Appendix B

Biological Evaluation and Wetland Delineation Technical Memorandum

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April 16, 2019

Project No. 5025183001

Mr. Mo Sharma
Public Works Administrator
City of South San Francisco
550 N. Canal St.
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Subject: Environmental Evaluation Memo for the Orange Memorial Park Water Capture Project, South San Francisco, San Mateo County, California

Dear Mo,

This report summarizes the results of site visits and the desktop review of biological resources and jurisdictional waters conducted by Wood Environment & Infrastructure (Wood) for the 25-acre Orange Memorial Park Storm Water Capture Project (Project) survey area in the City of South San Francisco, California. The purpose of this work was to identify and record biological and aquatic resources including wetlands and riparian habitats, under jurisdiction of federal and/or state resource agencies within the survey area and to evaluate potential impacts that may result from the construction of the Project. Site photographs are provided as Attachment A, sensitive plant species occurring or potentially occurring in the vicinity of the survey area are included as Attachment B, special-status wildlife species documented within two miles of the survey area are included as Attachment C, and report figures are provided as Attachment D.

1.0 Introduction

The City of South San Francisco is a member of the San Mateo Countywide Water Pollution Prevention Program (SMCWPPP), a program of the City/County Association of Governments of San Mateo County (C/CAG). C/CAG is a joint powers agency whose members are the County and the 20 incorporated cities and towns in San Mateo County. SMCWPPP supports C/CAG's member agencies in complying with requirements of the Municipal Regional Permit (MRP) issued in November 2015 by the San Francisco Bay Regional Water Board. Some of the MRP components that SMCWPPP is implementing to assist member agencies include green infrastructure planning, stormwater resource planning, mercury/polychlorinated biphenyls (PCBs) load reduction, and trash load reductions.

The MRP requires San Mateo County permittees to reduce PCBs by 370 grams per year by June 30, 2020, with an interim reduction of 60 grams per year required by June 30, 2018. A minimum 15 grams per year of this total is to be achieved via green infrastructure. Additionally, San Mateo County permittees need to demonstrate cumulative mercury reduction by six grams per year through green

infrastructure by June 30, 2020. These reduction rates are required by the MRP as part of the process to achieve compliance with the mercury and the PCBs Total Maximum Daily Loads (TMDLs) for San Francisco Bay. San Mateo County permittees are also required to reduce trash discharges to the Bay from municipal storm drain systems. Under the current MRP term, 70 percent reduction is required in 2017, 80 percent reduction in 2019, and zero impact on receiving waters from trash by 2022. These reductions will largely be accomplished through the implementation of green infrastructure, including stormwater capture and use and/or infiltration to groundwater.

SMCWPPP developed a countywide Storm Water Resource Plan (SWRP) that focuses primarily on storm water capture with a multi-benefit approach to overall water resources planning, including water quality. This plan is being followed by local Green Infrastructure Plans (GI Plans) to meet MRP requirements. Development of the GI Plans will be a multi-year effort that includes preparation of a reasonable assurance analysis (RAA) to demonstrate long-term GI Plan implementation by all MRP permittees in San Francisco Bay Region to reduce PCB loads by three kilograms per year by 2040.

To meet GI Plan/ MRP requirements, the SWRP proposes to construct a water capture facility at Orange Memorial Park in the City of South San Francisco. The Project would include a diversion structure to redirect most of the dry-weather urban runoff and the first flush of wet-weather runoff from the Colma Creek channel through multiple pre-treatment devices to remove trash, debris, and sediments before conveying the water into a buried multi-chambered underground storage reservoir and /infiltration facility with a targeted storage capacity of at least six acre-feet.

1.1 Project Location

The proposed Project is located along Colma Creek within the southern half of Orange Memorial Park, a 28-acre public park located at 1 West Orange Avenue, in the City of South San Francisco, California (Attachment D, Figures 1 and 2). The City of South San Francisco (City) lies within San Mateo County in the San Francisco Bay Area. The City is located approximately three miles north of San Francisco International Airport and the City of San Bruno in a small valley south of Daly City, Colma, and San Bruno Mountain. The City is located approximately six miles east of Pacifica and the hills of the Coast Range, and west of the waters of the San Francisco Bay.

The Project would be entirely confined within the Orange Memorial Park, which supports a range of recreational facilities including two formal ball fields. The limits of the proposed Project water capture facilities would extend approximately 1,000 feet from the upstream and western end of Colma Creek to the southeast corner of the Orange Memorial Park near the two ballfields located along Orange Avenue (Attachment D, Figure 3).

The topography of Orange Memorial Park is relatively flat, with surface elevations on the order of 25 feet above mean sea level. The typical climate for the City including Orange Memorial Park, is relatively mild, Mediterranean-like weather with warm, dry summers and cool, relatively wet winters. The microclimate of South San Francisco is heavily influenced by wind from the nearby Pacific Ocean, which typically keeps the daytime temperatures cool even during summer months. January is the coolest month with an average high temperature of 56 degrees Fahrenheit (ºF). September is the

warmest month with an average of 74°F. Average precipitation is approximately 20.59 inches per year (U.S. Climate Data 2018).

Colma Creek is a perennial drainage that flows for approximately eight miles from its headwaters in San Bruno Mountain State and County Park. It runs through the cities of Daly City, Colma, and South San Francisco where it eventually discharges into San Francisco Bay. A 5.4-mile long segment of Colma Creek consists of a concrete-lined drainage channel with varying channel dimensions. Portions of the channel include earthen channels, channels with concrete walls and earthen beds, and fully concrete lined channels with box culverts. The 5.4-mile long Colma Creek drainage channel is owned and operated by the San Mateo County Flood Control District, a Countywide Special District created to finance flood control projects in the region.

Colma Creek has a history of persistent flooding. The industrial area of South San Francisco near Colma Creek was constructed on a historic floodplain, making the businesses and buildings in this area susceptible to flooding. As a result, in 1964 the San Mateo County Flood Control District established the Colma Creek Flood Control Zone that extends from San Francisco Bay to the City of Daly City and provides flood control protection for the surrounding region. In 1974, San Mateo County Flood Control District subsequently established the Colma Creek Flood Control Project that involved the completion of several channel improvements including the construction of vertical concrete channel walls, transition structures between channel segments, and bridge crossings. A segment of the Colma Creek drainage channel runs through Orange Memorial Park. The reach of the Colma Creek drainage channel that bisects the Orange Memorial Park consists of vertical and trapezoidal-shaped concrete channel walls and bed.

1.2 Project Description

The Project would provide water quality improvements to meet the National Pollutant Discharge and Elimination System (NPDES) requirements of the San Francisco Bay MRP. The MRP governs stormwater discharges to San Francisco Bay from the City of South San Francisco and 21 other co-permittees in San Mateo County. The Project is designed to address multiple water quality targets outlined in the MRP. These include a reduction in pollutant discharges of PCBs and mercury to San Francisco Bay to comply with TMDL requirements, as well as trash discharge reductions under the MRP requirements.

The Project would include construction and operation of a water capture facility through the installation of a drop inlet, diversion channel, and inlet junction structure (trash screen) in the upper and western end of the Colma Creek channel and Orange Memorial Park boundary. Captured water would be diverted into a storm pipe and series of pretreatment chambers that would lead to an underground stormwater storage reservoir in the southeastern corner of the Orange Memorial Park. A portion of the storage would function as a cistern holding water for eventual non-potable irrigation use in and around the park, and the remainder would function as an infiltration chamber. These storage facilities would be constructed underneath a portion of the Orange Memorial Park's two existing ballfields. When storage capacity is exceeded, overflow from the system would be routed through a filtration chamber before being metered back into the Colma Creek channel. This regional Project would have multiple benefits in addition to water quality improvements, including reducing flooding and reusing treated water for irrigation and groundwater recharge. The Project would capture

and treat 8 to 13 percent of the annual drainage from approximately 6,300 acres of land in the City of South San Francisco, Town of Colma, the City of Daly City, and a portion of unincorporated San Mateo County. The project site plan is provided as Figure 4 in Attachment D.

2.0 Methods

2.1 Biological Resources Assessment

Prior to compiling this report, Wood biologists conducted a search of the California Natural Diversity Database (CNDDB), the U.S. Fish and Wildlife Service (USFWS) Information, Planning, and Consultation System (IPAC System), and California Native Plant Society (CNPS) Inventory Database encompassing lands within two miles of the survey area to identify species that could potentially occur on site. The biologists also reviewed available aerial photographs, topographic surveys, and information on vegetation/habitat types to develop a potentially occurring sensitive species list. Identified records were further filtered based on habitat types within the survey area to evaluate the likelihood of occurrence. Wood Senior Biologist Angie Harbin-Ireland conducted a site reconnaissance on November 8, 2018 to field truth vegetation communities and wildlife habitats on the site. Photos of vegetation communities are provided in Attachment A.

2.2 Delineation of Jurisdictional Waters of the United States

Wood biologists reviewed background information relating to jurisdictional waters from the following sources:

- Aerial photographs of the project area;
- USGS topographic maps to determine mapped water features;
- USDA soil mapping data; and
- USFWS National Wetlands Inventory (NWI) Wetlands Mapper (USFWS 2019)

A delineation of jurisdictional waters was conducted to identify potentially jurisdictional waters of the U.S. (WUS) under the jurisdiction of the U.S. Army Corps of Engineers (USACE) pursuant to Section 404 of the Clean Water Act (CWA) and the Regional Water Quality Control Board (RWQCB) under Section 401 of the CWA.

Wood Senior Environmental Scientist Juliana Prosperi conducted a field survey on October 18, 2018 to identify and delineate potentially jurisdictional water features. The field survey included searching for presence of jurisdictional waters while walking the survey area. The width of the channel was documented using a Global Positioning System (GPS). The GPS collected data was overlaid onto aerial photographs with the use of a Geographic information system (GIS).

A subsequent site visit was conducted by Wood Biologist Jason Erlich on March 3, 2019 to verify conditions of the site and capture additional photographs. Water was flowing throughout the channel during the October, November, and March site visits. Photographs from the site visits are included in Attachment A.

3.0 Results

3.1 Vegetation Communities

Vegetation communities within the survey area include grass/turf, urban/developed, eucalyptus woodland, ornamental, and a channel (Attachment D Figure 5). The vegetation overall is typical of an urban park setting, with mostly ornamental plantings and eucalyptus trees planted for shade and boundary. Large swaths of maintained (presumably turf) grass occupies much of the open areas. There is a baseball field and a softball field that accounts for the southeastern and eastern portion of the survey area. Picnic tables, benches, park buildings and a small playground structure are also within the survey area. The Colma Creek Flood Control Channel runs from the north to southeast along the eastern boundary of the park. Within this reach of the Colma Creek Flood Control Channel, the channel bottom and sides are lined with concrete. A summary of vegetation communities and acreage within the survey area is provided below in Table 1. Photographs of the vegetation communities are provided in Attachment A Site Photographs (Photos 1 and 2).

Table 1.
Vegetation Communities in the Survey Area

Vegetation Community	Approximate Acres
Grass/Turf	9.21
Urban/Developed	8.49
Eucalyptus Woodland	5.52
Ornamental	1.03
Channel	0.75
Total	**25.00**

Grass/Turf

Grass/turf areas include those parts of the park where grass lawn has been installed and is maintained for the benefit of park's patrons. This community is characterized by the presence of grasses and other durable plants that are maintained at a short length and receive irrigation. This habitat totals 9.21 acres in the survey area and is the largest of the mapped communities.

Urban/Developed

Urban/developed areas include those parts of the landscape that have been constructed on or physically altered such that vegetation is no longer supported. This is characterized by the presence of structures, pavement or hardscape, debris dumps, or landscaped areas that may require irrigation and are maintained to exclude native species. This habitat totals 8.49 acres in the survey area.

Eucalyptus Woodland

Eucalyptus woodlands range from single-species thickets with little to no shrub understory to scattered trees over a well-developed shrub understory. In most cases the eucalyptus forms a dense stand with a closed canopy. A large amount of leaf and bark litter under these trees can prevent other species from growing in the understory due to the chemical and physical characteristics of eucalyptus. However, sparse growth of some shrubs, plants and grasses may be found in the understory. The most

common eucalyptus (*Eucalyptus* spp.) found in this habitat include blue gum (*Eucalyptus globulus*) and red gum (*Eucalyptus camaldulensis*). This habitat type covers 5.52 acres of the survey area. While this is a non-native community, it can sometimes offer some value as raptor nesting habitat.

Ornamental

Ornamental vegetation includes exotic and non-native trees, shrubs and herbaceous plants that have been intentionally planted and maintained and/or artificially irrigated. This does not apply to naturalized or riparian woodlands. In the survey area, ornamental covers 1.03 acres and consists mostly of a mix of typical ornamental non-native species. Eucalyptus woodland is not included in this category.

Channel

The Colma Creek Flood Control Channel consists of 0.75 acre and bisects the Project into two areas. It is a concrete lined channel, with vegetation on either side including Eucalyptus woodland and ornamental vegetation.[1]

3.2 Native Trees

Western Sycamore

Western sycamore (*Platanus racemosa*) is a deciduous tree that grows up to 15 to 25 meters tall with massive trunks that can grow straight and erect but are more commonly irregular. Its leaves are thick and dark green with 3 to 5 lobes that are longer than they are wide. The fruits are brown seed balls of about 2.5 centimeters in diameter that hang in groups of 2 to 7. This species is native to California and is common along streams, in canyons, and in arroyos from northern California south to Baja California. Western sycamore flowers from February to May and its fruit matures in late fall. This tree is typically found in yellow pine forest, foothill woodland, chaparral, valley grassland, and riparian communities. Western sycamores are also used in landscaped areas, such as parks, as they provide ample shade and are appealing trees. These trees provide food and nesting sites for birds and butterflies.

One mature western sycamore tree was mapped within the survey area (Attachment D Figure 5). This tree is located along the edge of the eucalyptus trees that are growing along the Colma Creek Flood Control Channel in the northwestern part of the survey area.

Coast Live Oak

Coast live oak (*Quercus agrifolia*) is an evergreen tree that grows up to 10 to 25 meters tall with a broad, dense crown and widely spreading branches. This species leaves are 2 to 6 centimeters long with an oval shape and toothed margins. Their acorn cups are composed of thin, flat scales with nuts that have a narrow conical shape and are 2 to 4 centimeters long. This species of oak flowers between February and April and its fruit matures between August and October. Coast live oak is native to California and is found along the coastal ranges from northern central California south to northern Baja California, typically in mixed evergreen forests, foothill woodlands, and southern oak woodland communities. Coast live oaks are also used for landscaped areas, such as parks, as they provide

[1] The acreage for the channel for the Jurisdictional Delineation was based on ArcGIS analysis and As-Built information for the channel provided by Lotus Water and slightly more accurate. The acreage referenced in Section 3.5 is 0.70 acres.

abundant shade and an aesthetic appeal. These trees stabilize slope soils, provide organic rich leaf litter, provide habitat for many insects, birds, and mammals, and their acorns are an important food source for birds, small mammals, and deer.

Thirteen mature coast live oak trees were mapped within the survey area (Attachment D Figure 5). One tree is adjacent to the playground located in the northwestern part of the survey area, one is located along the northern bank of the Colma Creek Flood Control Channel just east of the lower footbridge, one is part of the landscaping adjacent to a parking lot, and the other ten trees are located along West Orange Avenue, which serves as the eastern boundary of both Orange Memorial Park and the survey area.

3.3 Special Status Species

Special-status species are defined as any plant or animal species that have been listed as threatened or endangered by the USFWS or California Department of Fish and Wildlife (CDFW); recognized as a CDFW species of special concern (SSC); or are included in the California Rare Plant Rank (CRPR) inventory, which is maintained by the CNPS. Table 2 provides a summary of the CNPS CRPR categories and their descriptions.

Table 2.
California Rare Plants Rankings and Threat Ranks

California Rare Plant Ranking (CRPR)	Description
1A	Plants presumed extirpated in California and either rare or extinct elsewhere
1B	Plants that are rare, threatened, or endangered in California and elsewhere
2A	Plants presumed extirpated in California but common elsewhere
2B	Plants that are rare, threatened, or endangered in California but are more common elsewhere
3	Plants about which more information is needed- a review list
4	Plants of limited distribution- a watch list
Threat Ranks	**Description**
0.1	Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)
0.2	Moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)
0.3	Not very threatened in California (less than 20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

3.3.1 Special-Status Plants

Most special-status plant species occurring in the region are found in coastal scrub, coastal bluff, coastal prairie, coastal dune, meadow, chaparral, valley and foothill grassland, upland broad-leafed and cismontane woodland and coniferous forest habitats. All special-status plant species that are either known to occur or have potential to occur in the region of the survey area are listed in Attachment B. Urban recreational development within the park has removed much of the suitable habitat for sensitive

plant species. Special-status plant species are not expected to occur on most of the site given the heavy development and recreation use within the park. The site lacks any undisturbed/undeveloped areas and is isolated from natural habitats by surrounding urban development. Those species that are not expected to occur on the site are addressed in Attachment B but are not discussed further in this document. Marginally suitable areas for sensitive plant growth include Colma Creek, roadside habitat, and the floor of the eucalyptus woodland areas. Four of the special-status plant species that have been documented in the vicinity of the study area, per the background review, are considered to have a low potential to occur on site. These species are discussed in more detail below.

Bent-flowered fiddleneck (*Amsinckia lunaris*)

Bent-flowered fiddleneck is recognized as a CRPR 1B.2 species and a California SSC. This species occurs in coastal bluff scrub, cismontane woodland and valley and foothill grasslands from 9 to 1500 feet in elevation. This species was documented in the CNDDB search approximately two miles north and slightly west of the site. The blooming period for this species is March through June, and it would have been detected during surveying had it been present. This species has low potential to be found in the shaded areas at the edges of the eucalyptus woodlands, although it is presumed absent based on the negative findings of the recent survey.

Bristly sedge (*Carex comosa*)

Bristly sedge is recognized as a CRPR 2B.1 species and a California SSC. This species occurs in coastal prairie, marshes and swamps, and valley and foothill grasslands from 0 to 1875 feet in elevation. This species was documented in the CNDDB search approximately two miles north and slightly west of the site. The blooming period for this species is May through September. This species has a low potential to occur in the channel or cracks between the concrete slabs lining the channel.

Pappose tarplant (Centromadia parryi ssp. parryi)

Pappose tarplant is recognized as a CRPR 1B.2 species and a California SSC. This species occurs in coastal bluff scrub, cismontane woodland, and valley and foothill grasslands from 9 to 1500 feet in elevation. This species was documented in the CNDDB/CNPS search over two miles from the survey area. The blooming period for this species is March through June, and it would have been detected during surveying had it been present. This species has low potential to occur at roadside edges or near the edges of eucalyptus woodlands near the channel, although it is presumed absent based on the negative findings of the survey.

Congested-headed hayfield tarplant (*Hemizonia congesta* ssp. *congesta*)

Congested-headed hayfield tarplant is recognized as a CRPR 1B.2 species and a California SSC. This herbaceous species occurs in valley and foothill grassland habitats, and occasionally on roadsides edges from 60 to 1680 feet in elevation. This species was documented in the CNDDB search less than two miles west of the site. The blooming period for this species is April through November. This species has a low potential to occur at roadside edges or near the edges of eucalyptus woodlands near the channel.

3.3.2 Special-Status Wildlife

Special-status wildlife species include those listed by USFWS under the federal Endangered Species Act (ESA) and by CDFW under the state ESA. The USFWS officially lists species as either threatened, endangered, or as candidates for listing and gives some species designation as Birds of Conservation Concern (BCC). Additional species receive federal protection under the Bald Eagle Protection Act, the Migratory Bird Treaty Act (MBTA) and state consideration under the California Environmental Quality Act (CEQA). Many other species are considered by CDFW to be California Fully Protected Species (FP) under the California Fish and Game Code, SSC, or species on their Watch List (WL).

In addition, the CDFW's CNDDB tracks species within California for which there is conservation concern, including many that are not formally listed, and assigns them a CNDDB Rank. Although California SSC, CDFW WL species, and species that are tracked by the CNDDB are not formally listed and are afforded no official protection status (with the exception of birds covered under laws listed above), they may receive special consideration during the CEQA review process.

Several special-status wildlife species have been documented within a two-mile radius of the project area. Based on the literature review and field surveys some are considered to have potential to occur within the vicinity of the survey area. However, urban recreational development within the park has removed much of the suitable habitat for sensitive wildlife species on site. The site lacks any undisturbed/undeveloped areas and is isolated from natural habitats by surrounding urban development. A few sensitive wildlife species that are more tolerant of urbanization and human activity have the potential to occur on site and are discussed below. Those species that occur in the region but are not expected to occur on the site are addressed in Attachment C and are not discussed further in this document with the exception of those that are of particular regulatory concern.

3.3.3 Insects

The western bumble bee (*Bombus occidentalis*), CNDDB tracked, was previously documented near San Bruno Mountain Park. This species is known to occur in Canada to the Central Coast of California and is on the decline from South British Columbia to Central California. As generalist foragers, bumble bees do not depend on any one species of flower or any one particular nectar source. Bumble bees are expected wherever a water source and flowering plants are located. The survey area provides both sources of nectar and fresh water. Although this species is on the decline, the survey area provides potential food and water sources for this species and therefore it is considered to have a low potential for occurrence.

San Bruno Mountain Park, located about a mile to the north, is known to be occupied by several rare butterfly species – Mission blue (*Plebejus icarioides missionensis)*, Bay checkerspot (*Euphydryas editha bayensis)*, San Bruno elfin (*Callophrys mossii bayensis)*, and callipe silverspot (*Speyeria callippe)*. The native scrub and grassland habitats that support host plants for these species are not present on the study area, thus they are not expected to occur on site.

3.3.4 Reptiles

The San Francisco gartersnake (*Thamnophis sirtalis tetrataenia*), a federally and California state listed endangered species, has been documented historically in multiple locations near the survey area. Extant populations are now very fragmented and isolated due to the urbanization of the Bay Area peninsula. This snake utilizes a wide variety of habitats, preferring grasslands or wetlands near freshwater ponds, marshes and sloughs. It may overwinter in upland areas away from water. An extant population (West of Bayshore) is present just west of the San Francisco airport a little over two miles from the site (USFWS 2006). Historically, its population was present at the San Bruno Mountain park, although it is considered to be extirpated (USFWS 2006). The site is not hydrologically connected to the ponds that are inhabited by the species west of the airport and surrounding urbanization is a barrier to dispersal on to the site. Despite the grass fields within the park and the presence of Colma Creek, which could provide marginal dispersal habitat, given the isolation of the known populations from the site this species is not expected to occur on site.

3.3.5 Fish

Special-status fish, such as steelhead (*Oncorhynchus mykiss*), coho salmon (*Oncorhynchus kisutch*), green sturgeon (*Acipenser medirostris*), and longfin smelt (*Spirinchus thaleichthys*) occur in the portion of San Francisco Bay to which Colma Creek is a tributary. The portion of Colma Creek that is the subject of the Project is a fully concreted channel. A survey for steelhead was conducted by Leidy in 2002 within Colma Creek and none were found. Additionally, the habitat was not considered suitable for steelhead (Leidy et. al 2005). Current conditions within the creek are not considered suitable for native fisheries given the lack of vegetation and bottom substrate. It is possible that fish could access the area in very high flows if they were washed upstream, although the tidal influence is lost downstream of the Park area. An elevation drop and associated water acceleration was observed at the downstream footbridge (Attachment A, Photo 1), presumably creating impassable conditions for much of the channel within the Park. The downstream portion of Colma Creek (2,200 feet downstream of the Project site) is considered critical habitat for green sturgeon. However, a Biological Assessment prepared in 2015 for a maintenance project within the downstream reaches of Colma Creek found that the area was generally unsuitable for sensitive fish species (Horizon Water and Environment 2015a).

3.3.6 Birds

The California Ridgway's rail (*Rallus obsoletus* ssp. *obsoletus*), a federally and California state listed endangered species, and an FP that prefers salty and brackish water marshes vegetated with pickleweed and cordgrass. California Ridgway's rail has been documented directly along San Francisco Bay where brackish marshes are present. Although Colma Creek connects the mouth of the Bay with these marshes, there is no habitat within the reach of Colma Creek near the park, or within the park itself. Additionally, no suitable habitat is present adjacent to the site due to surrounding urbanization. Therefore, this species is not expected to occur within the site.

Alameda song sparrows (*Melospiza melodia pusillula*) are a SSC, and a BCC species endemic to tidal salt marshes on the fringes of south San Francisco Bay. They require tidal marsh habitats that have a specific configuration of exposed ground, water and vegetation. Vegetation is required for nesting, perches and protection from predators, but is usually not higher than 30-46 centimeters (depending

on plant species). Nesting usually occurs within upland habitat (Shuford and Gardali 2008). As there are no tidal marshes within the survey area, this species is not expected to be found nesting within the Park.

American peregrine falcons (*Falco peregrinus anatum*) are a BCC and FP species at their nest sites. Nesting habitat includes coastal cliffs, desert cliffs, bridges, skyscrapers and other large buildings. Peregrine falcons are not found nesting in trees and are not typically observed in parks and yards. However, they do prefer wide-open spaces for foraging. Peregrine falcons have been documented nesting on bridges, skyscrapers, and cliffs along San Francisco Bay. There are no tidal marshes or suitable nest habitats within the site and therefore this species is not expected to be found nesting on site.

The eucalyptus woodland areas, ornamental trees, native trees, and structures throughout the study area provide nesting habitat for numerous other bird species that are protected by the MBTA and Fish and Game Code. Landscape shrubs, buildings, and the grass/turf provide ample nesting opportunities for common passerines and non-passerine land birds. Several raptor species have potential to forage and nest within the survey area. The numerous mature palm, eucalyptus, and conifer trees provide excellent nesting habitat. The small mammals that likely occur in the park understory provide foraging opportunities.

3.3.7 Mammals

California bats and bats in general are threatened by habitat destruction, especially since a wide variety of habitats are needed for different behaviors (roosting, foraging, drinking, hibernating, etc.) Many bat species roost in groups and use mature trees, snags, crevices and man-made structures for roosting, either for winter roosting (hibernacula) or for forming summer nursery colonies. Since some bats will roost in man-made structures such as the undersides of bridges and vacant buildings, they are particularly vulnerable to roost disturbance or destruction by humans (Currie, 2000). Protecting established roost sites is of particular importance to the conservation of bats, and management of these sites is receiving increasing attention from the CDFW.

One special-status bat species, the hoary bat (*Lasiurus cinereus*) a CNDDB tracked species, is considered to have at least some potential to occur within the survey area. Hoary bats are solitary and roost primarily in foliage of both coniferous and deciduous trees near the end of the branches. Roosts are usually located at the edge of a clearing, utilized for foraging. Several unusual roosting situations including caves, beneath a rock ledge, in a woodpecker hole, in a grey squirrel nest, under a driftwood plank, and clinging to the side of a building have also been reported. Hoary bats are known to eat beetles, flies, grasshoppers, termites, dragonflies, and wasps, but have a strong preference for moths (Western Bat Working Group, 2018). Potential bat roosting habitat in the survey area includes the trees within the site, although there are very few deciduous trees as eucalyptus are the dominant tree species and a small number of conifers that make up a portion of the ornamental tree habitat (Attachment D Figure 5). Therefore, hoary bats are considered to have a low potential to occur on site.

3.4 Federally-Designated Critical Habitat

There is no designated critical habitat within the survey area.

3.5 Delineation of Water of the United States

The results of the delineation are discussed in the following sections. Figure 6 provides a map of the NWI Wetlands Mapper data. Figure 7 provides a map of the potential WUS within the concrete drainage channel, including points delineating the Ordinary High Water Mark (OHWM) during the dry season. No wetlands were identified within the survey area, therefore wetland delineation data forms are not included. Appendix A includes site photographs of Colma Creek. Table 3 summarizes aquatic resources mapped in the survey area.

Table 3.
Summary of Non-Wetland Waters and Jurisdictional Determinations

Map ID	Description	Type	Cowardian Classification	Area (acres)	Type
MCC-1	Modified Concrete Channel	WUS	R4SBCx	0.461	Non-Wetland Waters of U.S
MCC-2	Modified Concrete Channel	WUS	R2UBHx	0.234	Non-Wetland Waters of U.S.
Total				**0.695**	

Source: Acreages were calculated using ArcGIS and based on As-Built information for the channel provided by Lotus Water.

3.5.1 Non-Wetland Waters of the United States

An approximately 1,092-foot long (0.70 acre) portion of the Colma Creek Flood Control Channel lies within the 25-acre survey area, bisecting Orange Memorial Park in a northwest to southeast direction (Attachment D Figure 6 and Figure 7). The bottom and sides of this part of the channel are entirely lined with concrete. Upstream of the northwestern-most Orange Memorial Park pedestrian bridge, the channel is approximately 12 feet deep with vertical banks. Downstream of this bridge and continuing to Orange Avenue, the channel narrows with banks that are vertical from the channel bottom up to approximately 6 feet where they slant out at a 45-degree angle to the top of the channel (Photos 3 and 4, Attachment A). Downstream of Orange Avenue, the concrete channel widens and becomes trapezoidal.

The Colma Creek Flood Control Channel flows downstream from the project site and drains directly to the San Francisco Bay, a traditional navigable waterway (TNW). The entire section of the modified concrete channel within the survey area would be considered Non-Wetland Waters of the U.S. and State and would likely be under jurisdiction of the USACE pursuant to Section 404 of the CWA and the RWQCB under Section 401 of the CWA.

Within the survey area, the channel is unvegetated with the exception of a narrow strip along the northern side of the channel bottom near the northwestern boundary of the survey area and several of the joints at the top of the channel near the southeastern end of the survey area (Photos 5 and 6, Attachment A). The narrow strip of herbaceous vegetation along the channel concrete bottom was observed during the October 2018 site visit, but was under water during the March 2019 site visit. This vegetation was growing in areas where patches of sediment were present along the channel bottom.

Ruderal upland species, such as Canada horseweed (*Erigeron canadensis*) were observed growing in the joints near the top of the channel close to Orange Avenue.

Also, within modified concrete portion of the channel with vertical walls the OHWM measured approximately two feet above the concrete bottom. The extent of the potential waters of the U.S. with a tidal and marsh regime appear to occur downstream of Highway 101 (Horizon Water and Environment 2015b).

3.5.2 Wetlands

No wetlands were identified within the survey area. The upper portion of the Colma Creek Flood Control Channel that traverses the survey area is classified as riverine intermittent habitat by the NWI (i.e. riverine, intermittent, streambed, seasonally flooded excavated habitat [Wetland Classification Code: R4SBCx] (USFWS 2019). The lower portion of the Colma Creek Flood Control Channel that traverses the survey area is classified as riverine, lower perennial, unconsolidated bottom, permanently flooded, excavated [Wetland Classification Code: R2UBHx]) (USFWS 2019). Also, based on the October and March field surveys, the 1,092-foot long (0.70 acre) portion of the channel lined with concrete was considered Non-Wetland WUS (USFWS 2019). The project survey area does not experience tidal hydrologic regimes. The majority of the modified drainage channel that consists of vertical concrete sides and bottom contained winter season wet flows and urban runoff. No wetland points or samples were collected.

3.5.3 Riparian Areas

For the purposes of this report, riparian areas are defined as transitional areas between aquatic and upland habits. These areas lack the necessary hydrology and soils to be defined as wetlands and are typically dominated by shrub species. There were no riparian areas identified within the survey area.

4.0 Conclusions and Recommendations

The site contains habitat that could be occupied by nesting birds. The nesting season extends from February 1 - August 31. Active nest sites would require protection during the construction. The site also supports potential roosting sites for hoary bats. The site includes a few native trees including western sycamore and coast live oak. These trees should be avoided by project plans and protected during construction to the extent feasible. A Biological Avoidance and Minimization Plan should be developed for implementation during construction. The goal of the plan should be to protect sensitive species and habitats during all work activities. The plan should include worker awareness training, pre-construction surveys, establishment of non-disturbance buffer zones, and monitoring.

Although the portion of the Colma Creek that lies within the Park is not considered suitable for fisheries, habitat for green sturgeon does occur in the downstream, tidally influenced portion of Colma Creek. Habitat is also present for steelhead and coho salmon where Colma Creek drains into San Francisco Bay. The Project should implement Best Management Practices during construction to ensure protection of water quality downstream. The habitat and water quality needs of local aquatic species should also be considered during the design process. Given the Project goals, the implemented Project will presumably result in water quality improvements downstream.

The Project would result in permanent impacts to Non-Wetland WUS in the concrete lined drainage channel. These Non-Wetland WUS are mapped for the survey area and subject to regulation under Section 404 of the CWA, the RWQCB under Section 401 of the CWA, and Section 1602 of the CDFG Code. Permanent and temporary impacts would result from the installation of a drop inlet structure and two pipes used to route excess water back into the channel.

5.0 References

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Sincerely,
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Attachments:

Attachment A Site Photographs

Attachment B Sensitive Plant Species Occurring or Potentially Occurring in the Vicinity of the Survey Area

Attachment C Special-Status Wildlife Species with Proximity (~2 miles) to the Project or with Potential Habitat Onsite

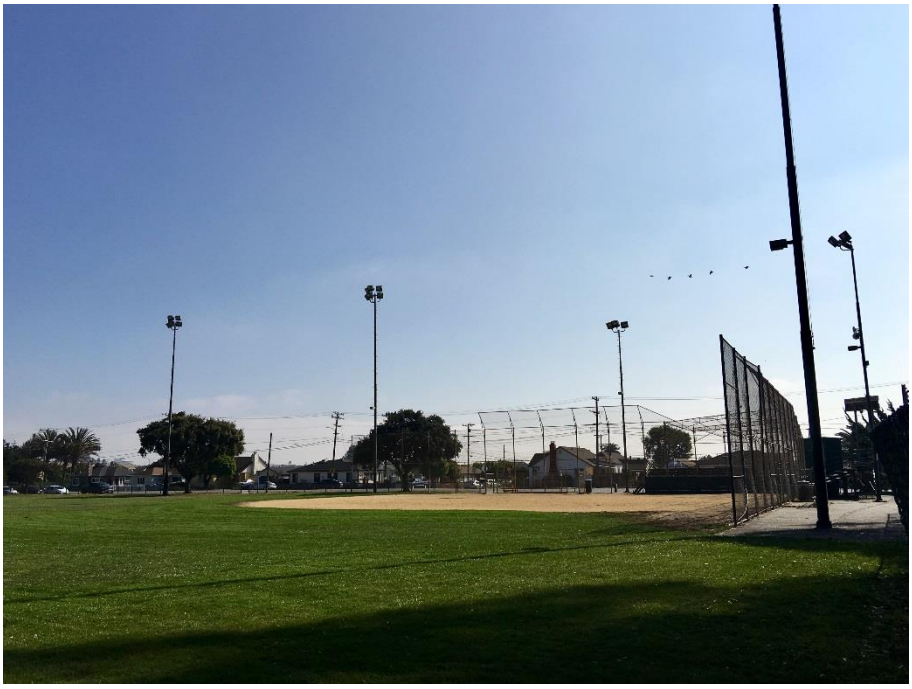
Attachment D Figures

Figure 1. Regional Location
Figure 2. Vicinity Map
Figure 3. Site Overview
Figure 4. Site Plan
Figure 5. Vegetation Communities
Figure 6. National Wetland Inventory Map
Figure 7. Jurisdictional Waters of the U.S.

Attachment A
Site Photographs

Photograph 1. At the southeast corner of the baseball field looking northeast.

Photograph 2. View of the baseball field looking east toward the row of palm trees lining either side of Colma Creek channel.



Photograph 3. Baseball diamond at the far southern portion of the study area, looking south.

Photograph 4. View facing northeast showing the baseball field green and eucalyptus woodland in the background.

Photograph 5. View facing north of the outer southern corner of the study area. The baseball field outer fence, eucalyptus woodland and parking lot are shown.

Photograph 6. View facing northeast south and across the street from the southern boundary of the study area.

Photograph 7. View looking up Colma Creek with the baseball field and row of ornamental palms to the west. This portion of the channel is just outside of the study area boundary.

Photograph 8. View from the east side of Colma Creek facing southwest toward the park.

Photograph 9. View from the center of the pedestrian bridge looking north up Colma Creek channel.

Photograph 10. View from the center of the pedestrian bridge facing south down Colma Creek.

Photograph 11. View from the west side of Colma Creek looking east across the pedestrian bridge.

Photograph 12. View from the west side of Colma Creek looking northeast and showing the concrete lining of the channel.

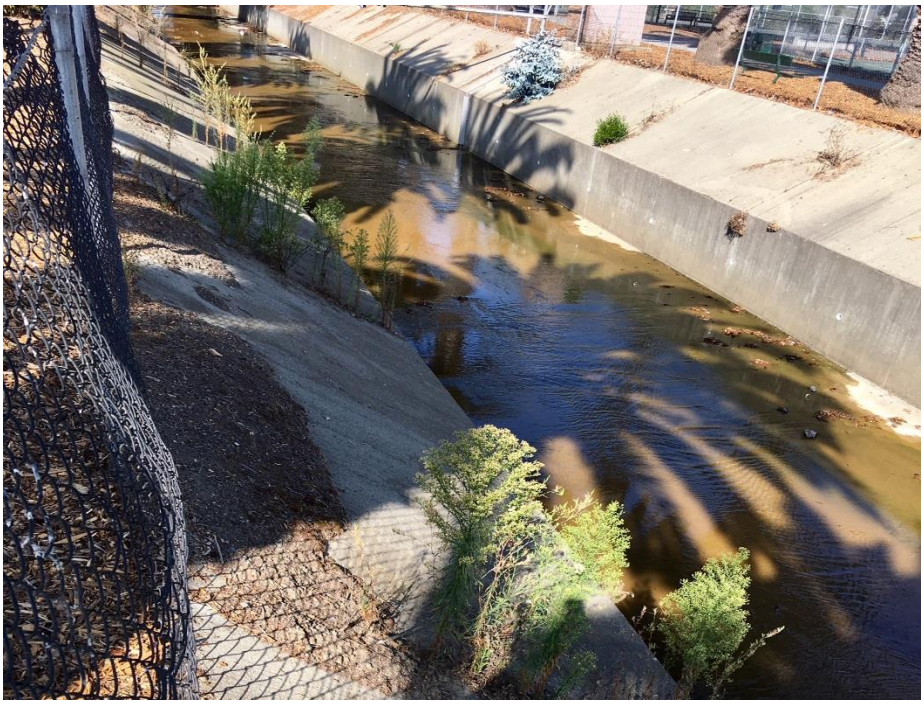
Photograph 13. A view looking north up Colma Creek at the far northeast corner of the study area.

Photograph 14. View from the west side of Colma Creek looking southeast toward the pedestrian bridge.

Photograph 15. View from the sidewalk between the park and the eucalyptus woodland, facing north showing a play structure. This photograph location is at the north east corner of the study area.

Photograph 16. View from the sidewalk between the park and the eucalyptus woodland.

Photograph 17. Vegetation growing out of the crack between concrete slabs lining Colma Creek channel.



Photograph 18. Vegetation growing out of the crack between concrete slabs lining Colma Creek channel.

Photograph 19. View facing south of Colma Creek between the eucalyptus woodland, just northeast of the baseball field.

Photograph 20. View facing north of Colma Creek between the eucalyptus woodland, just northeast of the baseball field.

Photograph 21. View of water and vegetation growing in Colma Creek channel bottom.

Photograph 22. View of siltation and other debris within Colma Creek.

Photograph 23. View facing west of a picnic area within the park, surrounded by eucalyptus and several conifers.

Attachment B

Sensitive Plant Species Occurring or Potentially Occurring in the Vicinity of the Survey Area

Attachment B
Sensitive Plant Species Occurring/Potentially Occurring in the Vicinity of the Survey Area

Scientific Name	Common Name	Status[1] (Federal/State/CRPR)	Habitat	Blooming Period/ Elevation (feet)	Occurrence/Potential for Occurrence[2]
Allium peninsulare var. *franciscanum*	Franciscan onion	-/-/1B.2	Cismontane woodland and valley and foothill grasslands in clay, volcanic or serpentine soils.	(Apr) May-Jun 156 - 915	Known to occur in region. Not expected to occur due to lack of suitable habitat
Amsinckia lunaris	bent-flowered fiddleneck	-/-/1B.2	Coastal bluff scrub, cismontane woodland and valley and foothill grasslands	Mar- Jun 9 - 1,500	Low potential to occur. Known to occur in region; may be found on floor of eucalyptus woodland areas.
Arabis blepharophylla	coast rockcress	-/-/4.3	Broadleafed upland forest, coastal bluff scrub, coastal prairie and coastal scrub	Feb-May 9 - 3,300	Known to occur in region. Not expected to occur due to lack of suitable habitat
Arctostaphylos imbricata	San Bruno Mountain manzanita	-/SE/1B.1	Rocky, chaparral and coastal scrub habitats	Feb-May 825 - 1110	Known to occur in region. Not expected to occur due to lack of suitable habitat
Arctostaphylos montaraensis	Montara manzanita	-/-/1B.2	Maritime chaparral and coastal scrub	Jan-Mar 240 - 1,500	Known to occur in region. Not expected to occur due to lack of suitable habitat
Arctostaphylos pacifica	Pacific manzanita	-/SE/1B.1	Chaparral and coastal scrub	Feb-Apr 987 – 1,198	Known to occur in region. Not expected to occur due to lack of suitable habitat
Astragalus nuttallii var. *nuttallii*	ocean bluff milk-vetch	-/-/4.2	Coastal bluff scrub and coastal dunes	Jan-Nov 9 - 360	Known to occur in region. Not expected to occur due to lack of suitable habitat

Attachment B
Sensitive Plant Species Occurring/Potentially Occurring in the Vicinity of the Survey Area

Scientific Name	Common Name	Status[1] (Federal/State/CRPR)	Habitat	Blooming Period/ Elevation (feet)	Occurrence/Potential for Occurrence[2]
Carex comosa	bristly sedge	-/-/2B.1	Coastal prairie, marshes and swamps, and valley and foothill grassland	May-Sep 0 - 1,875	Low potential to occur. Known to occur in region; may be found growing in cracks between concrete slabs along or within Colma Creek.
Centromadia parryi ssp. *parryi*	pappose tarplant	-/-/1B.2	Alkaline habitats in chaparral, coastal prairie, meadows and seeps, marshes and swamps (coastal salt), and valley and foothill grasslands (mesic)	May-Nov 0 - 1,260	Low potential to occur. Known to occur in region; may be found on floor of eucalyptus woodland areas at edges of Colma Creek channel.
Chorizanthe robusta var. *robusta*	robust spineflower	FE/-/1B.1	Sandy or gravelly soils in maritime chaparral, cismontane woodland openings, coastal dunes and coastal scrub	Apr-Sep 9 - 900	Known to occur in region. Not expected to occur due to lack of suitable habitat
Cirsium andrewsii	Franciscan thistle	-/-/1B.2	Mesic, sometimes serpentinite soils/rocks in broad-leafed upland forest, coastal bluff scrub, coastal prairie, and coastal scrub habitats	Mar-Jul 0 - 450	Known to occur in region. Not expected to occur due to lack of suitable habitat
Collinsia multicolor	San Francisco collinsia	-/-/1B.2	Closed-cone coniferous forest and coastal scrub; sometimes prefers serpentinite soils/rocky areas	(Feb) Mar-May 90 - 750	Known to occur in region. Not expected to occur due to lack of suitable habitat
Equisetum palustre	marsh horsetail	-/-/3	Marshes and swamps	Mar-Jun 135 - 3,000	Known to occur in region. Not expected to occur due to lack of suitable habitat

Attachment B
Sensitive Plant Species Occurring/Potentially Occurring in the Vicinity of the Survey Area

Scientific Name	Common Name	Status[1] (Federal/State/CRPR)	Habitat	Blooming Period/ Elevation (feet)	Occurrence/Potential for Occurrence[2]
Erysimum franciscanum	San Francisco wallflower	-/-/4.2	Often serpentinite or granitic, sometimes on roadsides. Chaparral, coastal dunes, coastal scrub and valley and foothill grassland	Mar-Jun 0 - 1,650	Known to occur in region. Not expected to occur due to lack of suitable habitat
Fritillaria liliacea	Fragrant fritillary	-/-/1B.2	Often serpentinite. Cismontane woodland, coastal prairie, coastal scrub and valley and foothill grassland	Feb-Apr 9 - 1,230	Known to occur in region. Not expected to occur due to lack of suitable habitat
Gilia millefoliata	dark-eyed gilia	-/-/1B.2	Coastal dunes	Apr-Jul 6 - 90	Known to occur in region. Not expected to occur due to lack of suitable habitat
Grindelia hirsutula var. *maritima*	San Francisco gumplant	-/-/3.2	Sandy or serpentinite soils/rocky areas in coastal bluff scrub, coastal scrub and valley and foothill grassland	Jun-Sep 45 - 1,200	Known to occur in region. Not expected to occur due to lack of suitable habitat
Helianthella castanea	diablo helianthella	-/-/1B.2	Found in a variety of habitats that include rocky axonal soils in partial shade. Broad-leafed upland forest, chaparral, cismontane woodland, coastal scrub, riparian woodland and valley and foothill grassland	Mar-Jun 180 - 3,900	Known to occur in region. Not expected to occur due to lack of suitable habitat
Hemizonia congesta ssp. *congesta*	congested-headed hayfield tarplant	-/-/1B.2	Valley and foothill grassland. Occasionally found on roadsides.	Apr-Nov 60 - 1,680	Low potential to occur. Known to occur in region; may be found on floor of eucalyptus woodland areas at roadside edges.

Attachment B
Sensitive Plant Species Occurring/Potentially Occurring in the Vicinity of the Survey Area

Scientific Name	Common Name	Status[1] (Federal/State/CRPR)	Habitat	Blooming Period/ Elevation (feet)	Occurrence/Potential for Occurrence[2]
Hesperevax sparsiflora var. *brevifolia*	short-leaved evax	-/-/1B.2	Coastal bluff scrub (sandy), coastal dunes and coastal prairie	Mar-Jun 0 - 645	Known to occur in region. Not expected to occur due to lack of suitable habitat
Heteranthera dubia	water star-grass	-/-/2B.2	Requires a pH of 7/>7in slight eutrophic marshes, swamps and other alkaline, still or slow-moving waters	Jul-Oct 90 - 4,485	Known to occur in region. Not expected to occur due to lack of suitable habitat
Horkelia cuneata var. *sericea*	Kellogg's horkelia	-/-/1B.1	Sand or gravelly openings in closed-cone coniferous forests, chaparral, maritime coastal dunes and coastal scrub.	Apr-Sep 30 - 600	Known to occur in region. Not expected to occur due to lack of suitable habitat
Horkelia marinensis	Point Reyes horkelia	-/-/1B.2	Coastal dunes, coastal prairie and coastal scrub habitats with sandy areas	May-Sep 15 - 2,265	Known to occur in region. Not expected to occur due to lack of suitable habitat
Iris longipetala	coast iris	-/-/4.2	Mesic coastal prairie, lower montane coniferous forest, meadows and seeps	Mar-May 0 - 1,800	Known to occur in region. Not expected to occur due to lack of suitable habitat
Layia carnosa	beach layia	FE/SE/1B.1	Coastal dunes and coastal scrub habitats with sandy areas	Mar-Jul 0 - 180	Known to occur in region. Not expected to occur due to lack of suitable habitat
Leptosiphon rosaceus	rose leptosiphon	-/-/1B.1	Coastal bluff scrub	Apr-Jul 0 - 300	Known to occur in region. Not expected to occur due to lack of suitable habitat

Attachment B
Sensitive Plant Species Occurring/Potentially Occurring in the Vicinity of the Survey Area

Scientific Name	Common Name	Status[1] (Federal/State/CRPR)	Habitat	Blooming Period/ Elevation (feet)	Occurrence/Potential for Occurrence[2]
Lessingia germanorum	San Francisco lessingia	FE/SE/1B.1	Coastal scrub (remnant dunes)	Jun-Nov (varies) 75 - 330	Known to occur in region. Not expected to occur due to lack of suitable habitat
Malacothamnus arcuatus	arcuate bush-mallow	-/-/1B.2	Chaparral and cismontane woodland	Apr-Sep 45 - 1,065	Known to occur in region. Not expected to occur due to lack of suitable habitat
Pentachaeta bellidiflora	white-rayed pentachaeta	FE/SE/1B.1	Cismontane woodland and valley and foothill grasslands with serpentinite soils/rocky areas	Mar-May 105 - 1,860	Known to occur in region. Not expected to occur due to lack of suitable habitat
Plagiobothrys chorisianus var. *chorisianus*	Choris' popcornflower	-/-/1B.2	Mesic; chaparral, coastal prairie and coastal scrub	Mar-Jun 9 - 480	Known to occur in region. Not expected to occur due to lack of suitable habitat
Senecio aphanactis	chaparral ragwort	-/-/2B.2	Sometimes alkaline. Chaparral, cismontane woodland and coastal scrub	Jan-May (varies) 45 - 2,400	Known to occur in region. Not expected to occur due to lack of suitable habitat
Silene scouleri ssp. *scouleri*	Scouler's catchfly	-/-/2B.2	Coastal bluff scrub, coastal prairie, and valley and foothill grassland	Mar-Sep (varies) 0 - 1,800	Known to occur in region. Not expected to occur due to lack of suitable habitat
Silene verecunda ssp. *verecunda*	San Francisco campion	-/-/1B.2	Sandy areas within coastal bluff scrub, chaparral, coastal prairie, coastal scrub, and valley and foothill grassland	Feb-Aug (varies) 90 - 1,935	Known to occur in region. Not expected to occur due to lack of suitable habitat

Attachment B
Sensitive Plant Species Occurring/Potentially Occurring in the Vicinity of the Survey Area

Scientific Name	Common Name	Status[1] (Federal/State/CRPR)	Habitat	Blooming Period/ Elevation (feet)	Occurrence/Potential for Occurrence[2]
Trifolium amoenum	two-fork clover	FE/-/1B.1	Coastal bluff scrub and valley and foothill grassland (sometimes serpentinite)	Apr-Jun 15 - 1,245	Known to occur in region. Not expected to occur due to lack of suitable habitat
Triphysaria floribunda	San Francisco owl's-clover	-/-/1B.2	Marshes and swamps (lake margins, riverbanks)	Apr-Jun 30 - 480	Known to occur in region. Not expected to occur due to lack of suitable habitat
Triquetrella californica	coastal triquetrella	-/-/1B.2	Soil in coastal bluff scrub and coastal scrub	N/A (moss) 30 - 300	Known to occur in region. Not expected to occur due to lack of suitable habitat

Notes:

1. **Status:** Federal/State/CRPR List. **Federal:** FE = Federally Endangered. **State:** SE = State Endangered. **California Rare Plant Rank (CRPR):** 1A: Plants Presumed Extirpated in California and Either Rare or Extinct Elsewhere; 1B: Plants Rare, Threatened, or Endangered in California and Elsewhere; 2A: Plants Presumed Extirpated in California, But Common Elsewhere; 2B: Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere; 3: Plants About Which More Information is Needed - lacking the necessary information to assign them to one of the other ranks or to reject them.; 4: Plants of Limited Distribution - of limited distribution or infrequent throughout a broader area in California, and their status should be monitored regularly. 0.1-Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat); 0.2-Moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat); 0.3-Not very threatened in California (less than 20% of occurrences threatened / low degree and immediacy of threat or no current threats known).

2. Low = Little or no suitable habitat is present in the survey area. A CNDDB record or CNPS quadrangle record exists within approximately 2 miles of the survey area.

Attachment C

Special-Status Wildlife Species with Proximity (~2 miles) to the Project or with Potential Habitat Onsite

Attachment C
Special-Status Wildlife Species with Proximity (~2 miles)
to the Project or with Potential Habitat Onsite

Scientific Name	**Common Name**	**Status[1] (Federal/State)**	**Habitat**	**Potential for Occurrence**
INVERTEBRATES				
Banksula incredula	incredible harvestman	-/-	Talus slopes consisting of Franciscan sandstone with dense chaparral canopy	Not Expected; No suitable habitat
Bombus occidentalis	western bumble bee	-/- CNDDB tracked	Populations found in Alaska, east of the Cascades in the Canadian and U.S. Rocky Mountains. They visit a range of different plant species, a wide variety of flowering plants, and crops.	Very low; suitable habitat may be present
Callophrys mossii bayensis	San Bruno elfin butterfly	FE/-	Rocky outcrops and cliffs in coastal scrub on the San Francisco peninsula.	Not Expected; No suitable habitat
Cicindela hirticollis gravida	sandy beach tiger beetle	-/-	Moist sand near the ocean behind dunes or upper beaches beyond normal high tides.	Not Expected; No suitable habitat
Dufourea stagei	Stage's dufourine bee	-/-	This species is a ground nesting bee.	Not Expected; No suitable habitat
Euphydryas editha bayensis	bay checkerspot butterfly	FT/-	Restricted to serpentine outcrops with thin soils that support dry native grasslands with an abundance of both larval food plants; *Plantago erecta* and *Orthocarpus densiflorus*.	Not Expected; No suitable habitat
Plebejus icarioides missionensis	mission blue butterfly	FE/-	Grasslands that support its larval hosts *Lupinus albifrons*, *L. varicolor*, and *L. formosus*.	Not Expected; No suitable habitat
Speyeria callippe	callippe silverspot butterfly	FE/-	Open pine and oak woodlands, sagelands, chaparral, grassland hills, and canyons; host plants	Not Expected; No suitable habitat

Attachment C
Special-Status Wildlife Species with Proximity (~2 miles)
to the Project or with Potential Habitat Onsite

Scientific Name	**Common Name**	**Status[1] (Federal/State)**	**Habitat**	**Potential for Occurrence**
			are *Viola pedunculata* and *V. nuttallii*.	
Trachusa gummifera	San Francisco Bay Area leaf-cutter bee	-/-	Found in coastal areas west of San Francisco Bay.	Not Expected; No suitable habitat
VERTEBRATES				
Reptiles				
Thamnophis sirtalis tetrataenia	San Francisco gartersnake	FE/SE, FP	Uses a variety of habitats, preferring grasslands or wetlands near ponds, marshes, and sloughs. May overwinter in upland areas away from water.	Not Expected; No suitable habitat present,
Fish				
Spirinchus thaleichthys	longfin smelt	FC/ST, SSC	Coastal waters near shores, bays, estuaries, and rivers with varying temperatures and salinity conditions.	Not Expected; no suitable habitat
Acipenser medirostris	green sturgeon – southern DPS	FT/SSC	Most of their lives are spent in coastal marine waters, estuaries, and the lower reaches of large rivers. They ascend rivers to spawn, but little is known of their specific spawning and rearing habitats.	Not Expected; no suitable habitat
Oncorhynchus kisutch	Coho salmon-central California coast ESU	FE/SE	Near shore, bays, lagoons, river mouths, and tidal rivers. Spawning streams are mainly in areas with redwood forests as the dominant vegetation.	Not Expected; no suitable habitat
Oncorhynchus mykiss irideus	Steelhead – central California coast DPS	FT/-	Near shore, bays, river mouths, and tidal rivers. Spawns in gravelly substrate in cool, clear, well-oxygenated	Not Expected; no suitable habitat

Attachment C
Special-Status Wildlife Species with Proximity (~2 miles)
to the Project or with Potential Habitat Onsite

Scientific Name	**Common Name**	**Status[1] (Federal/State)**	**Habitat**	**Potential for Occurrence**
			streams, usually at the tail end of a pool or at the riffle at the head of a pool; favors areas with well vegetated banks and abundant instream cover.	
Birds				
Falco peregrinus anatum	American peregrine falcon (nesting)	BCC/FP	Estuarine habitats: bays, herbaceous wetlands, lagoons, river mouths, tidal rivers, tidal flats or shore. Terrestrial habitats: bare rock, talus, cliffs, chaparral, urban, mixed woodlands.	Not Expected; no suitable habitat
Melospiza melodia pusillula	Alameda song sparrow	BCC/SSC	Coastal tidal marsh with *Salicornia virginica*, *Grindelia stricta*, and *Spartina* spp.	Not Expected; no suitable nesting habitat
Rallus obsoletus obsoletus	California Ridgway's rail	FE/SE, FP	Salty and brackish water marshes with pickleweed (*Salicornia* spp.) and cordgrass (*Spartina* spp.)	Not Expected; no suitable habitat
Mammals				
Lasiurus cinereus	hoary bat	-/- CNDDB tracked	Primarily deciduous and coniferous forests and woodlands, including areas altered by humans. Foraging habitat includes open areas, including spaces over water and along riparian corridors	Very low; marginal habitat

[1] FC – Federal Candidate Species, FE - Federally Endangered, FT – Federally Threatened; BCC – USFWS Birds of Conservation Concern; SE – California State Endangered, ST – California State Threatened, FP - CDFW Fully Protected; WL - CDFW Watch List, SSC - CDFW Species of Special Concern; CNDDB Tracked – no special status but tracked by the CNDDB; DPS – Distinct Population Segment; ESU - Evolutionarily Significant Unit.

Attachment D
Figures

Path: Q:\3554_NaturalResources\LotusWater_OrangeMemorialPark_5025183001\MXD\ReportFigures\BTR\Fig1_Regional.mxd, chris.nixon 3/14/2019

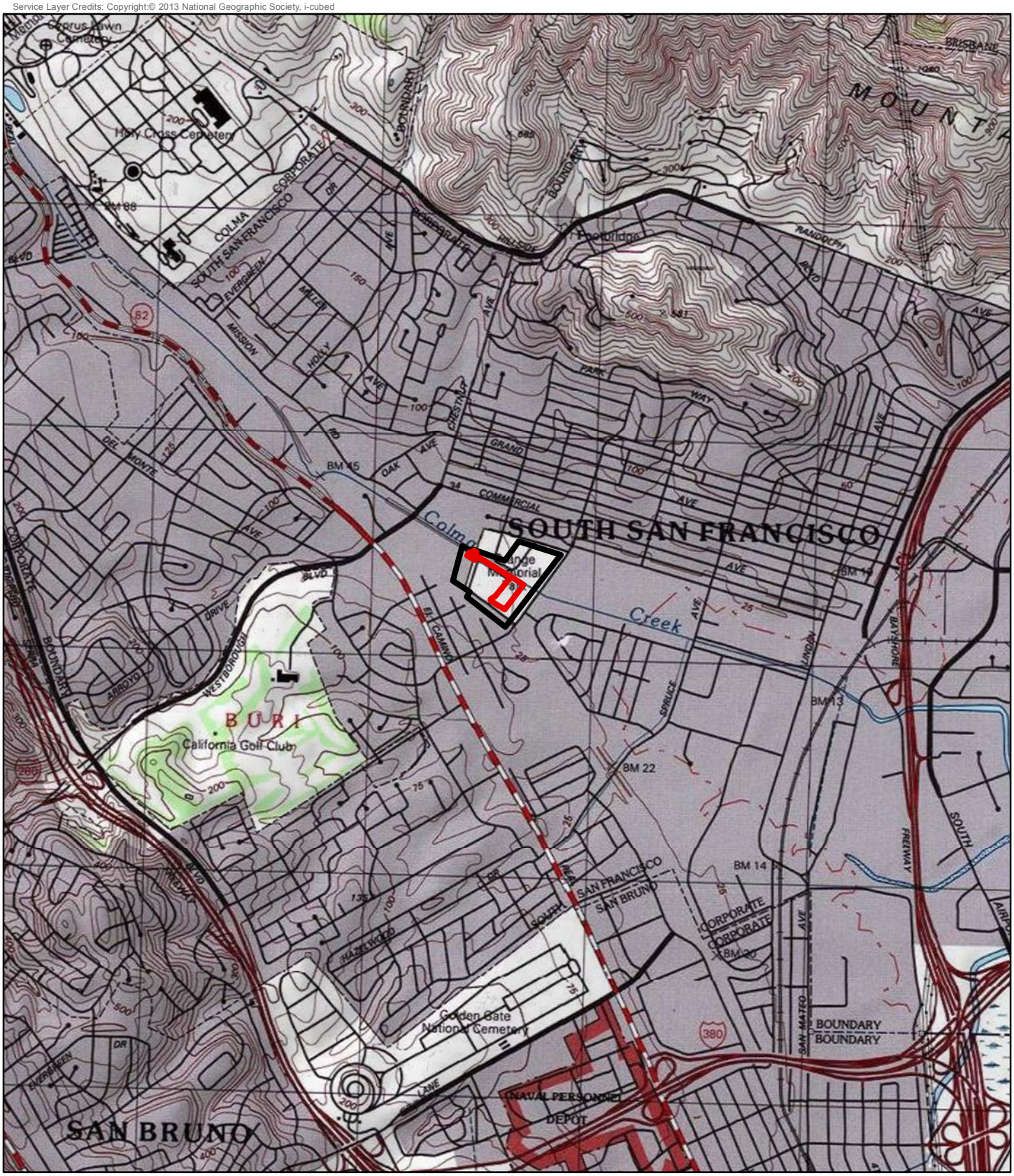
1 inch = 1 miles
0 0.5 1 Miles

wood.

Project Location

FIGURE 1

Regional Location
Biological Technical Report
Orange Memorial Park
South San Francisco, CA



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1 inch = 0 miles

0 1,000 2,000 Feet

wood.

Project Boundary

Survey Area

FIGURE 2

Project Vicinity
Biological Technical Report
Orange Memorial Park
South San Francisco, CA

Project Boundary

Survey Area

1 inch = 150 feet

0 150 Feet

FIGURE 3

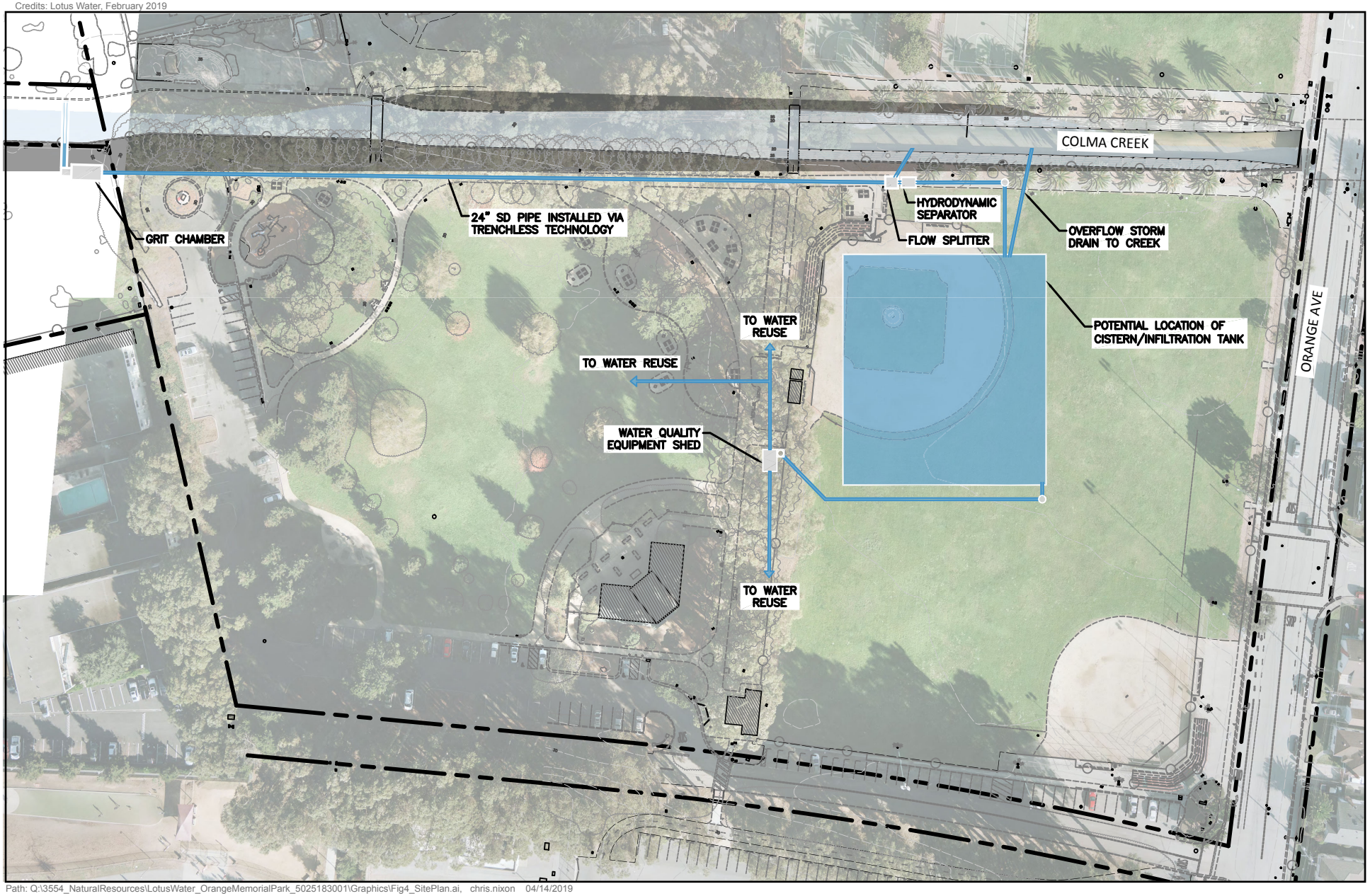
Site Overview
Biological Technical Report
Orange Memorial Park
South San Francisco, CA

wood.

Service Layer Credits: Esri, HERE, Garmin, © OpenStreetMap contributors
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Path: Q:\3554_NaturalResources\LotusWater_OrangeMemorialPark_5025183001\MXD\ReportFigures\BTR\Fig3_SiteOverview.mxd, chris.nixon, 11/29/2018

Credits: Lotus Water, February 2019



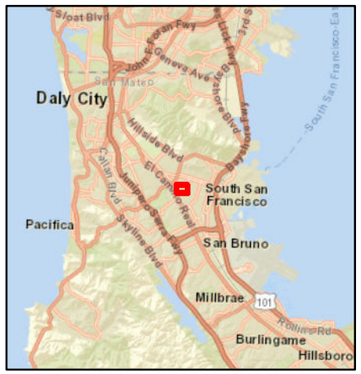
Path: Q:\3554_NaturalResources\LotusWater_OrangeMemorialPark_5025183001\Graphics\Fig4_SitePlan.ai, chris.nixon 04/14/2019

0 40 80 Feet

wood.

FIGURE 4

Site Plan
Biological Technical Report
Orange Memorial Park
South San Francisco, CA



- Project Boundary
- Survey Area
- Coast Live Oak
- Western Sycamore

Vegetation and Land Cover Types

- Channel
- Eucalyptus Woodland
- Grass/Turf
- Ornamental
- Urban/Developed

1 inch = 150 feet

0 150 Feet

FIGURE 5

Vegetation and Land Cover Types
Biological Technical Report
Orange Memorial Park
South San Francisco, CA

wood.

Path: Q:\3554_NaturalResources\LotusWater_OrangeMemorialPark_5025183001\MXD\ReportFigures\BTR\Fig5_Veg.mxd, chris.nixon, 3/22/2019

Project Boundary

Survey Area

Control Points (Lat/Long, WGS84)

National Hydrography Dataset Flowlines

Perennial

NWI Wetland Classification

Riverine, Lower Perennial, Unconsolidated Bottom, Permanently Flooded, Excavated

Riverine, Intermittent, Streambed, Seasonally Flooded, Excavated

Coordinate System: California State Plane, Zone III, NAD83, U.S. Survey Feet.

Path: Q:\3554_NaturalResources\LotusWater_OrangeMemorialPark_5025183001\MXD\ReportFigures\BTR\Fig6_NHD_NWI.mxd, chris.nixon, 4/17/2019

wood.

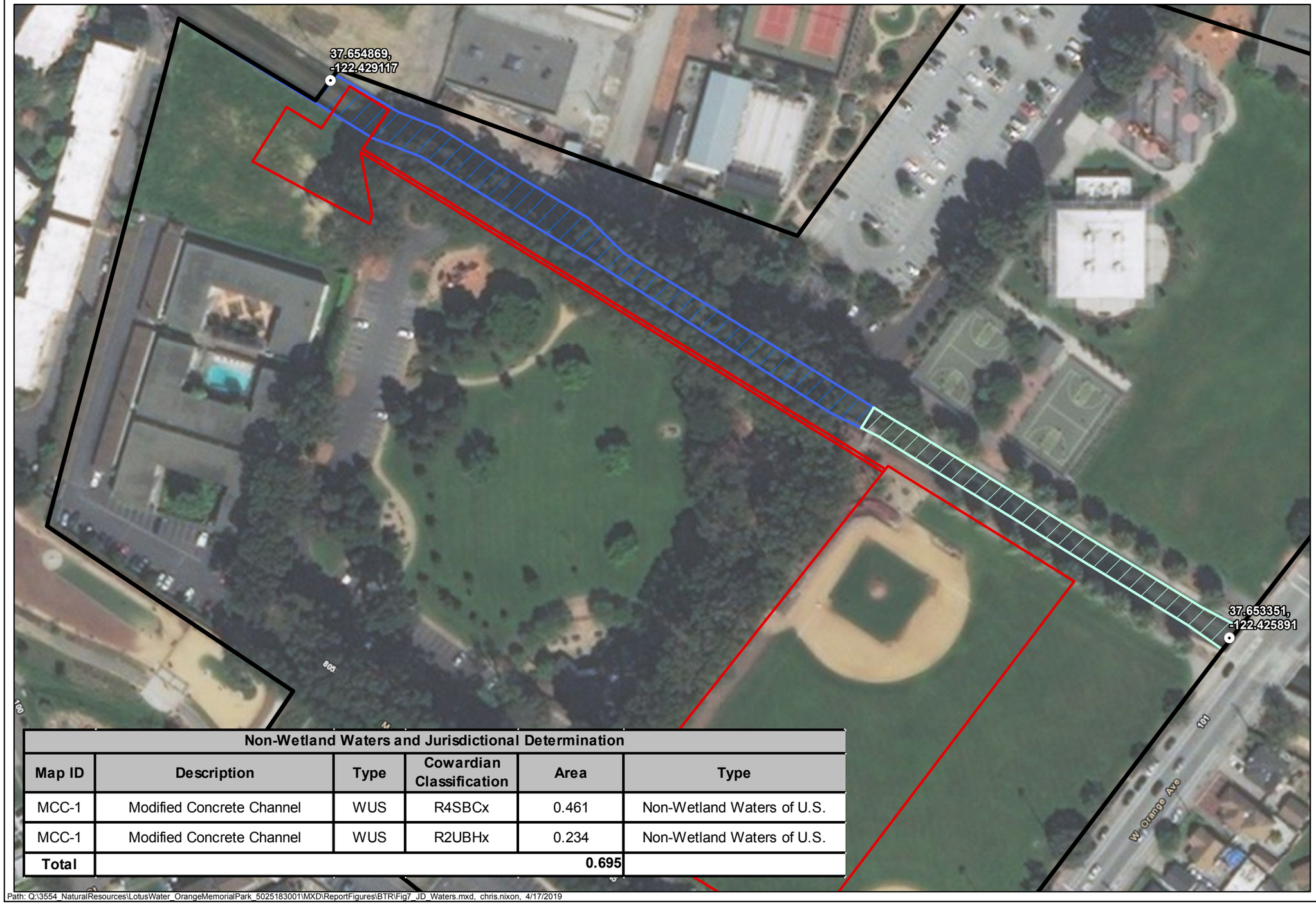
National Wetland Inventory Map
Orange Memorial Park
South San Francisco, CA

N

1 inch = 150 feet

0 150 Feet

FIGURE 6



Non-Wetland Waters and Jurisdictional Determination					
Map ID	**Description**	**Type**	**Cowardian Classification**	**Area**	**Type**
MCC-1	Modified Concrete Channel	WUS	R4SBCx	0.461	Non-Wetland Waters of U.S.
MCC-1	Modified Concrete Channel	WUS	R2UBHx	0.234	Non-Wetland Waters of U.S.
Total				**0.695**	

Project Boundary

Survey Area

Control Points (Lat/Long, WGS84)

Waters of the U.S.

Modified Concrete Channel: R2UBHx

Modified Concrete Channel: R4SBCx

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Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand),

Path: Q:\3554_NaturalResources\LotusWater_OrangeMemorialPark_5025183001\MXD\ReportFigures\BTR\Fig7_JD_Waters.mxd, chris.nixon, 4/17/2019

wood.

Jurisdictional Waters of the U.S.
Orange Memorial Park
South San Francisco, CA

N

1 inch = 100 feet
0 100 Feet

FIGURE
7