

Chapter 5. Biological Resources

This chapter evaluates the potential impacts of the CWP on biological resources located in the Program Area. This chapter describes biological resources present or potentially present in the Program Area and WWTP Site; discusses federal, state and local regulations that may affect biological resources; identifies potential impacts that could occur from construction and operation of the CWP; and proposes mitigation measures to reduce any significant impacts to a less than significant level.

5.1 Existing Setting

The proposed projects in the CWP would be constructed within the Program Area in the City of San Mateo; therefore, existing setting information is presented primarily for the Program Area as shown on Figure 2-2. More detailed information is provided for the WWTP Site, as described in Chapter 2.

5.1.1 Program Area

The Program Area is in a developed urban area. Most existing land use consists of paved roadways; other transportation infrastructure, including railroads; residential, institutional, commercial, and industrial development; and landscaped parks and recreation areas. Less developed and undeveloped lands are located primarily in the hills in the western part of the City, most of which is outside of the Program Area. Within the Program Area, less developed areas are located along the Bay shoreline, creeks, and sloughs.

Creeks, sloughs, and wetlands are shown on Figure 4-5-1. Some segments of creeks and channels, especially in upstream areas, have vegetation on the banks and areas adjacent to the creeks. This is riparian vegetation, and it could provide valuable habitat for plants and wildlife. The creek and wetland features may be considered waters of the U.S. and state (see Sections 5.2.1 and 5.2.2).

The General Plan (City of San Mateo, 2010) identifies biological communities throughout the City, as shown on Figure C/OS-3 of the General Plan. Within the Program Area, biological communities in the vicinity of proposed project locations include the following:

- **Urban:** Occurs in the large majority of the Program Area; consists of buildings and pavement, with landscaping and ornamental trees.
- **Lacustrine:** Occurs primarily in Marina Lagoon.
- **Coastal oak woodland:** Occurs in narrow bands along upstream portions of some creeks in the Program Area, including Laurel Creek, Beresford Creek, and Polhemus Creek; also occurs in undeveloped hillsides in the western portion of the City.
- **Valley oak woodland:** Occurs in a narrow band along an upstream portion of Beresford Creek.
- **Annual grassland:** Occurs in scattered undeveloped areas in the western portion of the City.

Special-status plant and animal species are afforded special recognition by federal, state, or local resource agencies or organizations. Special-status species have relatively limited distribution and generally require specialized habitat conditions. Special-status species are defined as follows:

- Listed, proposed, or candidate for listing under the state or federal Endangered Species Acts
- Protected under other regulations (e.g., local policies, Migratory Bird Treaty Act [MBTA])
- California Department of Fish and Wildlife (CDFW) Species of Special Concern (SSC) and California Fully Protected (CFP) Species
- Included in the California Native Plant Society's Rare and Endangered Plant Inventory (Rare Plant Rank 1A, 1B, or 2)

- Species that receive consideration during environmental review under California Environmental Quality Act (CEQA).

The CDFW (formerly the California Department of Fish and Game) maintains records in the California Natural Diversity Database (CNDDDB) for the distribution and known occurrences of sensitive species and habitats. A search of the CNDDDB of special-status species occurrences in the last 10 years and within 5 miles of the existing WWTP was completed in 2015 and within 5 miles of the center of San Mateo at approximately SR-92 and El Camino Real was completed in September 2015 (CNDDDB, 2015a; CNDDDB, 2015b). The 5-mile radius includes the entire Program Area. In addition, a similar search of the California Native Plant Society (CNPS) database was performed (CNPS, 2015) and the online list of federally listed species provided by the USFWS Endangered Species Office was checked for updated species listings (USFWS, 2015). Species identified in the database searches are listed in Appendix C. Within the Program Area, known special-status species occurrences are primarily along the shore and along creeks. Known occurrences of special-status species that have potential to occur in the Program Area (see Appendix C) are shown on Figure 5-2. Special-status species with the potential to occur in the Program Area include:

- salt-marsh harvest mouse (*Reithrodontomys raviventris*, a state and federal endangered species)
- Ridgway's rail (formerly known as California clapper rail) (*Rallus longirostris obsoletus*, a state and federal endangered species and a CDFW CFP)
- California red-legged frog (*Rana draytonii*, a federal threatened species)
- San Francisco garter snake (*Thamnophis sirtalis tetrataenia*, a state and federal endangered species and CDFW CFP)
- western pond turtle (*Emys marmorata*, a CDFW species of special concern)
- Central California Coast steelhead (*Oncorhynchus mykiss*, a federal threatened species)

5.1.2 Wastewater Treatment Plant Site

A survey of the WWTP Site was completed on April 1, 2015. A follow-up site visit was conducted on April 6, 2015, to complete a protocol rare plant survey and a wetland delineation. Additional protocol botanical surveys were completed on May 30 and June 22, 2015. The survey area is shown on Figure 5-3 and encompasses an area of approximately 30 acres, including the WWTP Site and adjacent areas. The survey area is located in Bay Flats subsection of the Central California Coast ecological section (Miles and Goudey, 1997). The Bay Flats subsection includes the nearly level coastal plain and estuarine areas along the south end of the San Francisco Bay that are generally less than 10 feet above the mean tide line. The geology is primarily Quaternary Bay fill composed mostly of silt and clay. Only about 15 percent of the survey area is undeveloped land.

Vegetation and habitat types in the survey area include the following as identified during the site surveys:

- **Coastal salt marsh:** Marina Lagoon (formerly Seal Slough) is located in the eastern portion of the study area and contains coastal salt marsh habitat. Coastal saltmarsh vegetation, including a large patch of pickleweed near Seal Slough Dam, was observed along the edges of Marina Lagoon (see Figure 5-3). Characteristic species in these areas include pickleweed (*Salicornia pacifica*), fleshy jaumea (*Jaumea carnosa*), and saltgrass (*Distichlis spicata*).
- **Estuarine wetland:** Leslie Creek daylights just south of the intersection of South Railroad Avenue and East 16th Street in San Mateo, approximately 1 mile southwest of the survey area. The creek runs along the southwest edge of the study area between a residential neighborhood and Bayside Park then turns east and continues along the southern edge of the existing WWTP facility to the tide gates at the confluence with Marina Lagoon. Most of the channel within the survey area is characterized by cement lined side slopes with a muddy substrate. No vegetation was evident in the channel, and adjacent

vegetation consists of mowed grasses and forbs along the west side and landscaped trees, primarily Australian pine (*Casuarina cunninghamiana*), along the north side of Bayside Park (CH2M HILL, 2015).

- **Palustrine emergent wetland:** A 0.14-acre wetland area was identified in the southern part of the Detroit Drive parcel (see Figure 5-4). The wetland is situated in a topographic low area. At the time of the survey, dense Italian ryegrass (*Festuca perennis*) occurred throughout the wetland, with some robust bulrush (*Bolboschoenus robustus*), spearscale (*Atriplex prostrata*), annual beardgrass (*Polypogon monspilensis*), and curly dock (*Rumex crispus*) in the lower parts of the wetland area. Creeping wildrye (*Elymus triticoides*) is also common and intermixed with the Italian ryegrass in the narrow arm of the wetland that extends to the west.
- **Disturbed areas:** These areas are characterized by ruderal (weedy) plant species typical of highly disturbed sites and include species such as wild oat (*Avena barbata*, *A. fatua*), rip-gut brome (*Bromus diandrus*), Italian ryegrass, foxtail barley (*Hordeum murinum*), pampas grass (*Cortidaria jubata*), fennel (*Foeniculum vulgare*), wild radish (*Raphanus sativa*), and bull mallow (*Malva nicaeensis*). Occasional coyote bush (*Baccharis pilularis*) shrubs are also present in some areas. This vegetation was observed primarily on the Dale Avenue parcel and portions of the Detroit Drive parcel.
- **Managed landscapes:** Bayside/Joinville Park contains planted and maintained vegetation and trees; landscaping is present around the boundaries of some of the properties. Vegetation associated with landscaped areas includes a variety of landscape/cultivated trees and shrubs including Ngaio tree (*Myoporum laetum*), blackwood acacia (*Acacia melanoxylon*), pine (*Pinus patula*, *P. densiflora*), eucalyptus (*Eucalyptus sideroxylon*, *E. rudis*, and *E. citriodora*), Australian pine, Siberian elm (*Ulmus pumilla*), swamp paperbark (*Melaleuca ericifolia*), and cotoneaster (*Cotoneaster* spp.).

The remainder of the survey area is paved or developed with treatment facilities, trucking facilities, roadways, and parking areas.

Special-status species with the potential to occur in the WWTP Site are listed in Appendix C. Wildlife observed during the April 1 site visit include house sparrow (*Passer domesticus*), house finch (*Haemorhous mexicanus*), mallard (*Anas platyrhynchos*), American coot (*Fulica americana*), Canada goose (*Branta canadensis*), American crow (*Corvus brachyrhynchos*), rock pigeon (*Columba livia*), northern mockingbird (*Mimus polyglottos*), black phoebe (*Sayornis nigricans*), American robin (*Turdus migratorius*), and red-winged blackbird (*Agelaius phoeniceus*). Within the Marina Lagoon, snowy egret (*Egretta thula*), double-crested cormorant (*Phalacrocorax auritus*), killdeer (*Charadrius vociferus*), western and California gulls (*Larus occidentalis* and *L. californicus*), black-necked stilt (*Himantopus mexicanus*) were observed. Plant species observed on April 6 are listed in the Wetland Delineation Report (CH2M HILL, 2015).

Nests were found in two locations on the Detroit Drive abandoned parcel parking lot (see Figure 5-3). One nest belonged to a European starling (*Sturnus vulgaris*) and was observed in the broken bulb platform of an onsite streetlight. European starlings are non-native and not protected under the MBTA. The other observed nest belonged to a mourning dove (*Zenaida macroura*), which was starting to build a nest in an ornamental shrub on the southeast corner of the parking lot.

5.2 Regulatory Framework

This section discusses specific environmental review and consultation requirements and identifies permits and approvals that may be required from local, state, and federal agencies for individual projects in the CWP. Summaries of regulations were obtained from the General Plan EIR (City of San Mateo, 2009).

5.2.1 Federal Regulations

5.2.1.1 Endangered Species Act

Provisions of the federal Endangered Species Act (FESA), as amended (16 United States Code [USC] 1531), protect federally listed threatened and endangered species and their habitats from unlawful take. “Take”

under FESA includes activities that “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or...attempt to engage in any such conduct.” USFWS regulations define “harm” to include some types of “significant habitat modification or degradation.” In the case of *Babbitt, Secretary of Interior, et al., Petitioners v. Sweet Home Chapter of Communities for a Great Oregon, et al.* (No. 94-859) (U.S. Supreme Court, 1995), the United States Supreme Court ruled on June 29, 1995, that “harm” may include habitat modification “...where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering.”

For projects with a federal nexus, Section 7 of the FESA requires that federal agencies, in consultation with the USFWS or NOAA Fisheries, use their authority to further the purpose of FESA and to reduce the likelihood that their actions would jeopardize the continued existence of listed species or result in destruction or adverse modification of critical habitat. Section 7 applies to the management of federal lands and other federal actions, such as federal approval of private activities through the issuance of federal permits, licenses, funding, or other actions that may affect listed species. Section 7 directs all federal agencies to use their existing authority to conserve threatened and endangered species and, in consultation with the USFWS, reduce the likelihood that their actions would jeopardize listed species or destroy or adversely modify critical habitat. Critical habitat is defined as specific areas that are essential to the conservation of federally listed species.

Section 10(a)(1)(B) of FESA allows nonfederal entities to obtain permits for incidental taking of threatened or endangered species through consultation with USFWS or NOAA Fisheries. In general, NOAA Fisheries is responsible for protection of federally listed marine species and anadromous fish; other listed species are under USFWS jurisdiction. Section 10 of FESA provides a means for nonfederal entities (i.e., states, local agencies, and private parties) that are not permitted or funded by a federal agency to receive authorization to disturb, displace, or kill (i.e., take) threatened and endangered species. It allows USFWS and/or NOAA Fisheries to issue an incidental take permit authorizing take resulting from otherwise legal activities, if the take would not jeopardize the continued existence of the species. Section 10 requires the applicant to prepare a habitat conservation plan addressing project impacts and proposing mitigation measures to compensate for those impacts. The habitat conservation plan is subject to USFWS and/or NOAA Fisheries review and must be approved by the reviewing agency or agencies before the proposed project could be initiated. Because issuance of the incidental take permit is a federal action, USFWS and/or NOAA Fisheries must also comply with the requirements of FESA Section 7 and the National Environmental Policy Act.

5.2.1.2 Clean Water Act, Section 404

The objective of the CWA, as amended, is to restore and maintain the chemical, physical, and biological integrity of the nation’s waters. Discharge of fill material into waters of the U.S., including wetlands, is regulated by the USACE under Section 404 of the federal Clean Water Act (33 USC 1251–1376). USACE regulations implementing Section 404 define waters of the U.S. to include intrastate waters, including lakes, rivers, streams, wetlands, and natural ponds, the use, degradation, or destruction of which could affect interstate or foreign commerce. Wetlands are defined for regulatory purposes as “areas that are 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 soil conditions” (33 Code of Federal Regulations [CFR] 328.3; 40 CFR 230.3). The jurisdictional boundaries for other waters of the U.S. are based on the presence of an ordinary high water mark, as defined in 33 CFR 328.3(e). The placement of structures in “navigable waters of the U.S.” is also regulated by USACE under Section 10 of the federal Rivers and Harbors Act (33 USC 401 et seq.). Projects are permitted under either individual or general (e.g., nationwide) permits. The specific applicability of the permit type is determined by USACE on a case-by-case basis.

In 1987, USACE published a manual that standardized the manner in which wetlands were to be delineated nationwide (USACE, 1987). To determine whether areas that appear to be wetlands are subject to USACE jurisdiction (i.e., jurisdictional wetlands), a wetlands delineation must be performed. Under normal

circumstances, positive indicators from three parameters, (1) wetland hydrology, (2) hydrophytic vegetation, and (3) hydric soils, must be present to classify a feature as a jurisdictional wetland. More recently, USACE developed the Regional Supplement for identifying wetlands and distinguishing them from aquatic habitats and other non-wetlands. The supplement presents wetland indicators, delineation guidance, and other information that is specific to regional areas. For any wetland delineations submitted after June 5, 2007, USACE requires that the site be surveyed in accordance with the 1987 manual and the Regional Supplement. In addition to verifying wetlands for potential jurisdiction, USACE is responsible for issuing permits for projects that propose filling of wetlands. Any permanent loss of a jurisdictional wetland as a result of project construction activities is considered a significant impact.

5.2.1.3 Clean Water Act, Section 401

Section 401 of the CWA requires any applicant for a federal license or permit to conduct any activity that may result in a discharge of a pollutant into waters of the United States to obtain a certification that the discharge will comply with the applicable effluent limitations and water quality standards. The appropriate RWQCB regulates Section 401 requirements (see Section 5.2.2.5).

5.2.1.4 Migratory Bird Treaty Act

Migratory birds are protected under the MBTA (16 USC 703–711). The MBTA makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed in 50 CFR 10, including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 CFR 21). The vast majority of birds found in the Planning Area are protected under the MBTA.

5.2.2 State Regulations

5.2.2.1 California Endangered Species Act

Under the California Endangered Species Act (CESA), the CDFW has responsibility for maintaining a list of endangered and threatened species (California Fish and Game Code 2070). CDFW maintains a list of “candidate species,” which are under review for addition to the list of endangered or threatened species. CDFW also maintains lists of “species of special concern,” which serve as species watch lists. Pursuant to the requirements of CESA, an agency reviewing a proposed project within its jurisdiction must determine whether any state-listed endangered or threatened species may be present in the project site and determine whether the proposed project will have a potentially significant impact on such species. In addition, CDFW encourages informal consultation on any proposed project that may affect a candidate species; however, this consultation is not required.

Project-related impacts on species on the CESA endangered or threatened list would be considered significant. State-listed species are fully protected under the mandates of CESA. “Take” of protected species, incidental to otherwise lawful management activities, may be authorized under California Fish and Game Code Section 206.591. Authorization from CDFW would be in the form of an Incidental Take Permit.

5.2.2.2 Coastal Zone Management Act (16 USC 1456 et seq.)

The Coastal Zone Management Act (CZMA) established national policy to preserve, protect, develop, and where possible, restore or enhance the nation’s coastal zone. The coastal zone includes the territorial sea and inland bays. If a proposed project affects water use in the coastal zone, the activity must be consistent with the state’s Coastal Zone Management Program to the maximum extent possible. This applies to actions by a federal entity or actions that require a federal permit. The reauthorization amendments of the CZMA in 1990 indicate that any federal action, regardless of location, is subject to the CZMA. Because the City is located on San Francisco Bay, nearly any project action proposed in the City that requires a federal permit is subject to the CZMA, which is administered by the Bay Conservation and Development Commission.

5.2.2.3 Marine Mammal Protection Act (P.L. 92-522; amended by P.L. 98-364, approved July 17, 1984)

The Marine Mammal Protection Act prohibits taking or importing marine mammals or marine mammal products except under special permit conditions. The term “take” is broadly defined to include harassing or

attempting to harass marine mammals. The term “marine mammal” includes all seals, sea lions, and other mammals that primarily occur in marine environments.

5.2.2.4 Porter-Cologne Water Quality Control Act

Water quality in California is governed by the Porter-Cologne Water Quality Control Act. This law assigns overall responsibility for water rights and water quality protection to the SWRCB and directs the nine statewide RWQCBs to develop and enforce water quality standards within their boundaries.

5.2.2.5 California Regional Water Quality Control Board Clean Water Act

Section 401 Water Quality Certification

Section 401 of the CWA (33 USC 1341) requires any applicant for a federal license or permit to conduct any activity that may result in a discharge of a pollutant into waters of the U.S. to obtain a certification that the discharge will comply with the applicable effluent limitations and water quality standards. In California, the RWQCBs regulate Section 401 requirements. The San Francisco Bay RWQCB is responsible for enforcing water quality criteria and protecting water resources within the Planning Area. The RWQCB is responsible for controlling discharges to surface waters of the state by issuing waste discharge requirements (WDR) or commonly by issuing conditional waivers to WDRs. The RWQCB requires that a project proponent obtain a Section 401 water quality certification for Section 404 permits granted by USACE. A request for water quality certification (including WDRs) by the RWQCB and a Notice of Intent (NOI) application for a General Permit for Stormwater Discharges Associated with Construction Activities are submitted after completion of the CEQA environmental document and submittal of the wetland delineation to USACE.

Waters of the State

Under California law, “waters of the state” means “any surface water or groundwater, including saline waters, within the boundaries of the state.” Therefore, water quality laws apply to surface water and groundwater. After the U.S. Supreme Court decision in *Solid Waste Agency of Northern Cook County v. U.S. Army Core of Engineers*, the Office of Chief Counsel of the SWRCB issued a legal memorandum confirming the State’s jurisdiction over isolated wetlands. The memorandum stated that under the California Porter-Cologne Water Quality Control Act, discharges to wetlands and other waters of the state are subject to State regulation, including isolated wetlands. In general, the RWQCBs regulate discharges to isolated waters in much the same way as they do for federal-jurisdictional waters, using the Porter-Cologne Water Quality Control Act rather than CWA authority.

5.2.2.6 California Department of Fish and Wildlife Streambed Alteration Agreement (Sections 1600–1607 of the California Fish and Game Code)

State and local public agencies are subject to Section 1602 of the California Fish and Game Code, which governs construction activities that will substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by the CDFW. Under Section 1602, a discretionary Streambed Alteration Agreement must be issued by the CDFW prior to construction activities on lands under CDFW jurisdiction. As a general rule, this requirement applies to work within the 100-year floodplain of a stream or river containing fish or wildlife resources.

5.2.2.7 Native Plant Protection Act

The Native Plant Protection Act (California Fish and Game Code Sections 1900–1913) prohibits take, possession, or sale within the state of any plants with a CDFW designation of rare, threatened, or endangered. An exception in the act allows landowners, under specified circumstances, to take listed plant species, provided the owners first notify CDFW and give that agency at least 10 days to retrieve (and presumably replant) the plants before they are destroyed (Fish and Game Code Section 1913 exempts “the removal of endangered or rare native plants from a canal, lateral ditch, building site, or road, or other right of way”). Impacts of a project on these species are not considered significant unless the species are known to have a high potential to occur within the area of disturbance associated with construction of the proposed project.

5.2.2.8 Birds of Prey

Under Section 3503.5 of the California Fish and Game Code, it is unlawful to take, possess, or destroy any birds in the orders of Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto.

5.2.2.9 Fully Protected Species

California statutes also accord “fully protected” status to specifically identified birds, mammals, reptiles, and amphibians. These species cannot be taken, even with an incidental take permit. Section 3505 of the California Fish and Game Code makes it unlawful to take “any aigrette or egret, osprey, bird of paradise, goura, numidi, or any part of such a bird.” Section 3511 protects from take the following fully protected birds: (a) American peregrine falcon (*Falco peregrinus anatum*); (b) brown pelican (*Pelecanus occidentalis*); (c) California black rail (*Laterallus jamaicensis coturniculus*); (d) Ridgway’s rail (formerly known as California clapper rail) (*Rallus longirostris obsoletus*); (e) California condor (*Gymnogyps californianus*); (f) California least tern (*Sterna albifrons browni*); (g) golden eagle; (h) greater sandhill crane (*Grus canadensis tabida*); (i) lightfooted clapper rail (*Rallus longirostris levipes*); (j) southern bald eagle (*Haliaeetus leucocephalus leucocephalus*); (k) trumpeter swan (*Cygnus buccinator*); (l) white-tailed kite (*Elanus leucurus*); and (m) Yuma clapper rail (*Rallus longirostris yumanensis*).

California Fish and Game Code Section 4700 identifies the following fully protected mammals that cannot be taken: (a) Morro Bay kangaroo rat (*Dipodomys heermanni morroensis*); (b) bighorn sheep (*Ovis canadensis*), except Nelson bighorn sheep (subspecies *Ovis Canadensis nelsoni*); (d) Guadalupe fur seal (*Arctocephalus townsendi*); (e) ring-tailed cat (genus *Bassariscus*); (f) Pacific right whale (*Eubalaena sieboldi*); (g) salt-marsh harvest mouse (*Reithrodontomys raviventris*); (h) southern sea otter (*Enhydra lutris nereis*); and (i) wolverine (*Gulo gulo*).

CDFW does not issue take permits, including Incidental Take Permits (ITP), for any of these fully protected species.

5.2.2.10 California Native Plant Society

The CNPS is a non-governmental agency that classifies native plant species according to current population distribution and threat-level of extinction. The CNPS maintains a list of plant species native to California that have low numbers, limited distribution, or are otherwise threatened with extinction. Potential impacts on populations of CNPS-listed plants receive consideration under CEQA review.

5.2.2.11 McAteer-Petris Act

The McAteer-Petris Act established the BCDC as the agency responsible for maintaining and carrying out the provisions of the act and the San Francisco Bay Plan (Bay Plan). The Bay Plan is the primary plan governing development in San Francisco Bay; it is a comprehensive and enforceable plan for conservation of water of the Bay and development of its shoreline (BCDC, 2008). The act directs BCDC to exercise its authority to issue or deny permit applications for placing of fill in the Bay. The agency has jurisdiction over all tidal areas of the Bay and the Sacramento River, including projects within 100 feet of the shoreline.

The Bay Plan is the guiding policy document for BCDC. The Bay Plan provides the findings and policies to guide future uses of the Bay and shoreline, certain waterways, salt ponds, and managed wetlands; and the maps that apply these policies to BCDC’s jurisdiction. Any person or public agency other than a federal agency that proposes certain activities in or around these areas must obtain a development permit from the BCDC.

The BCDC has jurisdiction in the following areas of the City of San Mateo:

- The first 100 feet inland from the shoreline around the Bay
- Portions of most creeks, rivers, sloughs, and other tributaries that flow into the Bay.
- Managed wetlands that have been diked off from the Bay.

Where necessary, particular portions of BCDC jurisdiction may be further clarified by BCDC regulations. BCDC jurisdiction was identified in the WWTP vicinity as part of the City of San Mateo's Bayfront Levee Improvements Project in 2008 (H.T. Harvey & Associates, 2008). The approximate limits of BCDC jurisdiction near the WWTP Site as determined in 2008 are shown on Figure 5-3. BCDC jurisdiction may be present on portions of the existing WWTP and the Bayfront parcels. No BCDC jurisdiction is present on the Detroit Drive parcel, where the New Headworks Project and Primary Clarifier Project would be located. More precise limits would need to be determined to support a permit, if one is required.

5.2.3 Local Regulations

~~5.2.3.11.1.1 McAteer-Petris Act~~

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~~5.2.3.25.2.3.1 General Plan~~

The General Plan includes a Conservation, Open Space, Parks, and Recreation Element that contains goals, objectives, policies, actions, and strategies applicable to biological resources. The General Plan goals and policies related to biological resources include the following:

- C/OS 1.1: Lagoon Habitat. Enhance the wildlife habitat value of Marina Lagoon, whenever possible, in conjunction with recreational use and flood control management activities.
- C/OS 1.2: Bird Island. Maintain "Bird Island" as a bird nesting and breeding site.
- C/OS 1.5: Conversion of Incompatible Uses. Encourage the conversion of existing land uses which are not compatible with adjacent lagoon or wetlands to permitted compatible uses.
- C/OS 2.1: Aesthetic and Habitat Values -- Public Creeks. Preserve and enhance the aesthetic and habitat values of San Mateo, Laurel and Beresford creeks and other City-owned channels in all activities affecting these creeks.

- C/OS 2.2: Aesthetic and Habitat Values – Private Creeks. Preserve and enhance the aesthetic and habitat values of privately owned sections of all other creeks and channels when cost effective or when these values outweigh economic considerations.
- C/OS 2.3: Hydrologic Impacts. Ensure that improvement to creeks and other waterways do not cause adverse hydrologic impacts on upstream or downstream portions of the subject creek; comply with Safety Element Policy S-2.1 regarding flood control.
- C/OS 2.4: New Creekside Development Requirements. Require that new Creekside development includes the following:
 - a. Adequate setback from the creek bank for flood control as directed by the Safety Element Policy S-2.2.
 - b. Protection or enhancement of riparian vegetation and water (including stormwater) quality.
 - c. Dedication of maintenance/bank stabilization easement in exchange for City assumption of maintenance responsibility.
 - d. Dedication of public access easement where possible and desirable.
- C/OS 6.1: Tree Preservation. Preserve heritage trees in accordance with the City Heritage Tree Ordinance.
- C/OS 6.2: Replacement Planting. Require significant replacement planting when the removal of heritage trees is permitted.
- C/OS 6.3: New Development Requirements. Require the protection of heritage trees during construction activity; require that landscaping, buildings, and other improvements located adjacent to heritage trees be designed and maintained to be consistent with the continued health of the tree.
- C/OS 6.4: Tree and Stand Retention. Retain the maximum feasible number of trees and preserve the character of stands or grove trees in the design of new or modified projects.

~~5.2.3.35.2.3.2~~ City of San Mateo Heritage Tree Ordinance

The City of San Mateo Heritage Tree Ordinance (Chapter 13.52 of the Municipal Code [City of San Mateo, 2015]) provides for the protection of heritage trees, which are defined as any bay (*Umbellularia californica*), buckeye (*Aesculus* spp.), oak (*Quercus* spp.), cedar (*Cedrus* spp.), or redwood (*Sequoia* spp.) tree that has a diameter of 10 inches or more measured at 48 inches above natural grade; or any tree with a trunk diameter of 16 inches or more measured at 48 inches above natural grade. A permit is required for (1) removing a heritage tree, (2) pruning more than one quarter of the crown of existing foliage, or (3) removing more than one third of the root system. A Heritage Tree Application is required for the permit and includes, among other things, the number and location of trees to be removed or pruned by types and the reason for removal or pruning of each. For construction work within a radius measured from the trunk center equal to 10 times the diameter of the tree trunk measured at 4 feet above grade, or other radius determined by the City during the development review process, a tree protection plan is to be prepared by a certified arborist prior to the issuance of a permit for a development project. Trees removed under jurisdiction of a planning approval pursuant to Chapter 27.71 must conform to the replacement conditions specified in the planning approval.

5.3 Assessment Methods and Thresholds of Significance

Potential impacts on biological resources were identified based on information collected during the April 1 and April 6, ~~2016~~2015, ~~and March 2, 2016,~~ site surveys; data from the CNDDDB, USFWS, and CNPS searches; information from the General Plan EIR; and other existing documentation where noted. To determine the level of significance of an identified impact, the criteria included in Appendix G of the CEQA Guidelines were used.

Impacts on biological resources may occur if the CWP would result in the following:

- 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 CDFW or USFWS
- A substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the CDFW or USFWS
- A substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, and coastal) through direct removal, filling, hydrological interruption, or other means
- 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
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance
- Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan

5.4 Environmental Impacts

Potential impacts of the CWP on biological resources are summarized in Table 5-1 and described in subsequent sections.

TABLE 5-1

Summary of Biological Impacts

Programmatic Environmental Impact Report, City of San Mateo Clean Water Program

Impact	In-System Storage Program	Full Conveyance Program	New Headworks Project	Primary Clarifier Project
Impact 5-1. Implementation of the CWP could have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species.	Less than significant impact with mitigation			
Impact 5-2. Implementation of the CWP could have an adverse effect on riparian habitats.	Less than significant impact	Less than significant impact	No impact	No impact
Impact 5-3. Implementation of the CWP could result in a substantial adverse effect on federally protected wetlands.	Less than significant impact with mitigation			
Impact 5-4. Implementation of the CWP may interfere with the movement of fish or wildlife species.	Less than significant impact with mitigation	Less than significant impact with mitigation	No impact	No impact
Impact 5-5. Implementation of the CWP could require the removal of heritage trees and potentially conflict with the City of San Mateo Heritage Tree Ordinance.	Less than significant impact with mitigation			

TABLE 5-1

Summary of Biological Impacts*Programmatic Environmental Impact Report, City of San Mateo Clean Water Program*

Impact	In-System Storage Program	Full Conveyance Program	New Headworks Project	Primary Clarifier Project
Impact 5-6. Implementation of the CWP would not conflict with provisions of an adopted habitat conservation plan, natural community conservation plan, or other plan.	No impact	No impact	No impact	No impact

Impact 5-1. Implementation of the CWP could have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species.

Special-status species are not expected to occur through most of the urbanized areas within the Program Area. Special-status species, however, do have the potential to be present in and around the WWTP Site and along creeks and channels.

In-System Storage Program***Program Area (Collection System Projects)***

Most of the collection system projects to be constructed as part of the In-System Storage Program would be located in highly developed urban areas. Pipeline projects generally would be constructed within existing streets or otherwise disturbed areas. Pump station projects would be constructed at existing pump station sites, in similarly paved or disturbed locations. Projects in these locations would not be expected to contain special-status plant or wildlife species or habitat for such species.

A small number of collection system projects may include construction near areas that may contain habitat for special-status wildlife species. These would include projects located near creeks or in the western portion of San Mateo adjacent to undeveloped areas. Migratory birds may nest in trees in riparian areas along creeks or channels. Construction activities such as tree trimming and nearby excavation or micro-tunneling could disrupt nesting birds and cause abandonment of nests or young. Western pond turtle (*Emys marmorata*, a CDFW species of special concern), California red-legged frog (*Rana draytonii*, a federal threatened species), and San Francisco garter snake (*Thamnophis sirtalis tetrataenia*, a state and federal endangered species and CDFW CFP) could be present along creeks and channels throughout the Program Area and if present could be harmed by construction activities. Ridgway's rail (*Rallus longirostris obsoletus*, a state and federal endangered species and CDFW CFP) may use San Mateo Creek as foraging habitat (H.T. Harvey & Associates, 2009); however, no breeding habitat is located near the creek.

Although special-status wildlife species would not be likely to occur for these projects, because of the urbanized location, **Mitigation Measure 5-1a Perform work during seasonal avoidance windows where feasible** and **Mitigation Measure 5-1b Perform pre-construction surveys for special-status wildlife species** would be implemented for each collection system project that would cross a creek or channel, or is adjacent to creeks or undeveloped natural areas, to avoid impacts on special-status species during construction. These measures would schedule work activity when species are less likely to be present and determine if any are present prior to the start of construction. If construction would occur during the nesting bird season (typically between February 1 and August 31) and nesting birds protected under the MBTA are found during pre-construction survey, **Mitigation Measure 5-1a** and **Mitigation Measure 5-1b** would likewise reduce impacts on nesting birds. In the unlikely event that special-status species are found during construction, **Mitigation Measure 5-1c Protect special-status wildlife species found during construction** would be implemented to minimize impacts on special-status wildlife species through buffers, monitoring, and other strategies.

The Central California Coast (CCC) Distinct Population Segment (DPS) of steelhead (*Oncorhynchus mykiss*) was federally listed as threatened in 2006 and updated in 2014 (NOAA Fisheries, 2006; 2014). This DPS includes all naturally spawned steelhead populations in coastal rivers, streams, and creeks below impassable barriers from the Russian River watershed in (Mendocino and Sonoma counties) to the Aptos Creek watershed (in Santa Cruz County), all drainages of San Francisco Bay and San Pablo Bay eastward to Chipps Island at the confluence of the Sacramento River and San Joaquin River, and steelhead from two artificial propagation programs (NOAA Fisheries, 2015). San Mateo Creek may provide migration and spawning habitat for adults, and shaded pools within it may provide rearing habitat for juveniles. Two proposed pipeline projects would be installed under San Mateo Creek using trenchless technologies (see Impact 5-3). If a technology with a risk of frac-out where drilling equipment or muds break through the bed of the creek or channel would be used, impacts on CCC steelhead or habitat could occur. **Mitigation Measure 5-1a** would be implemented so that construction occurs during the seasonal avoidance window to minimize impacts on CCC steelhead.

Collection system projects that are not located adjacent to a creek, channel, or an undeveloped natural area would not be expected to affect special-status wildlife species; no mitigation for these projects would be required. This would include in-system storage basins constructed in landscaped parks, parking lots, or other developed locations.

WWTP Site (WWTP Projects)

The wastewater treatment projects for the In-System Storage Program would be constructed on the WWTP Site. Potential resources are discussed individually below.

Rare Plants

Special-status plant species have been documented within 5 miles of the WWTP Site; most of these species would not be expected to be present on the WWTP Site, because they require habitat types that do not exist there. Only one plant species on the list of documented species, arcuate bush mallow (*Malacothamnus arcuatus*), was collected from the vicinity of the project in 1935, but this occurrence is no longer present because of extensive urban development (CNDDDB, 2015). In general, the potential for rare plants to occur on site is considered very low because most of the survey area is developed or landscaped, and the undeveloped areas are characterized by dense cover of invasive species such as fennel (*Foeniculum vulgare*) or consist of small areas surrounded by development that are regularly mowed. No special-status plants were found during the 2015 protocol botanical surveys; therefore, impacts on rare plants would not be expected to occur at the WWTP Site.

Special-status Wildlife

Salt Marsh Harvest Mouse

Salt marsh harvest mouse (*Reithrodontomys raviventris*), a state and federal endangered species [and CDFW CFP](#), has been documented to occur within 3 miles of the WWTP Site (Wetland Research Associates [WRA], 2013). Suitable salt-marsh is not present in the WWTP Site. Salt marsh harvest mouse has the potential to be present in the isolated stand of pickleweed observed in Marina Lagoon, just east of the WWTP Site. However, no construction or operations activities would be performed in Marina Lagoon as part of the In-System Storage Program. In addition, substantial barriers including roads, the solid wall surrounding much of the existing WWTP, and other developments are present between the WWTP Site and the shoreline marsh (WRA, 2013). Salt marsh harvest mouse is unlikely to occur in the WWTP Site. To further minimize the potential for construction of the In-System Storage Program to affect salt marsh harvest mouse, **Mitigation Measure 5-1a**, **Mitigation Measure 5-1b**, and **Mitigation Measure 5-1c** would be implemented. Operation of the In-System Storage Program would not be expected to affect salt marsh harvest mouse because the site would not contain habitat for the mouse and it would be surrounded by a wall that would serve as a barrier to access from nearby salt marsh. Impacts on salt marsh harvest mouse would be less than significant.

Ridgway's Rail (Formerly known as California Clapper Rail)

Ridgway's rail (*Rallus longirostris obsoletus*), a state and federal endangered species and CDFW CFP, has been documented to occur within 0.2 mile of the WWTP Site (WRA, 2013). The Marina Lagoon directly east of the WWTP Site contains low-quality foraging habitat for Ridgway's rails, although it is too small and lacks a network of tidal channels for breeding rails (H.T. Harvey & Associates, 2009). A population of rails is known to exist to the northeast of the WWTP Site, north of J. Hart Clinton Drive (H.T. Harvey & Associates, 2009). No salt-marsh or typical foraging habitat is present in the WWTP Site. Barriers, including J. Hart Clinton Drive and other roadways, are present between the WWTP and suitable habitat on the Bay.

Although this species is unlikely to occur in the WWTP Site, construction-related disturbance could result in the abandonment of an active nest in nearby areas. Disturbances could occur during construction of any project on the WWTP Site, depending on its location. In addition, restoration of wetlands, if required for mitigation of wetland impacts (see Impact 5-3), could occur in or near Ridgway's rail habitat, depending on the location of the restoration work. Substantial adverse effects on the species could occur. Implementation of **Mitigation Measure 5-1a**, **Mitigation Measure 5-1b**, and **Mitigation Measure 5-1c** would reduce potential construction impacts to a less than significant level. Operation of the In-System Storage Program would not be expected to affect Ridgway's rail because operational noise levels would be similar to existing operational noise levels.

California Red-Legged Frog, San Francisco Garter Snake, and Western Pond Turtle

California red-legged frog (*Rana draytonii*, a federal threatened species), San Francisco garter snake (*Thamnophis sirtalis tetrataenia*, a state and federal endangered species and CDFW CFP), and western pond turtle (*Emys marmorata*, a CDFW species of special concern), could be present in Leslie Creek on the south side of the WWTP Site. A solid wall is located along the southern boundary of the existing WWTP, providing a barrier to these animals between Leslie Creek and the WWTP Site. In addition, these species have not been observed in this portion of Leslie Creek. The most recent observation of California red-legged frog near the WWTP Site occurred in 2007 at Crystal Springs Dam on Lower Crystal Springs Reservoir, approximately 4.4 miles southwest of the WWTP Site. The most recent observation of San Francisco garter snake near the site occurred in 2013 at Upper Crystal Springs Reservoir and the southeast portion of Lower Crystal Springs Reservoir, approximately 5.1 miles southwest of the WWTP Site. The most recent observation of western pond turtle near the WWTP Site occurred in 2006 at Upper Crystal Springs Reservoir, approximately 5.1 miles southwest of the WWTP Site. No impacts on California red-legged frog, San Francisco garter snake, or western pond turtle would be expected to occur within the WWTP Site.

If determined to be necessary, interim or permanent recreation access for pedestrians and bicyclists to pass through the WWTP Site may be provided directly south of the existing WWTP (see Chapter 15). Construction of such access may include grading or installing minor structures on either bank of Leslie Creek. To avoid impacts on California red-legged frog, San Francisco garter snake, and western pond turtle during construction of recreation access, **Mitigation Measure 5-1a** and **Mitigation Measure 5-1b** would be implemented. Impacts on these species would be less than significant. Operation of the WWTP as part of the In-System Storage Program would not be expected to affect California red-legged frog, San Francisco garter snake, or western pond turtle because the WWTP Site would not contain habitat for them, and the facilities would be surrounded by a wall that would serve as a barrier to access from nearby areas.

Migratory Birds

Birds protected under the MBTA have the potential to occur in the WWTP Site. The mourning dove, which was observed building a nest on the Detroit Drive parcel, would be protected under the MBTA. Migratory birds may nest in the trees in the WWTP Site, given the proximity to the Bay and coastal salt marsh, which provide food habitat for many bird species. Construction activities near the WWTP Site could disrupt nesting birds and cause abandonment of nests or young, which is a potentially significant impact. Implementation of **Mitigation Measure 5-1a** and **Mitigation Measure 5-1b** would reduce impacts to a less than significant level.

With implementation of **Mitigation Measure 5-1a**, **Mitigation Measure 5-1b**, and **Mitigation Measure 5-1c**, impacts of the In-System Storage Program on candidate, sensitive, or special-status species would be less than significant.

Full Conveyance Program

Program Area (Collection System Projects)

The Full Conveyance Program would include collection system projects in the same locations as the In-System Storage Program, other than the in-system storage basins that would not be part of the Full Conveyance Program. As previously described, a small number of collection system projects may include construction near areas that may contain habitat for special-status wildlife species including migratory nesting birds, California red-legged frog, San Francisco garter snake, and western pond turtle. These would include projects located near creeks or in the western portion of the City, adjacent to undeveloped areas. Although special-status wildlife species would not be likely to occur for these projects because of the urbanized location, **Mitigation Measure 5-1a Perform work during seasonal avoidance windows where feasible** and **Mitigation Measure 5-1b Perform pre-construction surveys for special-status wildlife species** would be implemented for each collection system project that would cross a creek or channel or is adjacent to creeks or undeveloped natural areas to avoid impacts on special-status species during construction. These measures would schedule work activity when species are less likely to be present and determine if any are present prior to the start of construction. If construction would occur during nesting bird season (typically between February 1 and August 31) and nesting birds protected under the MBTA are found during preconstruction survey, **Mitigation Measure 5-1a** and **Mitigation Measure 5-1b** would similarly reduce impacts on nesting birds. In the unlikely event that special-status species are found during the pre-construction survey, **Mitigation Measure 5-1c Protect special-status wildlife species found during construction** would be implemented to minimize impacts on special-status wildlife species.

As described for the In-System Storage Program, San Mateo Creek may provide migration and spawning habitat for adult CCC steelhead, and shaded pools within it may provide rearing habitat for juveniles. Two proposed pipeline projects would be installed under San Mateo Creek using trenchless technologies (see Impact 5-3). If a technology with a risk of frac-out would be used, impacts on CCC steelhead or habitat could occur. **Mitigation Measure 5-1a** would be implemented so that construction occurs during the seasonal avoidance windows to minimize impacts on CCC steelhead.

Collection system projects that are not located adjacent to a creek, channel, or an undeveloped natural area would not be expected to affect special-status wildlife species; no mitigation for these projects would be required. The new pump station at the Dale Avenue Pump Station site would not be located on habitat supporting special-status species.

WWTP Site (WWTP Projects)

As previously described for the In-System Storage Program, wastewater treatment projects for the Full Conveyance Program would be constructed on the WWTP Site. No special-status plants were found during the 2015 protocol botanical surveys, and rare plants would not be expected to occur at the WWTP Site. Potential impacts on migratory birds, salt-marsh harvest mouse, Ridgway's rail, California red-legged frog, San Francisco garter snake and western pond turtle could occur during construction activities. **Mitigation Measure 5-1a**, **Mitigation Measure 5-1b**, and **Mitigation Measure 5-1c** would be implemented to minimize impacts on special-status wildlife. Operation of the Full Conveyance Program would not be expected to affect special-status wildlife.

With implementation of **Mitigation Measure 5-1a**, **Mitigation Measure 5-1b**, and **Mitigation Measure 5-1c** impacts of the Full Conveyance Program on candidate, sensitive, or special-status species would be less than significant.

New Headworks Project and Primary Clarifier Project

As previously described for the In-System Storage Program, the New Headworks Project and Primary Clarifier Project would be constructed on the WWTP Site. No special-status plants were found during the 2015 protocol botanical surveys, and rare plants would not be expected to occur at the WWTP Site. Potential impacts on migratory birds, salt-marsh harvest mouse, Ridgway's rail, California red-legged frog, San Francisco garter snake, and western pond turtle could occur. **Mitigation Measure 5-1a Perform work during seasonal avoidance windows where feasible, Mitigation Measure 5-1b Perform pre-construction surveys for special-status wildlife species and Mitigation Measure 5-1c Protect special-status wildlife species found during construction** would be implemented to minimize impacts on special-status wildlife. Operation of the New Headworks Project and Primary Clarifier Project would not be expected to affect special-status wildlife, which would not be expected to occur at an active wastewater treatment plant facility.

With implementation of **Mitigation Measure 5-1a, Mitigation Measure 5-1b, and Mitigation Measure 5-1c**, impacts of the New Headworks Project and Primary Clarifier Project on candidate, sensitive, or special-status species would be less than significant.

Impact 5-2. Implementation of the CWP could have an adverse effect on riparian habitats.

In-System Storage Program

A small number of In-System Storage Program pipeline projects would cross creeks or channels in the Program Area. Some of the creeks and drainages contain riparian habitat. However, trenchless technologies would be used to construct these projects. Minor tree trimming in riparian areas may be required to pothole utilities or perform similar construction-related activities. Operation of the In-System Storage Program would include maintenance activities for pipelines, pump stations, and in-system storage basins. These facilities would be accessed through manholes and entrances constructed outside riparian areas, and no operational impacts on riparian habitats would occur. No riparian habitat is present in the WWTP Site.

Adverse effects on riparian habitats from the In-System Storage Program would be less than significant. No mitigation would be required.

Full Conveyance Program

The Full Conveyance Program would include collection system projects in the same locations as the In-System Storage Program, other than the in-system storage basins that would not be part of the Full Conveyance Program. A small number of Full Conveyance Program pipeline projects would cross creeks or channels in the Program Area. Some of the creeks and drainages contain riparian habitat. However, trenchless technologies would be used to construct these projects. Minor tree trimming in riparian areas may be required to pothole utilities or perform similar construction-related activities. Operation of the Full Conveyance Program would include maintenance activities for pipelines and pump stations, including the new pump station at the Dale Avenue Pump Station site. These facilities would be accessed through manholes and entrances constructed outside riparian areas, and no operational impacts on riparian habitats would occur. No riparian habitat is present in the WWTP Site.

Adverse effects on riparian habitats from the Full Conveyance Program would be less than significant. No mitigation would be required.

New Headworks Project and Primary Clarifier Project

The New Headworks Project and the Primary Clarifier Project would be located on the WWTP Site, and riparian habitat is not present there. Construction and operation of the New Headworks Project and the Primary Clarifier Project would not result in adverse effects on riparian habitats. No mitigation would be required.

Impact 5-3. Implementation of the CWP could result in a substantial adverse effect on federally protected wetlands.***In-System Storage Program***

Wastewater treatment facilities for the In-System Storage Program would be constructed at the WWTP Site. A 0.14-acre wetland feature is located in the southern part of the Detroit Drive parcel (see Figure 5-2) within the WWTP Site. This feature may meet the criteria for a federal jurisdictional wetland, as defined by Section 404 of the CWA. Wetland hydrology in this area appears to be driven by tidally influenced shallow groundwater. The wetland also appears to receive supplemental inflows from a stormwater drain along Detroit Drive that conveys roadway runoff to a cement culvert discharging in the southern part of the wetland. Construction of wastewater treatment facilities on the Detroit Drive parcel would require filling of the wetland for project siting, soils stabilization, staging, and other construction activities. This would be a potentially significant impact. Implementation of **Mitigation Measure 5-3a Provide appropriate offset for fill of jurisdictional wetlands** would reduce impacts to a less than significant level. Wetland habitat of equal or higher quality than the Detroit Drive parcel feature would be enhanced or created, as required by the Section 404 permit.

Tidal wetlands east of the WWTP Site would not be filled or excavated as part of construction activities.

A small number of pipeline projects would cross existing creeks or channels. These pipelines would be constructed using trenchless technologies to avoid disturbance of the creeks or channels. Some trenchless technologies, such as horizontal directional drilling, have a risk of frac-out. Where such technologies are used for pipeline installation under creeks or channels, impacts on jurisdictional areas within creeks or channels could occur. Impacts could include deposition of sediments or alteration of the creek bed or bank. Depending on the scale of the frac-out, the adverse effects could be substantial. Implementation of **Mitigation Measure 5-3b Prepare and implement contingency plan for frac-out** would include specific strategies to monitor for and contain a frac-out and would reduce impacts to a less than significant level. In addition, a Streambed Alteration Agreement under Section 1600 of the California Fish and Game Code may be required for these projects.

No other wetlands or waters of the U.S. would be located within the construction footprint of collection system projects. Collection system projects that are not located adjacent to a creek or channel and would not be expected to result in adverse effects on wetlands or waters of the U.S. This would include in-system storage basins constructed in landscaped parks, parking lots, or other developed locations.

Other potential construction-related impacts on water quality are discussed in Chapter 10. With implementation of **Mitigation Measure 5-3a** and **Mitigation Measure 5-3b**, adverse effects from the In-System Storage Program on federally protected wetlands would be less than significant.

Full Conveyance Program

Wastewater treatment facilities for the Full Conveyance Program would be constructed at the WWTP Site; therefore, the impacts on federally protected wetlands from construction of wastewater treatment plant facilities would be the same as previously described for the In-System Storage Program. Fill of the 0.14-acre potential jurisdictional wetland in the southern part of the Detroit Drive parcel (see Figure 5-24) would be a potentially significant impact. Implementation of **Mitigation Measure 5-3a Provide appropriate offset for fill of jurisdictional wetlands** would reduce impacts to a less than significant level. Wetland habitat of higher quality than the Detroit Drive parcel feature would be enhanced or created.

Tidal wetlands east of the WWTP Site would not be filled or excavated as part of construction activities.

The Full Conveyance Program would include installation of pipelines under creeks and channels in the same locations as the In-System Storage Program. Therefore, as previously described, frac-out” could result, depending on the trenchless technology used for pipeline installation, and impacts on creek and channel jurisdictional areas could occur. Implementation of **Mitigation Measure 5-3b Prepare and implement**

contingency plan for frac-out would include specific strategies to monitor for and contain a frac-out and would reduce impacts to a less than significant level. In addition, a Streambed Alteration Agreement under Section 1600 of the California Fish and Game Code may be required for these projects.

No other wetlands or waters of the U.S. would be located within the construction footprint of collection system projects, including the Dale Avenue Pump Station site where the new pump station would be constructed. Collection system projects that are not located adjacent to a creek or channel and would not be expected to result in adverse effects on wetlands or waters of the U.S.

Other potential construction-related impacts on water quality are discussed in Chapter 10.

With implementation of **Mitigation Measure 5-3a** and **Mitigation Measure 5-3b**, adverse effects from the Full Conveyance Program on federally protected wetlands would be less than significant.

New Headworks Project and Primary Clarifier Project

The New Headworks Project and Primary Clarifier Project would be constructed on the Detroit Drive parcel and would result in the fill of the 0.14-acre potential jurisdictional wetland located in the southern part of the Detroit Drive parcel (see Figure 5-24). This would be a potentially significant impact. Implementation of **Mitigation Measure 5-3a Provide appropriate offset for fill of jurisdictional wetlands** would reduce impacts to a less than significant level. Wetland habitat of higher quality than the Detroit Drive parcel feature would be enhanced or created.

Tidal wetlands east of the WWTP Site would not be filled or excavated as part of construction activities.

Other potential construction-related impacts on water quality are discussed in Chapter 10.

With implementation of **Mitigation Measure 5-3a**, adverse effects from the New Headworks Project and Primary Clarifier Project on federally protected wetlands would be less than significant.

Impact 5-4. Implementation of the CWP may interfere with the movement of fish or wildlife species.

In-System Storage Program

The wastewater facilities for the In-System Storage Program would be constructed at the WWTP Site. The WWTP Site does not contain established native resident or migratory wildlife corridors or native wildlife nursery sites. Construction and operation of the In-System Storage Program would not be expected to interfere with the movement of fish or wildlife species at the WWTP Site.

As described in Impact 5-1, San Mateo Creek may provide migration and spawning habitat for adult CCC steelhead. Two proposed pipeline projects would be installed under San Mateo Creek using trenchless technologies (see Impact 5-3). Other creeks or channels in the Program Area could provide movement corridors for fish. If a technology with a risk of frac-out is used, impacts on the movement of CCC steelhead or other fish could occur. **Mitigation Measure 5-1a Perform work during seasonal avoidance windows where feasible** would be implemented to minimize impacts on CCC steelhead and other fish.

Although creeks and drainages in the Program Area may provide corridors for movement of wildlife species, the use of trenchless technologies to install pipelines that cross creeks and drainages would avoid interference with wildlife movement.

Operation of the In-System Storage Program would include maintenance activities for pipelines, pump stations, and in-system storage basins. These facilities would be accessed through manholes and entrances constructed outside of wildlife corridors, and no operational impacts on the movement of fish or wildlife species would occur.

With implementation of **Mitigation Measure 5-1a**, impacts on the movement of fish or wildlife species from the In-System Storage Program would be less than significant.

Full Conveyance Program

The wastewater facilities for the Full Conveyance Program would be constructed at the WWTP Site. The WWTP Site does not contain established native resident or migratory wildlife corridors or native wildlife nursery sites. Construction and operation of the Full Conveyance Program would not be expected to interfere with the movement of fish or wildlife species at the WWTP Site.

As described in Impact 5-1, San Mateo Creek may provide migration and spawning habitat for adult CCC steelhead. Two proposed pipeline projects would be installed under San Mateo Creek using trenchless technologies (see Impact 5-3). Other creeks or channels in the Program Area could provide movement corridors for fish. If a technology with a risk of frac-out is used, impacts on the movement of CCC steelhead or other fish could occur. **Mitigation Measure 5-1a Perform work during seasonal avoidance windows where feasible** would be implemented to minimize impacts on CCC steelhead and other fish.

Although creeks and drainages in the Program Area may provide corridors for movement of wildlife species, the use of trenchless technologies to install pipelines that cross creeks and drainages would avoid interference with wildlife movement.

Operation of the Full Conveyance Program would include maintenance activities for pipelines and pump stations, including the new pump station at the Dale Avenue Pump Station site. These facilities would be accessed through manholes and entrances constructed outside of wildlife corridors, and no operational impacts on the movement of fish or wildlife species would occur.

With implementation of **Mitigation Measure 5-1a**, impacts on the movement of fish or wildlife species from the Full Conveyance Program would be less than significant.

New Headworks Project and Primary Clarifier Project

The New Headworks Project and Primary Clarifier Project would be constructed at the WWTP Site. The WWTP Site does not contain established native resident or migratory wildlife corridors or native wildlife nursery sites. Construction and operation of the New Headworks Project and Primary Clarifier Project would not be expected to interfere with the movement of fish or wildlife species at the WWTP Site. No impacts would occur, and no mitigation would be required.

Impact 5-5. Implementation of the CWP could require the removal of heritage trees and potentially conflict with the City of San Mateo Heritage Tree Ordinance.

In-System Storage Program

No native tree species were identified in the WWTP Site during biological surveys. Several of the landscape trees, including eucalyptus and Australian pine around the outer perimeter of the existing WWTP, are greater than 16 inches diameter at 48 inches above the natural grade and would, therefore, be considered heritage trees. Other trees located on the Detroit Drive parcel or the Bayfront parcels may meet the requirements for heritage trees. Removal of these trees may occur as part of preconstruction site preparation or during construction of WWTP facilities, which would be a potential conflict with the City's Heritage Tree Ordinance. Implementation of **Mitigation Measure 5-5 Prepare and implement a tree protection plan for heritage trees** would reduce impacts to a less than significant level by avoiding trees where feasible and replacing those that are removed.

Removal of heritage trees would not be required for construction of collection system projects, which are located in roadways or other disturbed locations. The proposed locations for in-system storage basins do not include heritage trees, or the basins would be sited to avoid heritage trees.

With implementation of **Mitigation Measure 5-5**, potential impacts on heritage trees and conflicts with the City's Heritage Tree Ordinance from the In-System Storage Program would be less than significant.

Full Conveyance Program

No native tree species were identified in the WWTP Site during biological surveys. Several of the landscape trees, including eucalyptus and Australian pine around the outer perimeter of the existing WWTP, are greater than 16 inches diameter at 48 inches above the natural grade and would, therefore, be considered heritage trees. Other trees located on the Detroit Drive parcel or the Bayfront parcels may meet the requirements for heritage trees. Removal of these trees may occur as part of preconstruction site preparation or during construction of WWTP facilities, which would be a potential conflict with the City's Heritage Tree Ordinance. Implementation of **Mitigation Measure 5-5 Prepare and implement a tree protection plan for heritage trees** would reduce impacts to a less than significant level by avoiding trees where feasible and replacing those that are removed.

Removal of heritage trees would not be required for construction of collection system projects, which are located in roadways or otherwise disturbed locations. The Dale Avenue Pump Station site does not contain trees, and no tree removal would be required for construction of a new pump station.

With implementation of **Mitigation Measure 5-5**, potential impacts on heritage trees and conflicts with the City's Heritage Tree Ordinance from the Full Conveyance Program would be less than significant.

New Headworks Project and Primary Clarifier Project

The New Headworks Project and Primary Clarifier Project would be constructed on the Detroit Drive parcel. Removal of trees on the parcel may be required as part of construction. If these trees meet the requirements for heritage trees, their removal could conflict with the City's Heritage Tree Ordinance. Implementation of **Mitigation Measure 5-5 Prepare and implement a tree protection plan for heritage trees** would reduce potential impacts on heritage trees and conflicts with the City's Heritage Tree Ordinance from the New Headworks Project and Primary Clarifier Project to a less than significant level.

Impact 5-6. Implementation of the CWP would not conflict with provisions of an adopted habitat conservation plan, natural community conservation plan, or other plan.

In-System Storage Program

The Program Area is not located within the boundary of an adopted habitat conservation plan. Portions of the western part of the City are located within the Recovery Plan for Serpentine Soil Species of the San Francisco Bay Area (City of San Mateo, 2010). However, no collection system projects would be located on serpentine soils (see Chapter 7) and would, therefore, not be located in the recovery plan area. No conflict with provisions of an adopted habitat conservation plan, natural community conservation plan, or other plan from the In-System Storage Program would occur. No mitigation would be required.

Full Conveyance Program

The Program Area is not located within the boundary of an adopted habitat conservation plan. Portions of the western part of the City are located within the Recovery Plan for Serpentine Soil Species of the San Francisco Bay Area. However, no collection system projects would be located on serpentine soils (see Chapter 7) and would, therefore, not be located in the recovery plan area. No conflict with provisions of an adopted habitat conservation plan, natural community conservation plan, or other plan from the Full Conveyance Program would occur. No mitigation would be required.

New Headworks Project and Primary Clarifier Project

The New Headworks Project and Primary Clarifier Project would be located within the WWTP Site, which is not located within the boundary of an adopted habitat conservation plan, natural community conservation plan, or other plan. No conflicts with such plans would occur from the New Headworks Project or Primary Clarifier Project. No mitigation would be required.

5.5 Mitigation Measures

Mitigation Measure 5-1a. Perform work during seasonal avoidance windows where feasible.

The City of San Mateo and its contractors shall perform construction work for projects with the potential to affect special-status species during the appropriate seasonal avoidance window, where feasible. These windows avoid times of the year when the species may be more vulnerable, such as nesting or hibernating periods. The seasonal avoidance windows for species potentially present in the Program Area are shown in Table 5-2.

TABLE 5-2

Seasonal Avoidance Windows

Programmatic Environmental Impact Report, City of San Mateo Clean Water Program

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Nesting Birds												
SFGS												
CRLF												
Steelhead												
Western Pond Turtle												
SMHM												
Longfin Smelt												

Shading indicates avoidance periods.

Sources:

Nesting Birds: ICF International and H.T Harvey and Associates, 2013.

San Francisco Garter Snake (SFGS): United States Fish and Wildlife Service, 1985. This avoidance period is when the species is normally most dormant, in burrows, and therefore most vulnerable; the May to September period would not avoid the species per se, but is a better time to conduct work (Swaim, 2015).

California Red-Legged Frog (CRLF): United States Fish and Wildlife Service, 2011.

Steelhead: H.T. Harvey and Associates, 2009.

Western Pond Turtle: Stone, 2009.

Salt Marsh harvest Mouse (SMHM): U.S. Fish and Wildlife Service, 2010.

Longfin Smelt: Isaac, 2009.

Mitigation Measure 5-1b. Perform pre-construction surveys for special-status wildlife species.

The City of San Mateo or its contractors shall perform preconstruction surveys for the following special-status wildlife species:

- Salt marsh harvest mouse:** Prior to start of construction on the Detroit Drive or Bayfront parcels, a preconstruction survey for salt marsh harvest mouse by a qualified biologist shall be completed. If salt marsh harvest mouse is found during preconstruction surveys, the area around the mouse shall be avoided until the mouse leaves the site on its own. Alternatively, USFWS and CDFW could be contacted to evaluate options. When the salt marsh harvest mouse is determined to be absent from the site, temporary barriers shall be established to prevent salt marsh harvest mouse from entering the construction site. If a new wall around the WWTP Site is constructed prior to construction of WWTP facilities, it may serve as an adequate barrier to salt marsh harvest mouse. This shall be determined by a qualified biologist. Prior to the start of work, construction workers shall be trained on the biological and habitat characteristics of salt marsh harvest mouse and the need for avoidance.
- Ridgway’s rail:** To reduce the likelihood that nesting Ridgway’s rails are in the vicinity prior to construction activities at the WWTP Site or within 700 feet of the shoreline, a pre-construction nesting

bird survey shall occur during the nesting season prior to the start of construction. The nesting season for Ridgway's rail extends from January 1 through August 31. If required by agencies, a USFWS-approved biologist will conduct a protocol-level survey for Ridgway's rails during the spring prior to start of construction to determine if rails are present in the vicinity of the construction site. If nesting Ridgway's rails are detected in any portion of the marsh within 700 feet of the construction site, no construction activities shall occur within 700 feet of the occupied areas (unless specifically approved by the USFWS) until occupied nests have successfully hatched young, as determined by a USFWS-approved biologist. Prior to the start of work, construction workers shall be trained on the biological and habitat characteristics of Ridgway's rail.

- **California red-legged frog, San Francisco garter snake, and western pond turtle:** A preconstruction survey shall be performed by a qualified biologist 24 hours prior to the start of construction activities for pipeline projects that cross creeks or channels and for any work proposed adjacent to Leslie Creek outside the WWTP wall. If a California red-legged frog or San Francisco garter snake is observed in or near an active work area, project activities in the immediate area shall be halted immediately and when safe to do so. A qualified biologist shall be consulted to evaluate the situation. Work shall remain stopped until the animal leaves the site on its own or another approach approved by USFWS is implemented. If a western pond turtle is observed in or near the work area, a CDFW-approved biologist shall try to passively move the turtle out of the area.
- **Nesting birds:** For any CWP projects located in the WWTP Site and for any collection system projects with 500 feet of a creek or channel with riparian vegetation, a preconstruction nesting bird survey shall be performed by a qualified biologist 14 days prior to construction if work activities are conducted between February 1 and August 31. Should an active nest for a protected species be observed prior to construction activities, CDFW shall be notified to determine proper buffers for construction. Buffers shall be maintained until young have fledged (left the nest on their own), as determined by a qualified biologist, or the nest is no longer active due to non-construction-related reasons. If it is not practicable to avoid work in a buffer zone around an active nest, work activities shall be modified to minimize disturbance of nesting birds, but may proceed in these zones at the discretion of the biologist. The biologist shall monitor all work activities in these zones daily when construction is occurring and assess their effect on the nesting birds. If the biologist determines that particular activities pose a high risk of disturbing an active nest, the biologist will recommend additional, feasible measures to minimize the risk of nest disturbance. If work cannot proceed without disturbing the nesting birds, or signs of disturbance are observed by a monitor, work may be halted or redirected to other areas until the nesting and fledging is completed or the nest has otherwise failed for non-construction-related reasons. The USFWS and the CDFW could be contacted regarding alternate avoidance measures if halting or redirecting work is not feasible.

Mitigation Measure 5-1c. Protect special-status wildlife species found during construction.

If special-status wildlife species occur on a project site, the City or its contracts shall implement measures during construction to protect the following special-status wildlife species:

- **Salt marsh harvest mouse:** If a salt marsh harvest mouse is observed in or near an active work area, project activities in the immediate area shall immediately be halted when safe to do so, and a qualified biologist shall be consulted to evaluate the situation. Work shall remain stopped until the mouse leaves the site on its own or another approach approved by USFWS is implemented. The qualified biologist shall inspect the temporary or permanent barrier to determine if repairs or modifications are needed to prevent further access by salt marsh harvest mouse. If determined necessary, a USFWS-approved biologist shall continue to monitor the work area.
- **Ridgway's rail:** If nesting Ridgway's rail move into the nearby tidal marsh and within 700 feet of an active work area, construction shall be halted until the Ridgway's rail nestlings have fledged and left the

nest. If determined necessary, a USFWS-approved biologist shall continue to monitor the work area until the nestlings have fledged.

- **California red-legged frog, San Francisco garter snake, and western pond turtle:** If a California red-legged frog or San Francisco garter snake becomes trapped during construction activities, project activities in the immediate area shall be halted immediately and when safe to do so. A qualified biologist shall be consulted to evaluate the situation. Work shall remain stopped until the animal leaves the site on its own or another approach approved by USFWS is implemented. If a western pond turtle becomes trapped during construction activities, a CDFW-approved biologist shall remove the turtle from the work area and place it in a suitable habitat in the vicinity of the project. If any of these species is discovered in the construction area during active operations, the equipment operator or equivalent shall temporarily cease operations until the animal has moved out of the way on its own accord and immediately contact the USFWS-approved biologist. If an ITP for federal or state threatened or endangered species is obtained for the CWP or individual projects, avoidance and minimization measures in the ITP shall be implemented. These measures could include relocation of California red-legged frog by a Service-approved biologist to a designated location outside the work area.
- **Migratory nesting birds:** If migratory birds begin nesting after construction has started and within 500 feet of work areas at the WWTP Site or at pipeline projects near riparian zones, it could mean the birds do not have a problem with the existing levels of noise and disturbance. Work shall continue only if the type of construction work does not increase noise or disturbance levels at the discretion of the qualified biologist. A qualified biological monitor shall monitor effects of construction on the nesting birds and shall stop construction when safe to do so if impacts on the birds are observed.

Mitigation Measure 5-3a. Provide appropriate offset for fill of jurisdictional wetlands.

The City shall submit the wetland delineation to USACE for verification of jurisdiction. If USACE determines that the wetland is federally protected, as defined by Section 404 of the CWA, the City would obtain a permit for fill under Section 404. Mitigation for fill of the jurisdictional wetland shall be included in the permit application and be a condition of the USACE permit. Mitigation may include payment into a USACE Regional Mitigation Program and/or construction of wetland enhancements or new wetland habitat along the Bay shoreline. The City shall comply with all conditions of the permit.

Mitigation Measure 5-3b. Prepare and implement contingency plan for frac-out.

The contractor shall prepare and implement a plan for monitoring drilling operations and addressing frac-out if it occurs. The plan shall include visual inspections along the bore path of the pipeline alignment during all drilling operations. Monitors shall also be stationed at appropriate distances upstream and downstream from the crossing point. All equipment required to contain and clean up a frac-out release shall be available at the work site.

Mitigation Measure 5-5. Prepare and implement a tree protection plan for heritage trees.

Prior to any vegetation clearing, a certified arborist will conduct a tree inventory and assessment. The inventory will include the species, size, and general condition of all trees to be removed or all heritage trees that could be indirectly affected. The certified arborist would then develop a tree protection plan that includes measures to avoid indirect impacts during construction and to replace heritage trees that require removal, in accordance with the City's Heritage Tree Ordinance. The CWP would comply with the City of San Mateo Heritage Tree Ordinance.

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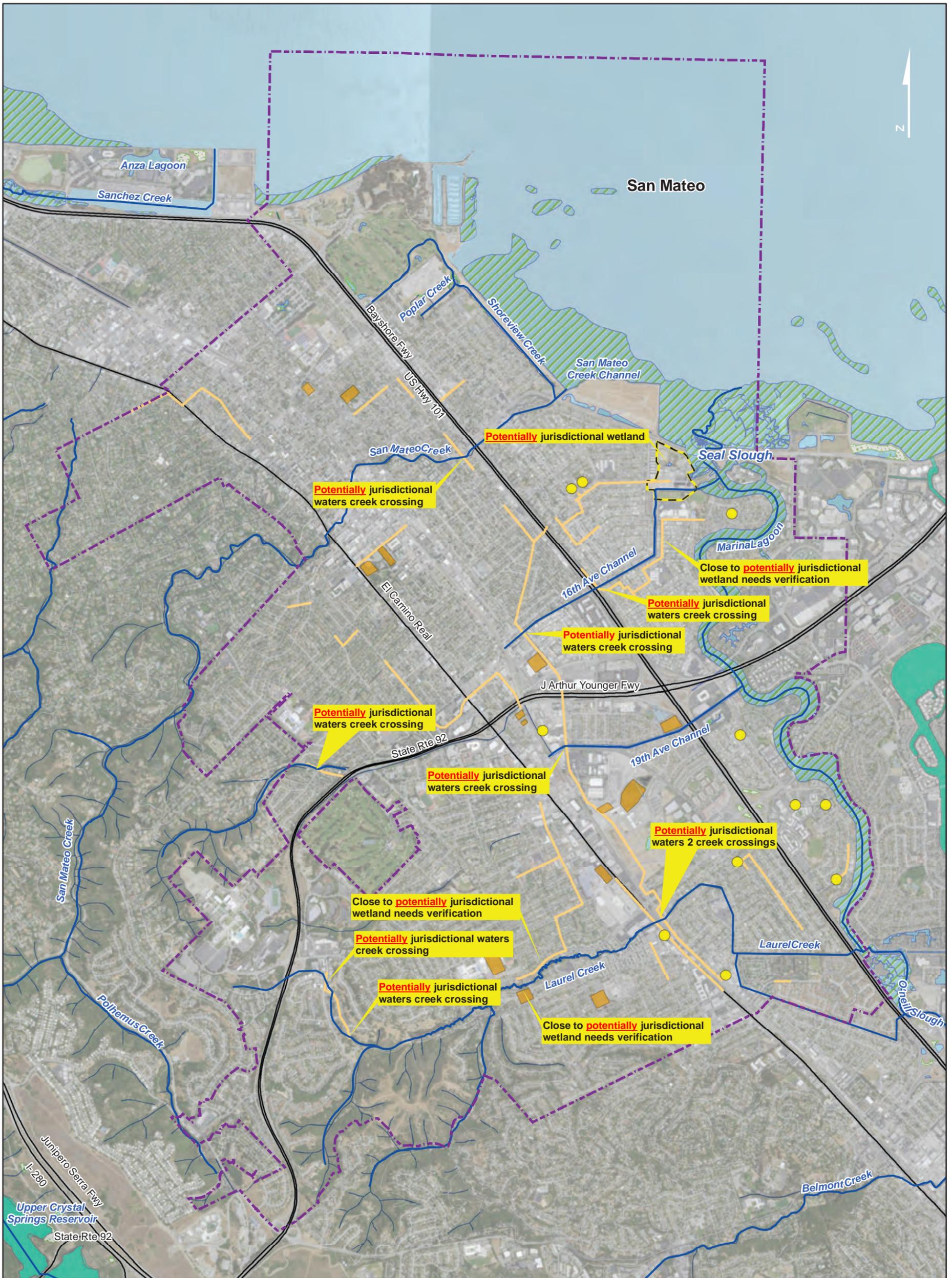
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Legend

- Pump Station Project
- Pipeline Project
- Potential In-system Storage Location
- WWTP Site
- Program Area
- Major Roads
- Watercourse

National Wetlands Inventory Wetland Type

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland

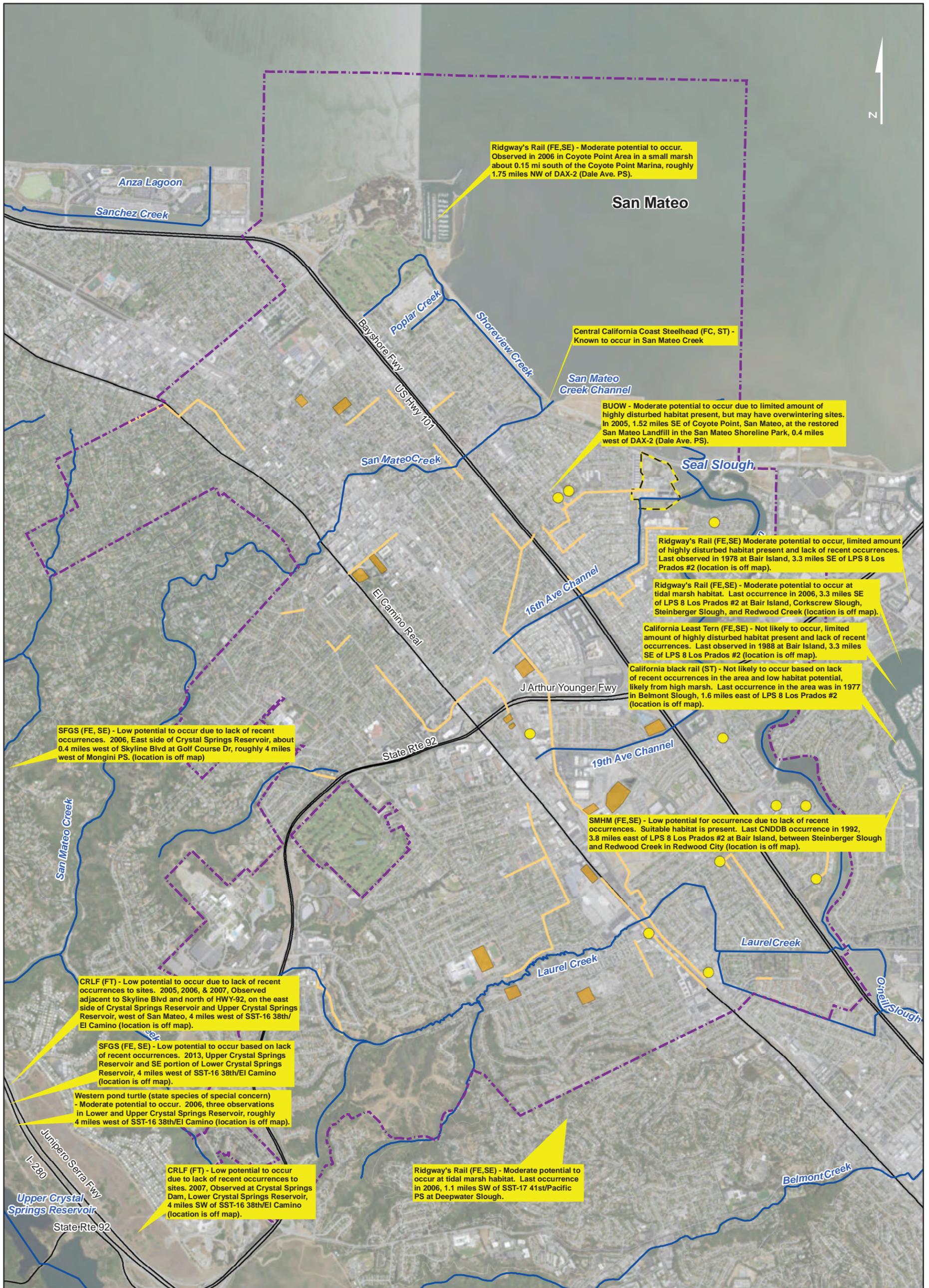
- Freshwater Pond
- Lake
- Riverine

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



FIGURE 5-1
Creeks and Wetlands in the Program Area
 Programmatic Environmental Impact Report
 City of San Mateo Clean Water Program

CH2MHILL.



Legend

- Pump Station Project
- Pipeline Project
- Potential In-system Storage Location
- WWTP Site
- Program Area
- Major Roads
- ~ Watercourse

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

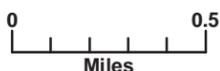


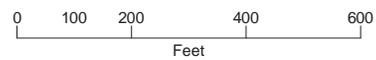
FIGURE 5-2
Known Occurrences of Special-Status Species with Potential to Occur in the Program Area

Programmatic Environmental Impact Report
City of San Mateo Clean Water Program

CH2MHILL.



- Nest Location
- Approximate BCDC Jurisdiction Limit Within WWTP Site
- ▭ WWTP Site
- ▭ Biological Survey Boundary



Coordinate System: NAD 1983 UTM Zone 10N. Source: Esri Map Services, County of San Mateo

Figure 5-3
WWTP Site Biological Study Area
 Programmatic Environmental Impact Report
 City of San Mateo Clean Water Program



- Culvert Inlet
- Wetland Sample Point
- Wetland Survey Area
- Culvert Outlet
- Wetland (0.142 acre)
- WWTP Site
- Upland Sample Point
- Open Water (1.215 acres)

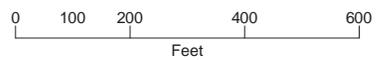


Figure 5-4
WWTP Site Wetland Survey Area
 Programmatic Environmental Impact Report
 City of San Mateo Clean Water Program

Coordinate System: NAD 1983 UTM Zone 10N. Source: Esri Map Services, County of San Mateo