classification
NWI	National Wetland Inventory
PRC	Public Resources Code
ROW	Right-of-Way
RWQCB	Central Valley Regional Water Quality Control Board
SJKF	San Joaquin Kit Fox
SR	State Route
SSC	Species of Special Concern
SUDP/SOI	Specific Urban Development Plan/Sphere of Influence
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
U.S.	United States
USACE	United States Army Corps of Engineers
USC	United States Code
USDA	United States Department of Agriculture
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
WEAP	Worker Environmental Awareness Program
WOTS	Waters of the State
WOTUS	Waters of the United States
WWTRF	Wastewater Treatment and Reclamation Facility
2030 General Plan	Merced Vision 2030 General Plan

3.4.7 References

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