SEWER AND STORM DRAIN GROUP JOB 828 PROJECT



BIOLOGICAL RESOURCES REPORT

San Diego, California

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1 SUMMARY

This report has been prepared in conformance with the City of San Diego Biology Guidelines (2018) and the California Environmental Quality Act (CEQA) for the proposed Sewer and Storm Drain Group Job 828 Project (project) in the City of San Diego. The proposed project would include replacement and rehabilitation of storm and sewer facilities within an urban canyon and through the Balboa Park Golf Course.

The project is within and adjacent to the Multi-Habitat Planning Area (MHPA) of the City's Multiple Species Conservation Program (MSCP). The proposed project could result in impacts on sensitive resources, including native habitats, MHPA lands, and coastal California gnatcatcher (*Polioptila californica californica*); however, it is anticipated that incorporation of mitigation measures outlined in Section 7 would avoid significant impacts on these resources.

The project supports five streams and three concrete and/or rip-rapped drainage channels. Most of these features do not support hydrophytic vegetation so do not meet City-jurisdictional wetland criteria; however, some areas support hydrophytic vegetation and would be City-jurisdictional. All features are potentially state and federally jurisdictional, and consultation with the California Department of Fish and Wildlife (CDFW), the U.S. Army Corps of Engineers (Corps), and the Regional Water Quality Control Board (RWQCB) will be required prior to project construction.

Biological resources within the project area and adjacent habitat and impacts on those resources were assessed and are described herein for the purpose of analyzing project conformance with local, state, and federal biological regulations. Mitigation measures for potential biological impacts are also recommended pursuant to City of San Diego Biology Guidelines (2012).

2 INTRODUCTION

2.1 PROJECT PURPOSE

The project survey area occurs within the Greater North Park and Greater Golden Hills community plan areas in the City of San Diego, California and includes a storm drain and sewer line component. The primary purpose of the project is to replace and rehabilitate portions of the sewer and storm drains that run through Switzer Canyon and the Balboa Park Golf Course. Figures 1 and 2 detail the project study area for both the storm drain and sewer line components of the project. The project study area is based on plans received from Infrastructure Engineering Corporation on August 23, 2018.

2.2 PROJECT DESCRIPTION

Sewer and Storm Drain Group Job 828 (GJ 828), a project proposed by the City of San Diego Public Works Department (PWD) on behalf of the Public Utilities Department (PUD) and Transportation and Storm Water Department (TSW), includes replacement and rehabilitation of a storm drain component and a sewer component located within parts of Switzer Canyon and the communities of Greater North Park and Balboa Park. Project components are shown on Figure 2 and Figure 3a-d. The project description information below is based on input and figures provided by the engineering consultant (stormwater facilities) and by the City of San Diego engineering team (sewer facilities).

The TSW storm drain component includes replacement of three (3) existing storm drain facilities which collect runoff from city streets on the mesas above and discharge into Switzer Canyon. The storm drain facilities are located at the dead ends of the following streets: 1) Maple Street east of 28th Street; 2) Olive Street east of 30th Street; and 3) Palm Street west of 32nd Street. The storm drain work at Maple Street east of 28th Street and at Olive Street east of 30th Street will include the installation of 18-inch storm drains using open cut construction (a portion of which will replace the existing storm drains), new headwall and riprap, and a new cleanout manhole at each location. The storm drain work at Palm Street west of 32nd Street includes the installation of an 18-inch storm drain using open cut construction (a portion of which will replace the existing storm drain), and new headwall and riprap. The total constructed storm drain pipe is approximately 365 linear feet (LF). Each facility will include a new inlet at street level and a discharge structure/energy dissipater at or near the canyon floor with rip rap extending from the end approximately eight to ten feet. At each of the three storm drains, a 20-foot wide set-aside easement is provided for the facilities in the canyon that are outside the public right of way. Per the City, these easements are not included as project impacts (S. Cochinwala, personal communication September 26, 2019).

The PUD's sewer component of the project consists of the installation of approximately 9,006.70 LF of sewer main and thirty eight (38) manholes. The majority of the new sewer construction is within the limits of paving on Palm Street, Olive Street, and Nutmeg Street, west of 32nd Street, and will be constructed using open trench methods. The upsized sewer located within the limits of Switzer Canyon will be constructed using trenchless methods to minimize disturbance within the canyon. The trenchless method includes using an excavator to install a new manhole and backfill the excavated area. For manholes that are to be replaced in place, crews will excavate at the

existing manhole, remove and dispose of the existing manhole, then install a new manhole. If trenchless technology is proposed at the location of a replace in place or new manhole then the area excavated for the manhole installation will be used for the insertion/receiving pits. For those manholes that are to be abandoned, work will occur per City standards and will include removal of the top of the manhole and filling of the manhole. Most of the manholes that are to be abandoned occur within the golf course. The existing sewer alignment extends from a manhole near Olive Street and 31st Street southwest along the bottom of Switzer Canyon, crossing underneath 30th Street, through a portion of Balboa Park Golf Course, to a manhole near the intersection of Florida Drive and Pershing Drive.

PUD will need access to each of the manholes. There are some existing cleared paths through Switzer Canyon which provide access to sewer manholes and will remain after project completion; these disturbed paths will be used for construction access and staging and can also be used for access to the delineated areas described in this report within and around Switzer Canyon. Construction storage will be located off site at a location to be determined by the construction contractor.

Based on information provided by the City of San Diego, after construction is completed, as part of a 25-month maintenance and monitoring program, the access paths through Switzer Canyon will be mulched or seeded with low-growing native vegetation to ensure they meet the required success criteria of no erosion. According to the City of San Diego's *Canyon Sewer Cleaning Program and Long-Term Canyon Sewer Maintenance Program* coastal development permit and site development permit (2004), "access paths and areas required for ongoing maintenance are not subject to restoration standards, as they represent the actual 'development' for this permit. Various options exist for access path development, one of which is revegetation for erosion control," and "no success standards beyond effective erosion control are required."

3 METHODS AND SURVEY LIMITATIONS

This study comprised the following activities:

- Analysis of existing project study area biological information
- General biological survey and vegetation mapping
- Analysis of potential project impacts on biological resources
- Analysis of project conformance with local, state, and federal biological regulations

Rocks Biological Consulting (RBC) began preparations for surveys by creating field maps using Geographic Information System (GIS) and incorporating relevant data including a color aerial photograph and the CDFW's California Natural Diversity Database (CNDDB) information for the U.S. Geological Survey (USGS) 7.5-minute Point Loma quadrangle.

On June 13, 27, and 29, 2017 RBC conducted general surveys for flora and fauna on site and mapped vegetation communities/land uses within the project study area. RBC also conducted a jurisdictional delineation of aquatic resources and riparian/wetland habitats within the project study area on June 13 and 27, 2017, and March 7, 2019. The initial general biological survey was conducted during morning hours under clear skies, calm winds, and warm weather (63-76°F). Due to site plan revisions, additional general biological surveys were performed on August 17, 2018. This survey was conducted during morning hours under clear skies, calm winds, and warm weather (72-82°F). Under such conditions, most summer species would have been observable.

For general biological surveys, faunal activity at the time was moderate and most summer season species would have been observable; however, early spring flowering species would not have been present. Vegetation community classifications follow City of San Diego Biology Guidelines (2012), plant names follow Simpson and Rebman (2006), and animal names follow Laudenslayer et al. (1991).

The Sewer and Storm Drain Group Job 828 Project Jurisdictional Delineation Report describes methods used to determine the estimated extent of Corps, RWQCB, CDFW, and City of San Diego aquatic resource jurisdiction within the project study area.

4 SURVEY RESULTS

4.1 GENERAL PHYSICAL CHARACTERISTICS

The approximately 51-acre project study area occurs within the Greater North Park community in the City of San Diego, California and includes a storm drain and sewer line component. Figures 1 and 2 detail the project study area for both the storm drain and sewer line components of the project. The project study area is primarily composed of developed land including a large segment of the study area within the Balboa Park Golf Course and includes several upland and ornamental vegetation communities. The project occurs within the USGS 7.5-minute Point Loma quadrangle and is partially within and adjacent to lands designated as MHPA under the City's MSCP.

4.2 AQUATIC RESOURCES

The primary aquatic resource within the study area is the channel within Switzer Canyon, which flows for approximately 3,500 feet from the northwestern edge of the project site in an undeveloped canyon then into a concrete drainage feature and golf course path within the Balboa Park Golf Course in the western portion of the project site. Flows from the canyon eventually discharge into a storm drain flowing under the Balboa Park Golf Course, daylighting near 26th Street on the southern end of the project study area into a riprapped drainage area. The Sewer and Storm Drain Group Job 828 Project Jurisdictional Delineation Report provides the results of the formal jurisdictional delineation of on-site aquatic resources conducted by RBC.

Three wetland parameters are analyzed during a formal jurisdictional delineation: 1) presence of hydrophytic plants; 2) hydric soils; and 3) wetland hydrology. The City's wetland definition hinges on the presence of wetland (hydrophytic) plants. According to San Diego Municipal Code §113.0103:

> *Wetlands are defined as areas which are characterized by any of the following conditions:*
>
> *1. All areas persistently or periodically containing naturally occurring wetland vegetation communities characteristically dominated by hydrophytic vegetation, including but not limited to salt marsh, brackish marsh, freshwater marsh, riparian forest, oak riparian forest, riparian woodlands, riparian scrub, and vernal pools;*
>
> *2. Areas that have hydric soils or wetland hydrology and lack naturally occurring wetland vegetation communities because human activities have removed the historic wetland vegetation or catastrophic or recurring natural events or processes have acted to preclude the establishment of wetland vegetation as in the case of salt pannes and mudflats;*
>
> *3. Areas lacking wetland vegetation communities, hydric soils and wetland hydrology due to non-permitted filling of previously existing wetlands;*
>
> *4. Areas mapped as wetlands on Map No. C-713 as shown in Chapter 13, Article 2, Division 6 (Sensitive Coastal Overlay Zone).*

Most of the on-site ephemeral streams and drainages would qualify as potential Corps, RWQCB, and CDFW jurisdictional non-wetland waters; however, with the exception of scattered areas of southern willow scrub, mule fat scrub, and *Artemisia douglasiana* habitat along the alignment, many of these resources would not qualify as City jurisdictional wetlands as they do not support a predominance of hydrophytic vegetation. In the scattered City-jurisdictional areas, a preponderance of hydrophytic vegetation would qualify such areas as wetlands under City of San Diego regulations. Other on-site features would be best described as "seasonal drainage patterns that are sufficient enough to etch the landscape (i.e., ephemeral/intermittent drainages)." Pursuant to the City of San Diego Biology Guidelines, "These types of drainages would not satisfy the City's wetland definition unless wetland dependent vegetation is either present in the drainage or lacking due to past human activities." More specifically, the aquatic features observed are unvegetated or support upland vegetation and do not support obligate wetland vegetation.

4.3 BIOLOGICAL RESOURCES

4.3.1 BOTANY

The project study area is primarily developed as a golf course with smaller areas of undeveloped canyon lands (Figure 3). Vegetation communities and land uses within the project are discussed in the paragraphs below. Note that 'Tiers' cited within each upland habitat/land use description are from Table 3 of the City of San Diego Biology Guidelines. These tiers represent the sensitivity of the habitat, with Tier I being highest sensitivity and Tier IV being low/no sensitivity.

Riparian/Wetland Vegetation Communities

Artemesia Douglasiana (Douglas' Sagewort): Riparian Scrub Subtype

Douglas' sagewort is a vegetation community dominated by Douglas' sagewort (*Artemisia douglasiana*) and is commonly associated with riparian scrub and forest habitats, and is also known to occur in uplands. Douglas' sagewort occurs within the project study area (0.102 acre) in two stands located within the canyon north of Burlingame Drive. Pursuant to the City of San Diego Biology Guidelines Appendix II Guidelines for Conducting Biology Surveys (Attachment II), this habitat was mapped as a single species community rather than a more general community based on its monotypic nature.

Mule Fat Scrub

Mule fat scrub is a vegetation community almost entirely comprised of mule fat (*Baccharis salicifolia*) and is sustained by frequent flooding. This habitat is common along intermittent streams and is often associated with riparian forests or woodlands. Mulefat scrub occurs in the project study area (0.198 acre) within and adjacent to the streambed that runs through Switzer Canyon.

Southern Willow Scrub

Southern willow scrub is a vegetation community dominated almost exclusively by one or more willow species such as arroyo willow (*Salix lasiolepis*), black willow (*Salix gooddingii*), and/or red willow (*Salix laevigata*). Southern willow scrub grows on seasonally or intermittently flooded sites.

Within the project study area, southern willow scrub (0.264 acre) is comprised of Hind's willow (*Salix exigua* var. *hindsiana*), black willow, and arroyo willow. Scattered blue gum eucalyptus trees (*Eucalyptus globulus*) are also present. Southern willow scrub occurs within and adjacent to the streambed that runs through Switzer Canyon.

Upland Vegetation Communities

Coast Live Oak Woodland (Tier I, rare uplands)

Coast live oak woodland is dominated by coast live oak (*Quercus agrifolia*). The shrub layer is typically comprised of toyon (*Heteromeles arbutifolia*), gooseberry species (*Ribes* spp.), laurel sumac *(Malosma laurina*), or blue elderberry (*Sambucus mexicana*), and the herb layer is often dominated by brome species (*Bromus* spp.). Within the project study area, coast live oak woodland occurs on the southern half of the project alignment, along the eastern and southern edges of the project alignment (1.305 acres).

Scrub Oak Chaparral (Tier I, rare uplands)

Scrub oak chaparral consists of a dense chaparral dominated by scrub oak species (*Quercus* spp.). Scrub oak chaparral typically occurs on mesic soils, often at slightly higher elevations than most chaparrals. Within the project study area, scrub oak chaparral contains Torrey's scrub oak (*Quercus* x *acuditens*) and mainly occurs on north-aspect slopes within Switzer Canyon west of 30th Street (2.764 acres).

Diegan Coastal Sage Scrub and Diegan Coastal Sage Scrub - Revegetated (Tier II, uncommon uplands)

Diegan coastal sage scrub and Diegan coastal sage scrub - revegetated are comprised of low, soft-woody subshrubs to about 1 meter (3 feet) high, many of which are facultatively drought-deciduous. This association is typically found on dry sites, such as steep, south-facing slopes or clay-rich soils that are slow to release stored water. Dominant shrub species in this vegetation type vary, depending on local site factors and levels of disturbance.

Diegan coastal sage scrub within the project study area (7.634 acres) consists of small patches of shrubs including broom baccharis (*Baccharis sarothroides*), coastal sagebrush (*Artemisia californica*), and coast California buckwheat (*Eriogonum fasciculatum* var. *fasciculatum*), and predominantly occurs on south-aspect slopes within Switzer Canyon.

Chaparral/Coastal Sage Scrub (Tier II, uncommon uplands)

Chaparral/Coastal sage scrub is comprised of a transition from sclerophyllus, woody chaparral species to drought-deciduous, malacophyllous sage scrub species. Characteristic species include chamise (*Adenostoma fasciculata*), laurel sumac, and ceanothus species (*Ceanothus* spp.). Within the project study area, this habitat is prevalent on slopes along the northern portion of Switzer Canyon (5.323 acres).

Developed and Developed – Golf Course (Tier IV, other uplands)

Developed and golf course areas support no native vegetation and are comprised of human-made structures such as buildings and roads, or non-native golf course vegetation. Within the project study area (22.947 acres), developed areas include surrounding residential developments and Balboa Park Golf Course.

Disturbed Land (Tier IV, other uplands)

Disturbed lands are developed lands or areas that have been previously disturbed by development or agricultural activities, or are lands that only support ruderal vegetation. Disturbed lands are generally cleared of vegetation such that little or no natural habitat remains and at least 50 percent of plant cover is broad-leaved non-native vegetation. Disturbed lands within the project study area (1.503 acres) are primarily located on the northern half of the project alignment. These areas contain little, to no vegetation, and largely consist of bare soil.

Eucalyptus Woodland (Tier IV, other uplands)

Eucalyptus woodland habitat is dominated by eucalyptus trees (*Eucalyptus* spp.), which are not native and were planted and/or became naturalized in these areas. Blue gum is the dominant species within the project study area's eucalyptus woodland habitat (1.764 acres). Eucalyptus woodland habitat primarily occurs within the northern portions of Switzer Canyon.

Ornamental Vegetation (Tier IV, other uplands)

Ornamental vegetation typically consists of non-native landscape and/or garden species that are planted in association with buildings, roads, and developments or have escaped cultivation and occur within native habitats. Species in this vegetation community within the project study area (4.520 acres) include hottentot fig (*Carpobrotus edulis*), Perez's marsh rosemary (*Limonium perezii*), bottlebrush (*Callistemon* sp.), and ornamental pittosporum (*Pittosporum* sp.). Ornamental species occur throughout the project study area and are primarily associated with adjacent residential housing and the golf course.

Ruderal Vegetation (Tier IV, other uplands)

Ruderal vegetation typically develops on sites with heavily compacted soils following high intensity disturbance such as grading. This disturbance community is dominated by broad-leaf herbaceous species with a less than 50 percent cover of non-native grasses. Within the project study area, ruderal habitat (1.548 acres) is present along Balboa Park Golf Course and adjacent to residential developments. Ruderal areas consist of short-pod mustard (*Hirschfeldia incana*), fennel (*Foeniculum vulgare*), wild radish (*Raphanus sativus*), horseweed (*Conyza* spp.), and poison hemlock (*Conium maculatum*).

Non-Vegetated Habitats

Non-Vegetated Channel

Non-vegetated channel within the project study area consists of artificial concrete structures containing less than ten percent total vegetative cover (concrete channel; 0.480 acre) and sandy,

gravelly, or rocky areas containing less than ten percent total vegetative cover (unvegetated channel; 0.565 acre). Weedy species typically occupy the margins of non-vegetated channels. Within the project study area, concrete channel occurs along the Balboa Park Golf Course at the southernmost end of the project study area and along the eastern border of Balboa Park Golf Course at the intersection with Switzer Canyon (south of Maple Street and 28th Street). Unvegetated channel occurs from north of Balboa Park Golf Course to the northern project boundary.

4.3.2 ZOOLOGY

Animal species noted within the project study area were primarily common species typical of an urbanized canyon and developed area, and include California towhee (*Pipilo crissalis*), California scrub jay (*Aphelocoma californica*), house finch (*Haemorhous mexicanus*), red-shouldered hawk (*Buteo lineatus*), and western fence lizard (*Sceloporus occidentalis*). A list of all wildlife species observed on site is included as Appendix C to this report.

Notably, RBC biologists observed two coastal California gnatcatchers (federally threatened and a California Species of Special Concern [SSC]) during project biological surveys on August 17, 2018. The observations occurred in the northeastern portion of the study area within Diegan coastal sage scrub (Figure 3b).

4.3.3 RARE, THREATENED, ENDANGERED, ENDEMIC AND/OR SENSITIVE SPECIES OR MSCP–COVERED SPECIES

Sensitive plants, animals, and habitats are defined here as rare and/or endangered, or depleted or declining according to the U. S. Fish and Wildlife Service (USFWS), CDFW, California Native Plant Society (CNPS), and/or the City of San Diego. General surveys were conducted for plant and animal species and habitats that are considered sensitive according to the USFWS, CNPS, and the CDFW's California Natural Diversity Database (CNDDB) record for the Point Loma 7.5' quadrangle (Figure 4). Each special-status species was assessed for its potential to occur within the project study area (Tables 1, 2, and 4).

4.3.3.1 Special-Status Plant Species Observed Within the Project Study Area

Special-Status Plant Species Observed Within the Project Study Area

Seven California Rare Plant Ranked (CRPR) plant species were documented within the study area, including:

- Coulter's Matilija poppy (*Romneya coulteri*; CRPR 4.2)
- Mesa spike-moss (*Selaginella cinerascens;* CRPR 4.1)
- Palmer's sagewort (*Artemisia palmeri;* CRPR 4.2)
- San Diego barrel cactus (*Ferocactus viridescens*; CRPR 2B.1; MSCP-covered)
- San Diego marsh-elder (*Iva hayesiana*; CRPR 2B.2)
- San Diego sunflower (*Bahiopsis laciniata;* CRPR 4.3) Wart-stem ceanothus (*Ceanothus verrucosus*; CRPR 2B.2; MSCP-covered)

Mapping of these species was conducted during project biological surveys and the locations of these species are depicted in Figure 3. Each species is discussed in more detail below.

Coulter's Matilija Poppy (Romneya coulteri)

Coulter's Matilija poppy is a CRPR 4.2 species, meaning this species is "moderately threatened in California with a limited distribution" (CNPS 2018). Coulter's Matilija poppy is a perennial rhizomatous herb that blooms from March through July. This species occurs in chaparral and coastal scrub at elevations between 65 and 3,900 feet above mean sea level (amsl). This species is threatened by "urbanization, flood control, road widening, and road maintenance" (CNPS 2018).

Coulter's Matilija poppy was observed on site by RBC during 2017 biological surveys within chaparral-coastal sage scrub habitat at the northern end of Switzer Canyon, within MHPA lands, north of Palm Street (Figure 3a). This population was noted by RBC as a possible ornamental escapee.

Mesa Spike-Moss (Selaginella cinerascens)

Mesa spike-moss is a CRPR 4.1 species, meaning this species is "seriously threatened in California with a limited distribution" (CNPS 2018). Mesa spike-moss is a perennial rhizomatous herb found on chaparral and coastal scrub, at elevations between 65 and 2,100 feet amsl. This species is threatened by development (CNPS 2018).

Mesa spike-moss was observed on site by RBC during 2018 biological surveys on bare soils within coastal sage scrub. This population of 50 individuals was documented within Switzer Canyon approximately 450 feet east of the dead end at Maple Street within MHPA lands (Figure 3b).

Palmer's Sagewort (Artemisia palmeri)

Palmer's sagewort is a CRPR 4.2 species, meaning this species is "moderately threatened in California with a limited distribution" (CNPS 2018). This species is a perennial deciduous shrub that typically blooms from May to September. This species is found on sandy and mesic soils within chaparral, coastal scrub, riparian forest, riparian scrub, and riparian woodlands, at elevations between 45 and 3,000 feet amsl. Palmer's sagewort is threatened by "development and flood control projects and may also be threatened by non-native plants" (CNPS 2018).

Palmer's sagewort was observed by RBC during 2018 biological surveys along the southern edge of the trail within Switzer Canyon, within MHPA lands. This population of ten individuals was documented approximately 330 feet south of Maple Street (Figure 3b).

San Diego Barrel Cactus (Ferocactus viridescens)

San Diego barrel cactus is a CRPR 2B.1 species, meaning this species is "considered rare, threatened, or endangered in California but more common elsewhere," and is an MSCP-covered species (CNPS 2018). It is a stem succulent in the Cactaceae family that typically blooms from May to June. This species typically is found on dry west- and south-facing slopes in chaparral, coastal sage scrub, grassland, and adjacent to vernal pools. San Diego barrel cactus is known from Riverside and San Diego Counties as well as from Baja California, Mexico, at elevations between

10 and 1,480 feet amsl. This species is "seriously threatened by urbanization, vehicles, horticultural collecting, agriculture, and non-native plants" (CNPS 2018).

A single San Diego barrel cactus individual was observed by RBC during 2017 biological surveys approximately 130 feet southwest of the intersection of 28th Street and Maple Street, within MHPA lands (Figure 3b).

San Diego Marsh-Elder (Iva hayesiana)

San Diego marsh-elder is a CRPR 2B.2 species, meaning this species is "rare, threatened, or endangered in California but more common elsewhere; and moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)" (CNPS 2018). This species is a perennial herb that blooms between April and October. San Diego marsh-elder is found in marshes, swamps, and playas at elevations between 32 and 1,640 feet amsl. This species is threatened by "waterway channelization, coastal development, vehicles, and non-native plants" (CNPS 2018).

San Diego marsh-elder was observed by RBC during 2017 and 2018 biological surveys within the Switzer Canyon drainage, approximately 340 and 500 feet south of Maple Street, within MHPA lands (Figure 3b).

San Diego Sunflower (Bahiopsis laciniata)

San Diego sunflower is a CRPR 4.3 species, meaning this species is "not very endangered, and has a limited distribution in California" (CNPS 2018). This species is a perennial shrub that blooms from February through June and occurs in chaparral and coastal scrub habitats at elevations between 196 and 2,460 feet amsl. This species is considered common in southern San Diego County, however it is threatened by urbanization and development.

Twelve individuals of San Diego sunflower were observed by RBC during 2017 biological surveys approximately 120 feet south of the intersection of 28th and Maple Street, within MHPA lands (Figure 3b).

Wart-Stem Ceanothus (Ceanothus verrucosus)

Wart-stem ceanothus is a CRPR 2B.2, meaning this species is "fairly rare or endangered in California, however common elsewhere" (CNPS 2018) and is also an MSCP-covered species. This species is a perennial evergreen shrub in the Rhamnaceae family, which blooms from December to May. Wart-stem ceanothus occurs in chaparral on coastal and foothill areas at elevations between 0 and 1,245 feet amsl in San Diego County. Wart-stem ceanothus is predominantly threatened by development (CNPS 2018).

Wart-stem ceanothus was observed by RBC during 2017 project biological surveys within the survey area approximately 350 feet south of the intersection of 28th and Maple Street, and within MHPA lands (Figure 3b).

4.3.3.2 City of San Diego MSCP Narrow Endemic Plant Species Potential for Occurrence

Narrow Endemic species are those with a very restricted habitat that occur only in the San Diego County region, and specific protections apply to Narrow Endemic species pursuant to the City of San Diego MSCP. Tables 1 and 2 summarize the potential for special-status plant species, including Narrow Endemic Species (City of San Diego 1997) and CNPS Rare and Endangered Plants (CNPS 2018), to occur within or immediately adjacent to the project.

Table 1. Potential for City of San Diego MSCP Narrow Endemic Plant Species to Occur Within the Project Study Area

Species	Potential to Occur
Acanthomintha ilicifolia (San Diego thornmint)	Low. Species occurs on clay lenses in open, generally grassland areas. Suitable soils not present.
Agave shawii (Shaw's agave)	None. Species occurs exclusively on coastal bluffs. Would have been observed if present.
Ambrosia pumila (San Diego ambrosia)	Low. Species occurs in disturbed areas, seasonally dry drainages, and floodplains. Would have been observed if present.
Aphanisma blitoides (Aphanisma)	None. Species occurs on coastal dunes.
Astragalus tener var. *titi* (coastal dunes milk vetch)	None. Species occurs on coastal dunes.
Baccharis vanessae (Encinitas coyote brush)	None. Species occurs in southern maritime and southern mixed chaparrals on sandstone soils, typically in northern San Diego County. Would have been observed if present.
Cylindropuntia californica var. californica (snake cholla)	Low. Species occurs in chaparral and coastal sage scrub primarily in southern San Diego. Would have been observed if present.
Deinandra conjugens (Otay tarplant)	None. Species occurs in grasslands and coastal sage scrub in clay soils in southern San Diego County. This species is not known from the project vicinity.
Dudleya blochmaniae ssp. *brevifolia* (short-leaved dudleya)	None. Species occurs on sandstone bluff soil formations that do not occur within the survey area.
Dudleya variegata (variegated dudleya)	Low. Habitat is typically openings in undisturbed coastal sage scrub or grasslands. This species is not known from the immediate vicinity and the openings in the coastal sage scrub habitats onsite support disturbed species. Not recorded within one mile of the site based on CNDDB and USFWS records.
Eryngium aristulatum ssp. *parishii* (San Diego button-celery)	None. Vernal pool species; no vernal pool habitat within the project.
Navarretia fossalis (prostrate navarretia)	None. Vernal pool species; no vernal pool habitat within the project.
Orcuttia californica (California orcutt grass)	None. Vernal pool species; no vernal pool habitat within the project.
Pogogyne abramsii (San Diego mesa mint)	None. Vernal pool species; no vernal pool habitat within the project.
Pogogyne nudiuscula (Otay Mesa mint)	None. Vernal pool species; no vernal pool habitat within the project.

4.3.3.3 Other Special-Status Plant Species Potential for Occurrence

Special-status plant species potential for occurrence within the project study area were compiled by querying the CNDDB (2018) and CNPS (2018) databases and assessing potential on-site habitat. The potential for special-status species occurrence within the project study area is presented in Table 2 below.

In addition to species observed with the survey area; five CRPR ranked plant species have potential to occur on site, including:

- Bottle Liverwort (*Sphaerocarpos drewe*i; CRPR 1B.1)
- Campbell's Liverwort (*Geothallus tuberosus;* CRPR 1B.1)
- Decumbent Goldenbush (*Isocoma menziesii* var. *decumbens* CRPR 1B.2)
- Knotweed Spineflower (*Chorizanthe polygonoides* var. *longispina*; CRPR 1B.2)
- Robinson's Pepper-Grass (*Lepidium virginicum* var. *robinsonii;* CRPR 4.3)

Table 2. Special-Status Plant Species Potential for Occurrence

Species	Status	Habitat Description	Potential to Occur
Adolphia californica (California adolphia)	CRPR 2B.1	Perennial deciduous shrub. Blooms Dec-May. Found on clay soils within chaparral, coastal scrub, and valley and foothill grassland. Elev. 30-2,430 ft.	Low. Suitable habitat present on site, however would likely have been observed if present.
Ambrosia monogyra (leafy burrobrush)	CRPR 2B.2	Perennial shrub. Blooms Aug-Nov. Occurs in chaparral and Sonoran desert scrub. Elev. 32-1,640 ft.	Low. Suitable habitat present on site, however would likely have been observed if present.
Aphanisma blitoides (aphanisma)	CRPR 1B.2, MSCP	Annual herb. Blooms Feb-Jun. Found in coastal bluff scrub, coastal dunes, and coastal scrub. Elev. 1-1,000 ft.	None. Suitable coastal bluff scrub and coastal dunes not present on site.
Artemisia palmeri (San Diego sagewort)	CRPR 4.2	Perennial deciduous shrub. Blooms (Feb) May-Sep. Found on sandy and mesic soils within chaparral, coastal scrub, riparian forest, riparian scrub, and riparian woodland. Elev. 45-3,000 ft.	Present. Species observed and mapped as part of project.
Atriplex pacifica (South Coast saltscale)	CRPR 1B.2	Annual herb. Blooms Mar-Oct. Occurs on coastal bluff scrub, coastal dunes, coastal scrub, and playas. Elev. 0-460 ft.	Low. Suitable coastal scrub habitat present on site. Species not recorded in vicinity since 1938.
Bahiopsis laciniata (San Diego sunflower)	CRPR 4.3	Perennial shrub. Blooms Feb-Jun. Occurs in chaparral and coastal scrub. Elev. 196-2,460.	Present. Species observed and mapped as part of the project.
Bloomeria clevelandii (San Diego goldenstar)	CRPR 1B.1	Perennial bulbiferous herb. Blooms Apr-May. Occurs on clay soils in chaparral, coastal scrub, valley and foothill grassland, and vernal pools. Elev. 164-1,525 ft.	Low. Suitable chaparral and coastal scrub present on site. Species not recorded in vicinity since 1939.
Ceanothus verrucosus (wart-stemmed ceanothus)	CRPR 2B.2, MSCP	Perennial evergreen shrub. Blooms Dec-May. Occurs on chaparral. Elev. 0-1,245 ft.	Present. Species observed during project biological surveys.
Chorizanthe polygonoides var. longispina (knotweed spineflower)	CRPR 1B.2	Annual herb. Blooms Apr-Jul. Occurs often on clay soils in chaparral, coastal scrub, meadows and seeps, valley and foothill grasslands, and vernal pools. Elev. 98-5,019 ft.	Moderate. Suitable chaparral and coastal scrub present on site.
Cylindropuntia californica var. californica (snake cholla)	CRPR 1B.1, MSCP, NE	Perennial stem succulent. Blooms Apr-May. Found on chaparral and coastal scrub. Elev. 95-490 ft.	Low. Suitable habitat present on site, however would likely have been observed if present.

Species	Status	Habitat Description	Potential to Occur
Ericameria palmeri var. *palmeri* (Palmer's goldenbush)	CRPR 1B.1, MSCP	Perennial evergreen shrub. Blooms (Jul) Sep-Nov. Occurs on mesic soils within chaparral and coastal scrub. Elev. 95-1,970 ft.	Low. Suitable habitat present on site, however would likely have been observed if present.
Ferocactus viridescens (San Diego barrel cactus)	CRPR 2B.1, MSCP	Perennial stem succulent. Blooms May-Jun. Found on chaparral, coastal scrub, valley and foothill grassland, and vernal pools. Elev. 5-1,475 ft.	Present. Species observed and mapped as part of project.
Geothallus tuberosus (Campbell's liverwort)	CRPR 1B.1	Ephemeral liverwort. Occurs on soils within mesic coastal scrub and vernal pools. Elev. 30-1,970 ft.	Moderate. Suitable habitat present on site.
Isocoma menziesii var. *decumbens* (decumbent goldenbush)	CRPR 1B.2	Perennial shrub. Blooms Apr-Nov. Occurs in chaparral and sandy coastal scrub (often in disturbed areas). Elev. 30-445 ft.	Moderate. Suitable habitat present on site.
Iva hayesiana (San Diego marsh-elder)	CRPR 2B.2	Perennial herb. Blooms Apr-Oct. Occurs in marshes, swamps and playas. Elev. 32-1,640 ft.	Present. Species observed and mapped as part of project.
Lepidium virginicum var. *robinsonii* (Robinson's pepper-grass)	CRPR 4.3	Annual herb. Blooms Jan-Jul. Chaparral and coastal sage scrub. Elev. 0-2,905 ft.	Moderate. Suitable habitat present on site.
Monardella viminea (willowy monardella)	FE, CE, CRPR 1B.1, MSCP	Perennial herb. Blooms Jun-Aug. Occurs on alluvial ephemeral washes within chaparral, coastal scrub, riparian forest, riparian scrub, and riparian woodland. Elev. 160-740 ft.	Low. Suitable habitat present on site; however, surveys occurred during bloom period and species was not detected. Species last recorded in vicinity in 1878, and is likely extirpated.
Pogogyne abramsii (San Diego mesa mint)	FE, CE, CRPR 1B.1, MSCP	Annual herb. Blooms Mar-Jul. Occurs on vernal pools. Elev. 295-655 ft.	None. Vernal pools not present on site.
Pogogyne nudiuscula (Otay Mesa mint)	FE, CE, CRPR 1B.1, MSCP	Annual herb. Blooms May-Jul. Occurs in vernal pools. Elev. 295-820 ft.	None. Vernal pools not present on site.
Quercus dumosa (Nuttall's scrub oak)	CRPR 1B.1	Perennial evergreen shrub. Blooms Feb-Apr (May-Aug). Occurs on sandy and clay loam soils within closed-cone coniferous forest, chaparral, and coastal scrub. Elev. 45-1,310 ft.	Low. Suitable habitat present on site, would likely have been observed if present. *Quercus* x *acutidens* was the only scrub oak species observed.
Romneya coulteri (Coulter's matilja poppy)	CRPR 4.2	Perennial rhizomatous herb. Blooms Mar-Jul. Occurs in chaparral and coastal scrub. Elev. 65-3,900 ft.	Present. Species observed and mapped as part of project.
Selaginella cinerascens (ashy spike-moss)	CRPR 4.1	Perennial rhizomatous herb. Found on chaparral and coastal scrub. Elev. 65-2,100 ft.	Present. Species observed and mapped as part of project.
Senecio aphanactis (Chaparral ragwort)	CRPR 2B.2	Annual herb. Blooms Jan-Apr. Occurs in chaparral, cismontane woodlands, and coastal scrub. Elev. 49-2,624 ft.	Low. Suitable habitat present on site. Species hasn't been recorded in vicinity since 1903.

Species	Status	Habitat Description	Potential to Occur
Sphaerocarpos drewei (bottle liverwort)	CRPR 1B.1	Ephemeral liverwort. Found on bare soil openings within chaparral, and coastal scrub.	Moderate. Suitable habitat present on site.
Stylocline citroleum (oil neststraw)	CRPR 1B.1	Annual herb. Blooms Mar-Apr. Found on clay soils within chenopod scrub, coastal scrub, and valley and foothill grassland. Elev. 160-1,310 ft.	None. CNDDB locality vague, known from one collection in 1883.

FE: *Endangered Species Act (ESA) Federally Endangered Species*
FT: *Endangered Species Act (ESA) Federally Threatened Species*
CE: *California Endangered Species Act (CESA) California Endangered Species*
CR: *California Endangered Species Act (CESA) California Rare Species*
MSCP: *City of San Diego Multiple Species Conservation Program (MSCP) Covered Species*
NE: City of San Diego Multiple Species Conservation Program (MSCP) Narrow Endemic Species

Table 3. California Rare Plant Rank (CRPR) Definitions

California Rare Plant Rank (CRPR)	1A	presumed extirpated in California and rare or extinct elsewhere
	1B	rare, threatened, or endangered in California and elsewhere
	2A	presumed extirpated in California but more common elsewhere
	2B	rare, threatened, or endangered in California but more common elsewhere
	3	plants for which more information needed
	4	plants of limited distribution
CRPR Threat Ranks	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 (<20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

Bottle Liverwort (Sphaerocarpos drewei)

Bottle liverwort holds a CRPR of 1B.1, meaning this species is rare or endangered in California and elsewhere, and is seriously endangered within California. This species is an ephemeral liverwort that is found on bare soil openings within chaparral, and coastal scrub. Much of the suitable habitat for this species has been lost to urbanization (CNPS 2018).

Bottle liverwort was not observed during project biological surveys. Patches of bare soil within chaparral and coastal sage scrub are fairly limited on site, however, present. As such, bottle liverwort has a moderate potential to occur on site.

Campbell's Liverwort (Geothallus tuberosus)

Campbell's liverwort holds a CRPR of 1B.1, meaning this species is rare or endangered in California and elsewhere, and is seriously endangered within California. This species is an ephemeral liverwort that occurs on soils within mesic coastal scrub and vernal pools between the elevations of 30 and 1,970 feet. Most habitat for this species has been lost to urbanization (CNPS 2018).

Suitable vernal pool habitat is not present on site, however suitable soils within mesic coastal sage scrub habitat are present. As such, Campbell's liverwort has a moderate potential to occur within the project study area.

Decumbent Goldenbush (Isocoma menziesii var. decumbens)

Decumbent goldenbush is a CRPR 1B.2, meaning this species is "rare or endangered in California and elsewhere, and is fairly endangered within California." Decumbent goldenbush is a perennial shrub that blooms from April through November. This species occurs in chaparral and sandy coastal scrub, often in disturbed areas at elevations between 30 and 445 feet. Decumbent goldenbush is mainly threatened by development (CNPS 2018).

Although decumbent goldenbush was not observed during project biological surveys, suitable chaparral habitat occurs on site. As such, this species has a moderate potential to occur.

Knotweed Spineflower (Chorizanthe polygonoides var. longispina)

Knotweed spineflower is an annual herb belonging to the Polygonaceae family. This species holds a CRPR of 1B.2, meaning this species is rare or endangered in California and elsewhere, and is fairly endangered within California. Knotweed spineflower blooms from April through July and is found in chaparral, coastal scrub, meadows and seeps, valley and foothill grasslands, and vernal pools at elevations between 98 and 5,019 feet. This species is threatened by development, recreational activities, and invasive plants (CNPS 2018).

This species predominantly occurs in San Diego County across a variety of habitats. Suitable chaparral and coastal sage scrub are present on site. As such, knotweed spineflower has a moderate potential to occur within the project study area.

Robinson's Pepper-Grass (Lepidium virginicum var. robinsonii)

Robinson's pepper-grass is a CRPR 4.3, meaning this species is of "limited distribution and not very threatened in California (<20% of occurrences threatened / low degree and immediacy of threat or no current threats known)." This species is an annual herb that blooms from January through July. Robinson's pepper-grass occurs in chaparral and coastal sage scrub at elevations between 0 and 2,905 feet. This species is threatened by development and possibly invasive plants (CNPS 2018).

Although Robinson's pepper-grass was not observed during project biological surveys, suitable chaparral and coastal sage scrub is present on site. As such, this species has a moderate potential to occur within the project study area.

4.3.3.4 Special-Status Wildlife Observed within the Project Study Area

Special-status wildlife includes species that are federally, or state listed for conservation. These species are threatened by habitat loss and extinction. Three special-status species were observed within the biological survey area during project surveys, including:

- Belding's Orange-Throated Whiptail (*Aspidoscelis hyperythra beldingi*; CDFW watch list, MSCP covered)

- Coastal California Gnatcatcher (*Polioptila californica californica;* FE, CDFW SSC, MSCP covered)
- Cooper's Hawk (*Accipiter cooperii*; CDFW watch list-when nesting, MSCP covered)

Belding's Orange-Throated Whiptail (Aspidoscelis hyperythra beldingi)

Belding's orange-throated whiptail is CDFW Watch List species and is covered under the City of San Diego Multiple Species Conservation Program (MSCP). This species is found across the western half of San Diego County and north into Orange and Riverside Counties. RBC observed one Belding's orange-throated whiptail within the project study area during project surveys in 2017 (Figure 3a).

Coastal California Gnatcatcher (Polioptila californica californica)

Coastal California gnatcatcher is federally listed as threatened, a CDFW SSC, and is covered under the City of San Diego MSCP. Protocol surveys were not conducted for the project; however, this species is historically known to occur within the project study area. Additionally, RBC biologists observed two individual coastal California gnatcatcher, one individual within the project survey area and one individual just west of the survey boundary, during a general biological survey conducted on August 17, 2018, along the canyon east of Balboa Park Golf Course and south of Palm Street (Figure 3b).

Cooper's Hawk (Accipiter cooperii)

Cooper's hawk is a CDFW Watch List species when nesting and is also covered under the MSCP. This species is found across a variety of habitats including riparian forests, woodlands, and interior valleys. A Cooper's hawk pair was documented circling above the site during project biological surveys (Figure 3b).

4.3.3.5 Other Special-Status Wildlife Potential for Occurrence

Special-status wildlife species with potential to occur within the region were compiled by querying the CNDDB (2018) for a one-mile radius surrounding the project study area and utilizing best judgment based on professional experience. Table 4 identifies species potential for occurrence within the immediate project area.

In addition to species observed with the survey area during general biological surveys; five special-status animal species have potential to occur, including:

- Merlin (*Falco columbarius*; CDFW watch list - when wintering)
- Peregrine Falcon (*Falco peregrinus*; CDFW fully protected species - when nesting; MSCP covered)
- San Diego Tiger Whiptail (*Aspidoscelis tigris stejnegeri*; CDFW SSC)
- Yellow Warbler (*Setophaga petechial*; CDFW SSC - when nesting)
- Yellow-Breasted Chat (*Icteria virens*; CDFW SSC - when nesting)

Table 4. Special-Status Wildlife Species Potential for Occurrence

Species	Status	Habitat	Potential to Occur
REPTILES			
Belding's orange-throated whiptail (*Aspidoscelis hyperythra beldingi*)	WL	A variety of habitats including sage scrub, chaparral, and coniferous and broadleaf woodlands. Found on sandy or friable soils with open scrub.	Present. Suitable foraging habitat occurs within study area.
Coast horned lizard (*Phrynosoma blainvillii*)	SSC	A variety of habitats including sage scrub, chaparral, and coniferous and broadleaf woodlands. Found on sandy or friable aeolian sediments with open scrub. Requires open areas, bushes, and fine loose soil for burrowing.	Low. Suitable habitat containing open spaces and loose soil not present.
San Diego tiger whiptail (*Aspidoscelis tigris stejnegeri*)	SSC	Variety of habitats including sparsely vegetated chaparral, woodlands, and riparian areas.	Moderate to high. Suitable habitats present on site.
BIRDS			
American peregrine falcon (*Falco peregrinus anatum*)	FDL, CDL, FP (Nesting), MSCP	A variety of habitats. Most peregrine falcon will nest on open cliff faces, however are also known to occupy water body fringes and human-built buildings and towers.	Moderate. Although on-site nesting habitat may be unfavorable, this species is known to breed on the eastern edge of the San Diego Bay and downtown area.
Burrowing owl (Athene cunicularia)	SSC (Burrow sites & some Wintering sites)	Found in grasslands and open scrub from the coast to foothills. Strongly associated with California ground squirrel (*Otospermophilus beecheyi*) and other fossorial mammal burrows.	Low. Suitable habitat/burrows and ground squirrels not present on site.
Coastal cactus wren (Campylorhynchus brunneicapillus sandiegensis)	SSC (San Diego & Orange Counties)	Cactus and sage scrub on coastal slopes containing cactus species (*Opuntia* spp., *Cylindropuntia* spp.)	Low to moderate. Suitable slopes containing coastal sage scrub and cacti present, however this species may have been extirpated from the vicinity of the project.
Coastal California gnatcatcher (Polioptila californica californica)	FT, SSC	Found almost exclusively in dense coastal sage scrub. Also known to occupy transitional habitats such as chaparral.	Present. Suitable coastal sage scrub habitat occurs within study area.
Cooper's hawk (Accipiter cooperii)	WL (Nesting)	A variety of habitats including riparian forests, interior valleys, and woodlands.	Present. Suitable roosting and hunting habitat present.
Ferruginous hawk (*Buteo regalis*)	WL (Wintering)	Open habitats from grasslands to deserts.	Low. No on-site suitable habitat. Few records of this species wintering within the City of San Diego.
Least Bell's vireo (*Vireo bellii pusillus*)	FE, CE (Nesting)	Riparian woodland with understory of dense young willows or mulefat and willow canopy. Nests often placed along internal or external edges of riparian thickets.	Low. Although migrants may utilize the study area during migration, on-site riparian habitat not suitable for breeding.

Species	Status	Habitat	Potential to Occur
Merlin (*Falco columbarius*)	WL (Wintering)	Riparian habitats and coastal marshes. Uncommon to rare in southern California.	Moderate to high. Although generally uncommon in southern California, this species is known to regularly winter locally in coastal San Diego county.
Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*)	WL	Steep, arid, and rocky south-aspect slopes containing chaparral and rock outcrops.	Low to moderate. Suitable arid, open chaparral habitat not abundant, and canyon is fragmented by urbanization.
Southwestern willow flycatcher (*Empidonax traillii extimus*)	FE, CE, (Nesting)	Dense, mature riparian forests with an established shrub layer.	Low. Suitable riparian habitat with developed understory not present.
Summer tanager (*Piranga rubra*)	SSC (Nesting)	Riparian habitats containing willows (*Salix* spp.) and cottonwoods (*Populus* spp.)	Low. Although species is known to winter and migrate in the vicinity of the project, this species has only been documented breeding in the northeastern portion of San Diego County.
Swainson's hawk (*Buteo swainsoni*)	CT (Nesting)	Agricultural fields and grasslands with large roost trees are utilized by large flocks during migration.	Low. Although species may use study area during migration, suitable nesting habitat not present.
Yellow warbler (*Setophaga petechia*)	SSC (Nesting)	Variety of riparian habitats and occasionally disturbed habitats.	Moderate to high. Although on-site riparian habitat is not favorable, species may likely occupy the study area.
Yellow-breasted chat (*Icteria virens*)	SSC (Nesting)	Variety of riparian habitats and occasionally disturbed and successional habitats.	Moderate. Although on-site riparian habitat is not favorable, species may occupy less-favorable habitats within the study area.
MAMMALS			
Big free-tailed bat (*Nyctinomops macrotis*)	SSC	Rocky areas within hilly lowland and highlands including: evergreen forest, woodlands, desert scrub, and flood plains.	Low. Suitable roosting site not present.
Pocketed free-tailed bat (*Nyctinomops femorosaccus*)	SSC	Rugged cliffs, rocky outcrops, and slopes in desert shrub and pine oak forests.	Low. Suitable roosting site not present.
Western yellow bat (*Lasiurus xanthinus*)	SSC	Occupies a range of habitats in arid and dry areas. Inhabits secluded woodlands, agricultural lands, and sometimes even residential areas.	Low. Suitable roosting site not present.

FE: *Endangered Species Act (ESA) Federally Endangered Species*
FT: *Endangered Species Act (ESA) Federally Threatened Species*
FDL: *Endangered Species Act (ESA) Federally Delisted Species*
CE: *California Endangered Species Act (CESA) State Endangered Species*
CT: *California Endangered Species Act (CESA) State Threatened Species*
CDL: *California Endangered Species Act (CESA) State Delisted Species*
CCE: *California Endangered Species Act (CESA) Candidate Endangered Species*
FP: *California Department of Fish and Wildlife (CDFW) Fully Protected Species*
SSC: *California Department of Fish and Wildlife (CDFW) Species of Special Concern*
WL: *California Department of Fish and Wildlife (CDFW) Watch List Species*

Merlin (Falco columbarius)

Merlin is a CDFW Watch List species when wintering. This species winters on coastal marshes and riarian habitats. Although considered uncommon in the state of California, merlin are known to regularly winter in coastal San Diego County. In addition, suitable wintering habitat is present within the survey area. As such, merlin has a moderate to high potential to occur within the survey area.

Peregrine Falcon (Falco peregrinus)

Peregrine falcon is a federally delisted, California delisted, and CDFW Fully Protected species when nesting. This species is covered under the MSCP. Peregrine falcon are predominantly found along the coast in San Diego County, where they often nest on cliff faces. This species is also highly adapted to metropolitan areas, where it will commonly nest at the top of high-rise buildings. Although peregrine falcon are fairly common in the vicinity of the study area, and may use the study area as a hunting ground, this species has not been confirmed nesting within Switzer Canyon. As such, peregrine falcon has a moderate potential to occur within the project study area.

San Diego Tiger Whiptail (Aspidoscelis tigris stejnegeri)

Coastal whiptail is a CDFW SSC. This species occupies a variety of habitats throughout the southern California coastal plain, including chaparral, woodlands, and riparian areas. Multiple suitable habitats for this species are present within the project study area. As such, coastal whiptail has a moderate to high potential to occur.

Yellow Warbler (Setophaga petechia)

Yellow warbler is a CDFW SSC when nesting. This species is a neotropical migrant that migrates from Mexico and South America, to nest in the United States during the breeding season (spring and summer). Yellow warbler predominantly occupy riparian habitats on breeding grounds, however are known to occasionally inhabit disturbed habitats. As such, yellow warbler has a moderate to high potential to occur within the study area.

Yellow-Breasted Chat (Icteria virens)

Yellow-breasted chat is a CDFW SSC when nesting. This species is a neotropical migrant that migrates from Mexico and Central America, to nest in the United States during the breeding season. Yellow-breasted chat predominantly occupy riparian habitats in their breeding range, however are known to occupy early successional, and disturbed habitats. As such, yellow-breasted chat has a moderate potential to occur within the study area.

5 MSCP CONSISTENCY ANALYSIS

The project lies within the City's MSCP Subarea and the majority of the project occurs within lands designated as MHPA under the MSCP (Figures 2 and 3a-d), therefore compliance with several MSCP Subarea Plan directives is required in addition to compliance with the City's other MSCP implementing regulations.

5.1 MHPA COMPATIBLE LAND USES (§1.4.1)

The project study area occurs within lands designated MHPA under the City's MSCP. The MSCP Subarea Plan (§1.4.1) precludes development within the MHPA except in limited circumstances that are considered "conditionally compatible with the biological objectives of the MSCP." The allowed uses are as follows:

- Passive recreation
- Utility lines and roads in compliance with policies §1.4.2 below
- Limited water facilities and other essential public facilities
- Limited low density residential uses
- Brush Management (Zone 2)
- Limited agriculture

As a water-associated utility line project, the project would qualify as a 'limited water facility' and 'utility lines' which are conditionally compatible allowed uses within the MHPA, when design and construction are performed in conformance with relevant planning and design guidelines as outlined below.

5.2 GENERAL PLANNING POLICIES AND DESIGN GUIDELINES (§1.4.2)

The proposed project would be required to comply with guidelines regarding 'Roads and Utilities'; 'Fencing, Lighting, and Signage'; and 'Materials Storage.'

Roads and Utilities – Construction and Maintenance Policies

Following are the project-relevant requirements from the 'Roads and Utilities – Construction and Maintenance Policies' discussion of Section 1.4.2 of the City's MSCP Subarea Plan, along with an analysis of project compliance with each requirement.

1. *All proposed utility lines (e.g., sewer, water, etc.) should be designed to avoid or minimize intrusion into the MHPA. These facilities should be routed through developed or developing areas rather than the MHPA, where possible. If no other routing is feasible, the lines should follow previously existing roads, easements, rights of way, and disturbed areas, minimizing habitat fragmentation.*

Open trench and trenchless technology will be used to replace existing sewer and stormwater facilities, and only minor new components will be added, including storm drain and sewer connection lines and nine new manholes (Figures 2 and 3a-d). All but one of the manholes and all sewer lines will be installed in paved residential areas on Palm Street, Olive Street, and Nutmeg

Street west of 32nd Street using open trench methods. The storm drain component of the project will involve replacement of existing storm drain systems, which collect runoff at street-level and discharge into the drain pipe at the base of Switzer Canyon. Three short storm drain connections will be required, and two of these will cross the MHPA. These connections cannot be sited elsewhere and are relatively short segments of line so would not constitute major impacts on MHPA lands.

As such, project components would be in compliance with limitations on utilities within the MHPA.

2. *All new development for utilities and facilities within or crossing the MHPA shall be planned, designed, located and constructed to minimize environmental impacts. All such activities must avoid disturbing the habitat of MSCP covered species, and wetlands. If avoidance is infeasible, mitigation will be required.*

The proposed project does not include significant new utility siting; it is the replacement and rehabilitation of existing facilities. As described in item number one above, the facilities to be added are small, and the short lines of storm drain that cross the MHPA are connections cannot be sited elsewhere.

3. *Temporary construction areas and roads, staging areas, or permanent access roads must not disturb existing habitat unless determined to be unavoidable. All such activities must occur on existing agricultural lands or in other disturbed areas rather than in habitat. If temporary habitat disturbance is unavoidable, then restoration of, and/or mitigation for, the disturbed area after project completion will be required.*

The project will utilize existing disturbed access paths to access all project work areas within Switzer Canyon.

Impacts on habitats in the project study area would be significant (see Section 5.2.1). All temporary project impacts would be restored upon completion of project construction, and all permanent project impacts would be mitigated in accordance with the City's Biology Guidelines (2012). Land grades would be returned to their approximate pre-construction levels.

4. Construction and maintenance activities in wildlife corridors must avoid significant disruption of corridor usage. Environmental documents and mitigation monitoring and reporting programs covering such development must clearly specify how this will be achieved, and construction plans must contain all the pertinent information and be readily available to crews in the field. Training of construction crews and field workers must be conducted to ensure that all conditions are met. A responsible party must be specified.

The project is not identified as an MSCP Regional Wildlife Corridor.

5. Roads in the MHPA will be limited to those identified in Community Plan Circulation Elements, collector streets essential for area circulation, and necessary maintenance/emergency access roads. Local streets should not cross the MHPA except where needed to access isolated development areas.

No roads would be built as part of the project.

6. Development of roads in canyon bottoms should be avoided whenever feasible. If an alternative location outside the MHPA is not feasible, then the road must be designed to cross the shortest length possible of the MHPA in order to minimize impacts and fragmentation of sensitive species and habitat. If roads cross the MHPA, they should provide for fully-functional wildlife movement capability. Bridges are the preferred method of providing for movement, although culverts in selected locations may be acceptable. Fencing, grading and plant cover should be provided where needed to protect and shield animals, and guide them away from roads to appropriate crossings.

No roads would be built as part of the project.

7. Where possible, roads within the MHPA should be narrowed from existing design standards to minimize habitat fragmentation and disruption of wildlife movement and breeding areas. Roads must be located in lower quality habitat or disturbed areas to the extent possible.

No roads would be built as part of the project.

8. For the most part, existing roads and utility lines are considered a compatible use within the MHPA and therefore will be maintained. Exceptions may occur where underutilized or duplicative road systems are determined not to be necessary as identified in the Framework Management Section 1.5.

The project would replace and rehabilitate existing utility infrastructure and no new roads are proposed.

Fencing, Lighting, and Signage

Following are the project-relevant requirements from the 'Fencing, Lighting, and Signage' discussion of Section 1.4.2 of the City's MSCP Subarea Plan, along with an analysis of project compliance with each requirement.

1. *Fencing, or other barriers will be used where it is determined to be the best method to achieve conservation goals and adjacent to land uses incompatible with the MHPA. For example, use chain link or cattle wire to direct wildlife to appropriate corridor crossings, natural rocks/boulders or split rail fencing to direct public access to appropriate locations, and chain link to provide added protection of certain sensitive species or habitats (e.g., vernal pools).*

The new facility would be buried and no need for fencing or other barriers is anticipated. However, in order to preserve sensitive plant species adjacent to project impacts (Figure 3), exclusion fencing is recommended during project construction activities.

2. *Lighting shall be designed to avoid intrusion into the MHPA and effects on wildlife. Lighting in areas of wildlife crossings should be of low-sodium or similar lighting. Signage will be limited to access and litter control and educational purposes*

No lighting is currently proposed in association with the project. Signage will be limited and will primarily be aimed at enforcing public access to be restricted to Open Space Multi-Use Trails within Switzer Canyon.

Materials Storage

Following are the project-relevant requirements from the 'Materials Storage' discussion of Section 1.4.2 of the City's MSCP Subarea Plan, along with an analysis of project compliance with each requirement.

1. *Prohibit storage of materials (e.g., hazardous or toxic, chemicals, equipment, etc.) within the MHPA and ensure appropriate storage per applicable in any areas that may impact the MHPA, especially due to leakage.*

No storage or hazardous or toxic materials is proposed within the MHPA. Any necessary storage for construction or operation of the sewer and storm drain would be done in accordance with relevant materials safety regulations.

Flood Control

The City of San Diego's MSCP Subarea Plan's 'Compatible Land Uses: Flood Control' section includes the following guidance (City of San Diego1997):

1. *Flood control should generally be limited to existing agreements with resource agencies unless demonstrated to be needed based on a cost benefit analysis and pursuant to a restoration plan. Floodplains within the MHPA, and upstream from the MHPA if feasible, should remain in a natural condition and configuration in order to allow for the ecological, geological, hydrological, and other natural processes to remain or be restored.*
2. *No berming, channelization, or man-made constraints or barriers to creek, tributary, or river flows should be allowed in any floodplain within the MHPA unless reviewed by all appropriate agencies, and adequately mitigated. Review must include impacts to upstream and downstream habitats, flood flow volumes, velocities and configurations, water availability, and changes to the water table level.*
3. *No riprap, concrete, or other unnatural material shall be used to stabilize river, creek, tributary, and channel banks within the MHPA. River, stream, and channel banks shall be natural, and stabilized where necessary with willows and other appropriate native plantings. Rock gabions may be used where necessary to dissipate flows and should incorporate design features to ensure wildlife movement.*

The project would result in an increased sewer and storm drain capacity. Floodplains within the MHPA would be not be altered upon project implementation, and natural geological, ecological, and hydrological processes will be sustained. No berming or channelization will be implemented as part of the project. The storm water dissipater will include riprap extending approximately eight to ten feet from the end.

5.3 MHPA LAND USE ADJACENCY GUIDELINES (§1.4.3)

The project study area occurs within and adjacent to MHPA land associated with the Florida Canyon portion of the MSCP Subarea Plan for Urban Areas. Pursuant to the City's MSCP Subarea Plan, any projects occurring within or adjacent to the City's MHPA, or preserve, must adhere to the City's MHPA land use adjacency guidelines. The guidelines and analyses of project conformance are described below. Note that all adjacency guidelines will become conditions of the final project permit.

Drainage

The Subarea Plan states:

All new and proposed parking lots and developed areas in and adjacent to the preserve must not drain directly into the MHPA. All developed and paved areas must prevent the release of toxins, chemicals, petroleum products, exotic plant materials and other elements that might degrade or harm the natural environment or ecosystem processes within the MHPA. This can be accomplished using a variety of methods including natural detention basins, grass swales or mechanical trapping devices. These systems should be maintained approximately once a year, or as often as needed, to ensure proper functioning. Maintenance should include dredging out sediments if needed, removing exotic plant materials, and adding chemical-neutralizing compounds (e.g., clay compounds) when necessary and appropriate.

The project would not result in new parking lots and new storm drain structures would discharge into drain pipes along the base of Switzer Canyon. No runoff would drain or discharge directly onto MHPA lands.

Toxics

The Subarea Plan requires:

Land uses, such as recreation and agriculture, that use chemicals or generate by-products such as manure, that are potentially toxic or impactive to wildlife, sensitive species, habitat, or water quality need to incorporate measures to reduce impacts caused by the application and/or drainage of such materials into the MHPA. Such measures should include drainage/detention basins, swales, or holding areas with non-invasive grasses or wetland-type native vegetation to filter out the toxic materials. Regular maintenance should be provided. Where applicable, this requirement should be incorporated into leases on publicly owned property as leases come up for renewal.

Please see the prior item for discussion of drainage.

Lighting

The Subarea Plan states:

Lighting of all developed areas adjacent to the MHPA should be directed away from the MHPA. Where necessary, development should provide adequate shielding with non-invasive plant materials (preferably native), berming, and/or other methods to protect the MHPA and sensitive species from night lighting.

No permanent lighting is currently proposed as part of the project. MHPA land use adjacency guidelines regarding lighting will be part of the project mitigation requirements to ensure conformance during the construction process (Section 7).

Noise

The Subarea Plan states:

Uses in or adjacent to the MHPA should be designed to minimize noise impacts. Berms or walls should be constructed adjacent to commercial areas, recreational areas, and any other use that may introduce noises that could impact or interfere with wildlife utilization of the MHPA. Excessively noisy uses or activities adjacent to breeding areas must incorporate noise reduction measures and be curtailed during the breeding season of sensitive species. Adequate noise reduction measures should also be incorporated for the remainder of the year.

Coastal California gnatcatcher has been documented within the project study area (2018; Figure 3b). In accordance with MSCP requirements and MHPA adjacency guidelines, seasonal restrictions and/or standard noise mitigation will be required (see Sections 5 and 7).

Barriers

The Subarea Plan states:

New development adjacent to the MHPA may be required to provide barriers (e.g., non-invasive vegetation, rocks/boulders, fences, walls, and/or signage) along the MHPA boundaries to direct public access to appropriate locations and reduce domestic animal predation.

As identified above, the new facility would be buried and no need for fencing or other barriers is anticipated.

Invasives

The Subarea Plan states:

No invasive non-native plant species shall be introduced into areas adjacent to the MHPA.

No ornamental landscaping is proposed as part of project development. A revegetation plan will be implemented following project sewer and storm drain work. The site will be restored to approximate prior (historic) contours and revegetated with appropriate native species. The planting palette will avoid any species listed as ‘most invasive’ or ‘moderately invasive’ by the San Diego County Invasive Ornamental Plant Guide [San Diego Chapter of the American Society of the Landscape Architects (SD/ASLA) and the San Diego Chapter of the CNPS 2005].

Brush Management

The Subarea Plan states:

New residential development located adjacent to and topographically above the MHPA (e.g., along canyon edges) must be set back from slope edges to incorporate Zone 1 brush management areas on the development pad and outside of the MHPA. Zones 2 and 3 will be combined into one zone (Zone 2) and may be located in the MHPA upon granting of an easement to the City (or other

acceptable agency) except where narrow wildlife corridors require it to be located outside of the MHPA. Zone 2 will be increased by 30 feet, except in areas with a low fire hazard severity rating where no Zone 2 would be required. Brush management zones will not be greater in size that is currently required by the City's regulations. The amount of woody vegetation clearing shall not exceed 50 percent of the vegetation existing when the initial clearing is done. Vegetation clearing shall be done consistent with City standards and shall avoid/minimize impacts to covered species to the maximum extent possible. For all new development, regardless of the ownership, the brush management in the Zone 2 area will be the responsibility of a homeowners association or other private party. For existing and approved projects, the brush management zones, standards and locations, and clearing techniques will not change from those required under existing regulations.

The project would not require brush management as it would not include any flammable structures requiring fire protection.

Grading/Land Development

The Subarea Plan states:

Manufactured slopes associated with site development shall be included within the development footprint for projects within or adjacent to the MHPA.

All project features and grading have been included in the project impact area included in this analysis. The existing sewer and storm drain components would be removed and the site returned to the approximate pre-existing grade. Following construction, the project site would also be returned to natural topography and would be revegetated with native species appropriate for the area. All impact areas are included in the development footprint shown in Figures 2-3 of this report.

5.3.1 GENERAL MANAGEMENT DIRECTIVES (§1.5.2)

Much of City's MSCP Subarea Plan General Management Directives (§1.5.2) apply to management of lands preserved under the program, which is the responsibility of the City of San Diego as set forth under the MSCP implementing agreement. Generally, the department with ownership of MHPA lands preserved under the MSCP has responsibility for management required under the MSCP. For the project study area, the land is owned by the City's Department of Park and Recreation, so management would generally be under their domain.

Section §1.5.2 does include directives regarding mitigation and restoration that would be applicable to the project, however. Each directive and analysis of each is provided below.

Mitigation

Mitigation, when required as part of project approvals, shall be performed in accordance with the City of San Diego Environmentally Sensitive Lands Regulations (ESL) and Biology Guidelines. Project mitigation shall be performed in accordance with all City of San Diego ESL Regulations, as outlined in Section 7, below. The draft restoration plan is included as Appendix F to this report and has been prepared in conformance with the regulations.

Restoration

Restoration or revegetation undertaken in the MHPA shall be performed in a manner acceptable to the City. Where covered species status identifies the need for reintroduction and/or increasing the population, the covered species will be included in restoration/revegetation plans, as appropriate. Restoration or revegetation proposals will be required to prepare a plan that includes elements addressing financial responsibility, site preparation, planting specifications, maintenance, monitoring, and success criteria, and remediation and contingency measures. Wetland restoration/revegetation proposals are subject to permit authorization by federal and state agencies.

A draft restoration concept plan has been prepared (Appendix F), and a final restoration plan will be prepared once the concept plan is confirmed. San Diego barrel cactus will be included in project revegetation plans.

6 PROJECT IMPACT ANALYSIS

6.1 SIGNIFICANCE CRITERIA

California Environmental Quality Act (CEQA) regulations generally define a significant effect on the environment as a substantial or potentially substantial adverse change in the physical environment (CEQA Guidelines Sections 15064 and 15126.2). The City of San Diego's Significance Determination Thresholds under CEQA (City of San Diego 2012) provides the following guidance regarding impacts on biological resources. These thresholds assure conformance with CEQA as well as identify federal biological regulation conformance requirements, e.g., wetlands, threatened/endangered species permits, etc. Projects are considered to have a significant impact on the environment if they would result in any of the following:

1) A substantial adverse impact, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in the MSCP or other local or regional plans, policies or regulations, or by the California Department of Fish and Wildlife (CDFW) or U.S. Fish and Wildlife Service (USFWS)
2) A substantial adverse impact on any Tier I Habitats, Tier II Habitats, Tier IIIA Habitats, or Tier IIIB Habitats as identified in the Biology Guidelines of the Land Development manual or other sensitive natural community identified in local or regional plans, policies or regulations, or by the CDFW or USFWS
3) A substantial adverse impact on wetlands (including, but not limited to, marsh, vernal pool, riparian, etc.) through direct removal, filling, hydrological interruption, or other means
4) Substantial interference with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, including linkages identified in the MSCP Plan, or impedance of the use of native wildlife nursery sites
5) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Conservation Community Plan, or other approved local, regional, or state habitat conservation plan, either within the MSCP plan area or in the surrounding region
6) Introduction of a land use within an area adjacent to the MHPA that would result in adverse edge effects
7) Conflict with any local policies or ordinances protecting biological resources
8) Introduction of invasive species of plants into a natural open space area

6.2 PROJECT IMPACTS

6.2.1 BIOLOGICAL IMPACTS

6.2.1.1 Vegetation Communities/Land Uses

The proposed project will impact 2.058 acres of land and associated vegetation communities. Of the total acreage, 0.575 acre is sewer facilities; 1.061 acres are for new sewer construction access; and 0.422 acre is stormwater facilities (Table 5).

Pursuant to the City of San Diego's Significance Determination Guidelines Under CEQA (City of San Diego 2012), impacts on Tier IV habitats are not considered significant and do not require mitigation. Impacts on Tier I-III upland habitats, however, are considered significant and require

mitigation. Per the City of San Diego's *Mitigation, Monitoring, and Reporting Program for the Canyon Sewer Cleaning Program and Long-Term Canyon Sewer Maintenance Program* 8(A), "existing access paths shall be used wherever possible when planning entry/egress routes into a canyon to reach a manhole" (City of San Diego 2004). The utilities access path that will be used to access work areas is an existing path, and as such is not considered a project impact.

Table 5. Project Impacts on Upland Vegetation Communities/Land Uses

Habitat Type	Project Impact (acres)									
	PUD						TSW		Total	
	Sewer Line/Facilities		Sewer Access-Existing*		Sewer Access-New		Stormwater Facilities			
	MHPA	Non-MHPA	MHPA	Non-MHPA	MHPA	Non-MHPA	MHPA	Non-MHPA	MHPA	Non-MHPA
TIER I										
Coast Live Oak Woodland	0.010	-	(0.046)	(0.036)	0.011	0.037	-	-	0.067	0.073
Scrub Oak Chaparral	0.020	-	(0.064)	-	0.021	-	-	-	0.105	-
TIER II										
Chaparral/ Coastal Sage Scrub	0.042	-	(0.053)	(0.014)	0.028	0.015	0.067	0.057	0.190	0.086
Diegan Coastal Sage Scrub	0.060	-	(0.083)	-	0.148	0.042	0.139	0.029	0.430	0.071
Subtotal – Tiers I & II	*0.132*	*-*	*(0.246)*	*(0.050)*	*0.208*	*0.094*	*0.206*	*0.086*	*0.792*	*0.230*
TIER IV										
Developed	0.081	0.138	(0.026)	-	0.003	-	0.012	0.031	0.122	0.169
Developed - Golf Course	-	0.114	-	(0.022)	0.014	0.526	-	-	0.014	0.662
Disturbed Land	0.016	-	(0.237)	(0.041)	0.029	0.001	-	0.038	0.282	0.080
Ornamental	0.015	0.033	(0.051)	(0.005)	0.006	0.070	0.011	0.034	0.083	0.142
Eucalyptus Woodland	0.019	-	(0.128)	(0.012)	0.021	-	0.003	0.001	0.171	0.013
Ruderal	0.008	0.019	(0.018)	-	0.002	0.087	-	-	0.028	0.106
Subtotal – Tier IV	*0.139*	*0.304*	*(0.460)*	*(0.080)*	*0.075*	*0.684*	*0.026*	*0.104*	*0.700*	*1.172*
Grand Total	0.271	0.304	*(0.706)*	*(0.130)*	0.283	0.778	0.232	0.190	1.492	1.402

**Per input from City PWD/PUD staff, the access path is an existing pathway that is maintained annually and as such is not considered a project impact. Information is included herein for informational purposes only.*

6.2.1.2 Wetlands and Wetland Buffers

Several aquatic resource areas within the project footprint qualify as City jurisdictional wetlands. A total of 0.008 acre of City jurisdictional wetland impacts would occur with sewer rehabilitation and construction work (Table 6; Figure B). The paths that will be used to access sewer manholes are not considered an impact herein per the City of San Diego's *Canyon Sewer Cleaning Program and Long-Term Canyon Sewer Maintenance Program* MMRP 8(A), which states that "existing access paths shall be used whenever possible when planning entry/egress routes into a canyon to reach a manhole" (City of San Diego 2004). The project access path is an existing path that is cleared annually, therefore is not considered a project impact. For the stormwater portion of the project, no impacts on city wetlands would occur.

Areas that are potentially jurisdictional under state and federal regulation also occur within the project and access areas (Tables 7-8). The project would impact a small area of CDFW jurisdictional areas (0.018 for project improvements and 0.082 for access path clearance. A portion of these lands are also potentially Corps/RWQCB jurisdictional (0.012 acre for project improvements and 0.013 for access). Permits for impacts on these areas will be required from the respective agencies prior to project implementation.

Table 6. Project Impacts on Potential City Jurisdictional Wetlands

Habitat Type	Impacts Within Project Area (acres)			Access Impacts (Utilities Access Path) (acres)*		
	PUD	TSW	TOTAL	PUD	TSW	TOTAL
Mule Fat Scrub (Riparian Scrub)	0.005	-	0.005	(0.057)	-	(0.057)
Southern Willow Scrub (Riparian Scrub)	0.003	-	0.003	(0.025)	-	(0.025)
TOTAL	0.008	-	0.008	(0.082)	-	(0.082)

**Per input from City PWD and PUD staff, the access path is an existing pathway that is maintained annually and as such is not considered a project impact. Information is included herein for informational purposes only.*

Table 7. Project Impacts on Potential Corps and RWQCB Jurisdictional Wetlands and Non-Wetland Waters

Habitat Type	Impacts Within Project Area (acres)			Access Impacts (Utilities Access Path) (acres)		
	PUD	TSW	TOTAL	PUD	TSW	TOTAL
Ephemeral Stream	0.007	-	0.007	(0.180)*	-	(0.180)*
Wetland (Southern Willow Scrub)	0.001	-	0.001	0.013	-	0.013
Concrete Channel	0.004	-	0.004	(0.019)*	-	(0.019)*
TOTAL	0.012	-	0.012	0.013		0.013

**Temporary access use through unvegetated areas is not considered an impact; this acreage is not included in project impact totals. Information is included here for informational purposes only.*

Table 8. Project Impacts on Potential CDFW Jurisdictional Wetlands

Habitat Type	Impacts Within Project Area (acres)			Access Impacts (Utilities Access Path)(acres)		
	PUD	TSW	TOTAL	PUD	TSW	TOTAL
Streambed	0.006	-	0.006	(0.149)*	-	(0.149)*
Riparian	0.008	-	0.008	0.082	-	0.082
Concrete Channel	0.004	-	0.004	(0.019)*	-	(0.019)*
TOTAL	0.018	-	0.018	0.082	-	0.082

**Temporary access use through unvegetated areas is not considered an impact; this acreage is not included in the impact totals. Information is included here for informational purposes only.*

For agency permitting purposes, all impacts within potentially jurisdictional areas would be considered temporary. With the exception of one manhole, all work areas within these areas are sewer lines that would be below ground; once construction is complete, work areas would be returned to approximate current topographic levels and conditions. Additional information regarding potential Corps, RWQCB, and CDFW jurisdictional areas is provided in the *Sewer and Storm Drain Group Job 828 Project Jurisdictional Delineation Report* (Rocks Biological Consulting, 2019).

Pursuant to the City's Environmentally Sensitive Lands (ESL) regulations, the following regulations apply to wetlands within the City of San Diego:

1) *State and federal law regulate adverse impacts to wetlands and listed species habitat. The applicant shall confer, when applicable, with the U.S. Army Corps of Engineers, U.S. Fish & Wildlife Service and/or California Department of Fish and Wildlife before any public hearing for the development proposal.*
2) *The applicant shall solicit input from U.S. Army Corps of Engineers, U.S. Fish & Wildlife Service and/or California Department of Fish and Wildlife on impact avoidance, minimization, mitigation and buffer requirements, including the need for upland transitional habitat.*
3) *The applicant shall, to the maximum extent feasible, incorporate U.S. Army Corps of Engineers, U.S. Fish & Wildlife Service and/or California Department of Fish and Wildlife recommendations into the development proposal prior to the first public hearing.*
4) *Construction permits shall not be issued for any project that impacts wetlands or listed species habitat until all necessary federal and state permits have been obtained.*
5) *Impacts to wetlands shall be avoided, except where permitted in accordance with Section 143.0141(b)(6) [vernal pool HCP-allowed encroachment]. A wetland buffer shall be maintained around all wetlands as appropriate to protect the functions and values of the wetlands. In the Coastal Overlay Zone the applicant shall provide a minimum 100-foot buffer, unless a lesser or greater buffer is warranted as determined through the process described in this section.*

The City's PWD will be coordinating state and federal permits and will present the project to the Corps, CDFW, and RWQCB at an upcoming monthly pre-application meeting to solicit early agency input and incorporate recommendations into the project proposal, if applicable.

Total impacts on City jurisdictional wetlands (0.008 acre) are very small and are below the threshold of significance according to the City of San Diego's CEQA Significance Determination Thresholds (2011), which state:

> *Total wetland impacts less than 0.01 acre are not considered significant and do not require mitigation. THIS DOES NOT APPLY TO VERNAL POOLS or wetlands within the Coastal Zone.*

As such, project impacts on City jurisdictional wetlands would be less than significant.

Wetland Buffers

A wetland buffer is defined in the City's Biology Guidelines as "an area or feature(s) surrounding an identified wetland that helps to protect the functions and values of the adjacent wetland by reducing physical disturbance from noise, activity and domestic animals, and provides a transition zone where one habitat phases into another. The buffer will also protect other functions and values of wetland areas including absorption and slowing of flood waters for flood and erosion control, sediment filtration, water purification, ground water recharge, and the need for upland transitional habitat."

For projects outside the coastal zone, the Biology Guidelines require that "A wetland buffer shall be maintained around all wetlands as appropriate to protect the functions and values of the wetland. Section 320.4(b)(2) of the U.S. Army Corps of Engineers General Regulatory Policies (33CFR 320-330) list criteria for consideration when evaluating wetland functions and values. These include wildlife habitat (spawning, nesting, rearing, and foraging), food chain productivity, water quality, ground water recharge, and areas for the protection from storm and floodwaters."

The project would involve temporary disturbance within an urbanized channel; no permanent buildings or developments are proposed within wetlands or wetland buffers. As such, no permanent impacts on wetland buffers would occur with project implementation. City jurisdictional wetlands that occur within the project area are very small (0.008 acre in total) and occur as isolated patches within the canyon. As such, biological resources in these areas are somewhat limited, but do provide some wildlife and water quality value as part of the canyon system. Project construction would be timed outside the avian nesting season or would be performed in conformance with nesting restrictions to avoid impacts on avian species in the area. Project work areas have been planned to be the minimum area necessary to perform the storm drain and sewer line replacements; most areas require only a linear path to replace the line itself and would not result in significant disruptions to wetland or wetland buffer functions. All work would be performed in conformance with stormwater regulations, so no significant water quality impacts would occur with project construction, and buffer water quality improvement functions would be temporarily replaced with best management practice stormwater control features. Upon completion of the line replacements, vegetation would be returned to current conditions and disturbed areas would be re-planted with native species, which would return buffer functions and values to current or improved levels.

6.2.1.3 Sensitive Species

Coulter's Matilija poppy, Mesa spike-moss, Palmer's sagewort, San Diego barrel cactus, San Diego marsh-elder, San Diego sunflower, wart-stem ceanothus, Belding's orange-throated whiptail, coastal California gnatcatcher, and Cooper's hawk were documented within or near the project impact area. Additionally, several other special-status species have the potential to occur on-site.

The project would not impact Coulter's Matilija poppy, Mesa spike-moss, Palmer's sagewort, San Diego marsh-elder and San Diego sunflower as all known mapped occurrence occur outside of the project access path and impact area.

Approximately ten known individuals of Palmer's sagewort are located along the Open Space Multi-Use Trail and impact area in Switzer Canyon south of 28th Street (Figure 3b), and are at risk of being impacted during vegetation trimming and project work. Minor impacts on Palmer's sagewort and other potentially present CRPR-listed plant species would be adverse. However, the project would comply with the MSCP, a regional conservation program intended to conserve adequate native habitats regionally such that special-status species are also protected. As such, no significant impacts on these species would occur with project implementation. Species with higher levels of rarity/threat are discussed below.

San Diego Barrel Cactus (Ferocactus viridescens)

One individual of San Diego barrel cactus was documented within the project survey area, however just outside the proposed work area (Figure 3b). The individual is just outside an existing access path that is well-maintained and adequately wide for construction access as planned. Because the one individual documented during surveys occurs outside the work area, project impacts on San Diego barrel cactus would be less than significant.

San Diego barrel cactus is an MSCP covered species; thus, take of the species is allowed for projects that comply with the City's MSCP implementing regulations. The following is the MSCP condition of coverage for this species (Subarea Plan Appendix A):

> *Area specific management directives must include measures to protect this species from edge effects, unauthorized collection, and include appropriate fire management/control practices to protect against a too frequent fire cycle.*

Area specific management directives refers to management plans prepared for MHPA preserve areas. No management plan has been prepared for the project study area; if and when a plan is prepared, it would need to have protection measures for this species. This condition does not apply to the project as it is not a management plan. Also, the project would not create any edge effects as it is replacement and upsizing of an existing sewer and storm drain system; no new urban edges would be created.

Wart-Stem Ceanothus (Ceanothus verrucosus)

Six individuals of wart-stem ceanothus occur within the project sewer access path. Additionally, 12 individuals were documented in the project survey area but outside work areas or access paths (Figure 3b).

Wart-stem ceanothus is an MSCP covered species; thus, take of the species is allowed for projects that comply with the City's MSCP implementing regulations. Pursuant to the City's Biology Guidelines (2012; Section II(B)(1)(d)) "certain species are only considered adequately conserved as part of the MSCP (e.g., Covered Species) only if translocation/restoration of the species is provided at the project-level." One such species is wart-stem ceanothus, which according to the guidelines "may be transplanted, or incorporated into any revegetation plan proposed for the site."

The following is the MSCP condition of coverage for this species (Subarea Plan Appendix A):

> *Revegetation efforts within appropriate habitats must include restoration of this species. Area specific management directives for the protected populations must include specific measures to increase populations. Area specific management directives must include specific management measures to address the autecology and natural history of the species and to reduce the risk of catastrophic fire. Management measures to accomplish this may include prescribed fire. Any newly found populations should be evaluated for inclusion in the preserve strategy through acquisition, like exchange, etc.*

Area specific management directives refers to management plans prepared for MHPA preserve areas. No management plan has been prepared for the project study area; if and when a plan is prepared, it would need to have protection measures for this species. Also, the project would not create any edge effects as it is replacement and upsizing of an existing sewer and storm drain system; no new urban edges would be created.

Pursuant to PWD and PUD staff, most of the path area that will be used to access project work areas is an existing access path that is cleared annually and as such the path is not considered an impact (S. Cochinwala, personal communication, April 11, 2019). As such, impacts on wart-stem ceanothus would be less than significant.

Belding's Orange-Throated Whiptail (Aspidoscelis hyperythra beldingi)

One Belding's orange-throated whiptail was observed adjacent to the utilities access path that will be used during construction, and suitable habitat for the species occurs in the project area. Belding's orange-throated whiptail is an MSCP covered species; thus, take of the species is allowed for projects that comply with the City's MSCP implementing regulations. The following is the MSCP condition of coverage for this species (Subarea Plan Appendix A):

> *Area specific management directives must address edge effects.*

No new edge effects that would threaten this species would be created as part of the project as the project is primarily underground utilities, i.e., no buildings, irrigated areas, etc. Based on this species' ability to move away from active disturbance, project compliance with the MSCP, and the very small project impact area, impacts on Belding's orange-throated whiptail would be less than significant.

Coastal California Gnatcatcher (Polioptila californica californica)

Coastal California gnatcatcher is an MSCP covered species; thus, take of the species is allowed for projects that comply with the City's MSCP implementing regulations. Following is the MSCP condition of coverage for this species (Subarea Plan Appendix A):

> *Area specific management directives must include measures to reduce edge effects and minimize disturbance during the nesting period, fire protection measures to reduce the potential for habitat degradation due to unplanned fire, and management measures to maintain or improve habitat quality including vegetation structure. No clearing of occupied habitat within the cities' MHPAs and within the County's Biological Resource Core Areas may occur between March 1 and August 15.*

No new edge effects that would threaten this species would be implemented as part of the project. In order to ensure adequate protection for this species, project activities shall be conducted in accordance with nesting bird mitigation and coastal California gnatcatcher mitigation measures outlined in Sections 5 and 7.

Cooper's Hawk (Accipiter cooperii)

Cooper's hawk is an MSCP covered species; thus, take of the species is allowed for projects that comply with the City's MSCP implementing regulations. The following is the MSCP condition of coverage for this species (Subarea Plan Appendix A):

> *In the design of future projects within Metro-Lakeside-Jamul segment, design of preserve areas shall conserve patches of oak woodland and oak riparian forest of adequate size for nesting and foraging habitat. Area specific management directives must include 300-foot impact avoidance areas around active nests, and minimization of disturbance in oak woodlands and oak riparian forests.*

The project does not occur within the Metro-Lakeside-Jamul segment of the MSCP, and no new edge effects that would threaten this species would be implemented as part of the project. In order to ensure adequate protection for this species, project activities shall be conducted in accordance with nesting bird measures outlined in Section 7. With these measures in place, impacts on Cooper's hawk would be less than significant.

Other Special-Status Wildlife Species

The project has some potential to impact other special-status wildlife species with potential to occur, including peregrine falcon, merlin, San Diego tiger whiptail, yellow warbler, and yellow-breasted chat. Direct impacts on these species, if present, would generally be avoided through nesting bird protection measures outlined in Section 7. Additionally, the project would comply with the MSCP, a regional conservation program intended to conserve adequate native habitats regionally such that special-status species are also protected. As such, impacts on these species would be less than significant.

6.2.1.4 Wildlife Corridors

The project study area is not identified as an MSCP regional wildlife corridor. The open space park is isolated, with no adjacent native habitats. However, the habitat is a large, intact area of native habitat and serves as a local wildlife corridor and a 'stepping stone' corridor for avian species. The project does not propose any new barriers such as fencing or development that would preclude wildlife movement. Further, the project work would occur below ground and would result in no obstructions through this area. As such, no impacts on wildlife corridors would occur with project implementation.

6.2.2 BIOLOGY GUIDELINES REQUIREMENTS FOR DEVELOPMENT WITHIN THE MHPA

The City of San Diego Biology Guidelines include specific regulations related to development within the MHPA. For projects outside the coastal zone, Section II(B)(1) of the guidelines states that the allowable development areas for parcels with MHPA mapping include: 1) All portions of the site that occur outside the MHPA; and 2) Encroachment into MHPA lands such that development of 25% of the site is achieved. Up to an additional 5% development area inside the MHPA is permitted in order to accommodate essential public facilities. Because the project occurs within a large canyon area and would impact only less than two acres of MHPA lands, the project would be compliant with this regulation.

6.2.3 NESTING BIRD IMPACTS

The project study area has the potential to support nests that would be protected under the Migratory Bird Treaty Act and/or the California Fish and Game Code (§3503) under which it is unlawful to "take, possess, or needlessly destroy" avian nests or eggs. Thus, potential impacts could occur if vegetation clearing is undertaken during the breeding season. The project will include standard nest protection measures, as outlined in section 7. below. Removal of habitat that has the potential to support active nests would occur outside of the breeding season (February 1 to September 15), or would be surveyed by a qualified biologist prior to construction initiation. If active nests are found, the project clearing in that area plus an appropriate buffer (determined by the qualified biologist in consultation with the City) would be delayed until nestlings have fledged. Please refer to section 7 for full nest protection requirements.

6.2.4 INDIRECT IMPACTS

The project would entail underground earthwork and construction activities with the potential to generate dust and noise. Ground disturbance during construction also has the potential to result in accelerated erosion. However, the project will incorporate measures to address and reduce these types of impacts.

Project contractors will be required to implement standard dust control measures, and with these in place, and given the temporary nature of dust-generating activities, construction dust is not expected to result in significant impacts on biological resources.

Contractors will also be required to implement reasonable and feasible noise control measures. Depending on construction timing, preconstruction surveys for protected species, including nesting birds, will also be implemented (see Section 7, below).

The project will require a Stormwater Pollution Prevention Plan (SWPPP), which will include measures to control erosion during and following construction. With the SWPPP in place, significant impacts associated with accelerated erosion of disturbed ground are not expected.

6.2.5 CUMULATIVE IMPACTS

Cumulative impacts include both the potential regional (long-term, additive) effects of a project and the ways a project, in combination with other projects and conditions in a region, may affect an ecosystem or one of its components beyond the project limits and on a regional scale. Because

the project would be consistent with the City of San Diego's MSCP, a regional conservation plan, there would be no cumulatively significant biological impacts.

7 MITIGATION, REGULATORY COMPLIANCE, AND MONITORING

The following mitigation requirements are required in conformance with City of San Diego biological regulations. Conformance with these requirements also achieves project conformance with most state and federal biological regulations, with the exception of potential state and federally-jurisdictional aquatic resource permitting. As described in Sections 1 and 5, consultation with CDFW, the Corps, and RWQCB will be required prior to project implementation.

Note that conformance with the City's MHPA land use adjacency guidelines, including coastal California gnatcatcher noise restrictions, will also be a condition of project site development approval (see section 5.3). These requirements must be included in contract specifications and on construction documents.

7.1 HABITAT MITIGATION

Under the City of San Diego Biology Guidelines (2012), project impacts to Tiers I-III habitats must be mitigated. Project mitigation must occur at ratios outlined in Tables 9 and 10, which also itemize the impacts anticipated in each habitat type, and the resulting mitigation requirement. Lands designated as Tier IV, such as developed, ornamental, and eucalyptus vegetation, are not considered to have significant habitat value and, as discussed above, impacts would not be considered significant, subsequently the impacts to these Tier IV lands would not require mitigation.

Table 9. Mitigation Requirements for Project Impacts on Sensitive Upland Vegetation Communities – PUD Sewer Line

Habitat Type (Tier)	PUD Impact Acreage – Facilities Impacts		PUD Impact Acreage – New Access Impacts		*PUD Impacts - Total*		PUD Mitigation Acreage and Ratios*
	Within MHPA	Outside MHPA	Within MHPA	Outside MHPA	*Within MHPA*	*Outside MHPA*	Within MHPA
Coast Live Oak Woodland (Tier I)	0.010	-	0.011	0.037	*0.021*	*0.037*	0.079 (2:1 / 1:1)
Scrub Oak Chaparral (Tier I)	0.020	-	0.021	-	*0.041*	-	0.082 (2:1)
Subtotal (Tier I)	*0.030*	-	*0.032*	*0.037*	*0.062*	*0.037*	*0.161*
Chaparral/Coastal Sage Scrub (Tier II)	0.042	-	0.028	0.015	*0.070*	*0.015*	0.085 (1:1 / 1:1)
Diegan Coastal Sage Scrub (Tier II)	0.060	-	0.148	0.042	*0.208*	*0.042*	0.250 (1:1 / 1:1)
Subtotal (Tier II)	*0.102*	-	*0.176*	*0.057*	*0.278*	*0.057*	*0.335*
TOTAL	0.132	-	0.208	0.094	0.340	*0.094*	0.496

** Upland mitigation ratios based on Table 3 of the City of San Diego Biology Guidelines (2012) and assumes mitigation credits will be purchased at the City's mitigation banks located within the MHPA, i.e. all mitigation will occur within the MHPA.*

Table 10. Mitigation Requirements for Project Impacts on Sensitive Upland Vegetation Communities - TSW

Habitat Type (Tier)	TSW Impact Acreage		TSW Mitigation Acreage and Ratios*
	Within MHPA	Outside MHPA	Within MHPA
Coast Live Oak Woodland (Tier I)	-	-	- (2:1)
Scrub Oak Chaparral (Tier I)	-	-	- (2:1)
Subtotal (Tier I)	-	-	-
Chaparral/Coastal Sage Scrub (Tier II)	0.067	0.057	0.124 (1:1)
Diegan Coastal Sage Scrub (Tier II)	0.139	0.029	0.168 (1:1)
Subtotal (Tier II)	*0.206*	*0.086*	*0.292*
TOTAL	0.206	0.086	0.292

** Upland mitigation ratios based on Table 3 of the City of San Diego Biology Guidelines (2012) and assumes mitigation credits will be purchased at the City's mitigation banks located within the MHPA or restored within MHPA areas on-site, i.e. all mitigation will occur within the MHPA.*

Pursuant to City regulations, mitigation may be achieved by conserving lands on or off site, or through payment into a City mitigation bank.

Based on the ratios shown in Tables 9, 10, and 11, the project will be conditioned such that:

- 0.161 acre of Tier I habitat is preserved inside the MHPA (PUD mitigation);
- 0.627 acre of Tier II or higher tiered habitat is preserved inside the MHPA (0.335 acre from PUD and 0.292 acre from TSW)

Per input from City PWD staff, all project mitigation will occur off site (S. Cochinwala, personal communication April 22, 2019). Mitigation for all PUD impacts to Tier I upland habitat (0.161 acre) and Tier II upland habitat (0.315 acre) will occur through credit purchases at the City's Otay (Goat Mesa) Mitigation Site and the City's Marron Mitigation Site, respectively.

Per input from City PWD staff, TSW cannot purchase PUD mitigation site credits except at the Stadium site. As such, mitigation for all TSW impacts to Tier II upland habitat (0.292 acre) will occur through payment into the City's Habitat Acquisition Fund (HAF) per San Diego Municipal Code § 143.0141(a)(1)(C). HAF monies are used to purchase lands within the MHPA and are collected by the City's Facilities Financing Division. The City currently charges $35,000 per acre purchased plus a 10% administration fee; however, note that the fee is revised periodically and may be different at time of payment than the amount noted herein.

Note that all lands impacted during construction will be revegetated with low-growing native species. Please refer to project landscape revegetation plans for additional information (Appendix F).

7.2 BIOLOGICAL RESOURCE PROTECTION DURING CONSTRUCTION

I. Prior to Construction

A. Biologist Verification -The owner/permittee shall provide a letter to the City's Mitigation Monitoring Coordination (MMC) section stating that a project Biologist (Qualified Biologist) as defined in the City of San Diego Biology Guidelines (2012), has been retained to implement the project's biological monitoring program. The letter shall include the names and contact information of all persons involved in the biological monitoring of the project.

B. Preconstruction Meeting - The Qualified Biologist shall attend the preconstruction meeting, discuss the project's biological monitoring program, and arrange to perform any follow up mitigation measures and reporting including site-specific monitoring, restoration or revegetation, and additional fauna/flora surveys/salvage.

C. Biological Documents - The Qualified Biologist shall submit all required documentation to MMC verifying that any special mitigation reports including but not limited to, maps, plans, surveys, survey timelines, or buffers are completed or scheduled per City Biology Guidelines, Multiple Species Conservation Program (MSCP), Environmentally Sensitive Lands Ordinance (ESL), project permit conditions; California Environmental Quality Act (CEQA); endangered species acts (ESAs); and/or other local, state or federal requirements.

D. BCME -The Qualified Biologist shall present a Biological Construction Mitigation/Monitoring Exhibit (BCME) which includes the biological documents in C above. In addition, include: restoration/revegetation plans, plant salvage/relocation requirements (e.g., coastal cactus wren plant salvage, burrowing owl exclusions, etc.), avian or other wildlife surveys/survey schedules (including general avian nesting and USFWS protocol), timing of surveys, wetland buffers, avian construction avoidance areas/noise buffers/ barriers, other impact avoidance areas, and any subsequent requirements determined by the Qualified Biologist and the City ADD/MMC. The BCME shall include a site plan, written and graphic depiction of the project's biological mitigation/monitoring program, and a schedule. The BCME shall be approved by MMC and referenced in the construction documents.

E. Avian Protection Requirements - To avoid any direct impacts to the coastal Calfiornia gnatcatcher and avian species identified as a listed, candidate, sensitive, or special status species in the MSCP, removal of habitat that supports active nests in the proposed area of disturbance should occur outside of the breeding season for these species (February 1 to September 15). If removal of habitat in the proposed area of disturbance must occur during the breeding season, the Qualified Biologist shall conduct a pre-construction survey to determine the presence or absence of nesting birds on the proposed area of disturbance. The pre-construction survey shall be conducted within 10 calendar days prior to the start of construction activities (including removal of vegetation). The applicant shall submit the results of the pre-construction survey to City Development Services Department for review and approval prior to initiating any construction activities. If nesting coastal Calfiornia gnatcatcher, sensitive, or MSCP-covered birds are detected, a letter report or mitigation plan in conformance with the City's Biology Guidelines and applicable state and federal law

(i.e., appropriate follow up surveys, monitoring schedules, construction and noise barriers/buffers, etc.) shall be prepared and include proposed measures to be implemented to ensure that take of birds or eggs or disturbance of breeding activities is avoided. The report or mitigation plan shall be submitted to the City for review and approval and implemented to the satisfaction of the City. The City's MMC Section and Qualified Biologist shall verify and approve that all measures identified in the report or mitigation plan are in place prior to and/or during construction.

F. Resource Delineation - Prior to construction activities, the Qualified Biologist shall supervise the placement of orange construction fencing or equivalent along the limits of disturbance adjacent to sensitive biological habitats and verify compliance with any other project conditions as shown on the BCME. This phase shall include flagging plant specimens and delimiting buffers to protect sensitive biological resources (e.g., habitats/flora & fauna species, including nesting birds) during construction. Appropriate steps/care should be taken to minimize attraction of nest predators to the site.

G. Education - Prior to commencement of construction activities, the Qualified Biologist shall meet with the owner/permittee or designee and the construction crew and conduct an on-site educational session regarding the need to avoid impacts outside of the approved construction area and to protect sensitive flora and fauna (e.g., explain the avian and wetland buffers, flag system for removal of invasive species or retention of sensitive plants, and clarify acceptable access routes/methods and staging areas, etc.).

II. During Construction

A. Monitoring- All construction (including access/staging areas) shall be restricted to areas previously identified, proposed for development/staging, or previously disturbed as shown on "Exhibit A" and/or the BCME. The Qualified Biologist shall monitor construction activities as needed to ensure that construction activities do not encroach into biologically sensitive areas, or cause other similar damage, and that the work plan has been amended to accommodate any sensitive species located during the pre-construction surveys. In addition, the Qualified Biologist shall document field activity via the Consultant Site Visit Record (CSVR). The CSVR shall be e-mailed to MMC on the 1st day of monitoring, the 1st week of each month, the last day of monitoring, and immediately in the case of any undocumented condition or discovery.

B. Subsequent Resource Identification – The Qualified Biologist shall note/act to prevent any new disturbances to habitat, flora, and/or fauna onsite (e.g., flag plant specimens for avoidance during access, etc). If active nests or other previously unknown sensitive resources are detected, al project activities that directly impact the resource shall be delayed until species specific local, state or federal regulations have been determined and applied by the Qualified Biologist.

III. Post Construction Measures

A. In the event that impacts exceed previously allowed amounts, additional impacts shall be mitigated in accordance with City Biology Guidelines, ESL and MSCP, State CEQA, and other applicable local, state and federal law. The Qualified Biologist shall submit a final BCME/report to the satisfaction of the City ADD/MMC within 30 days of construction completion.

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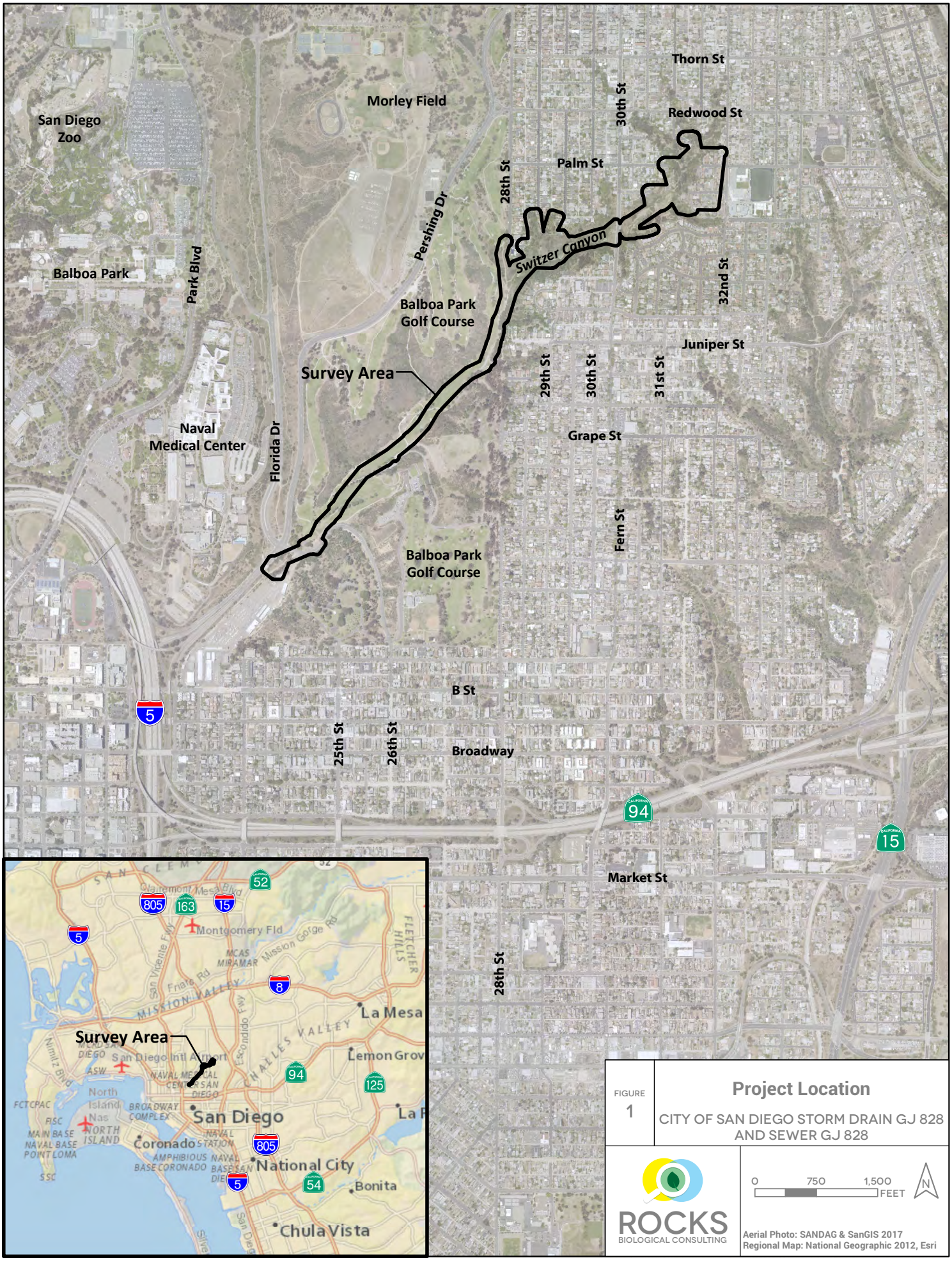


FIGURE 1

Project Location

CITY OF SAN DIEGO STORM DRAIN GJ 828 AND SEWER GJ 828

ROCKS BIOLOGICAL CONSULTING

0 750 1,500 FEET

N

Aerial Photo: SANDAG & SanGIS 2017
Regional Map: National Geographic 2012, Esri


Upas St
Thorn St
Morley Field
Redwood St
32nd St
Palm St
28th St
30th St
Nutmeg St
Pershing Dr
Switzer Canyon
Laurel St
Balboa Park
Golf Course
Juniper St
29th St
30th St
Fern St
31st St
Florida Dr
Grape St
Date St
26th St
Balboa Park
Golf Course
28th St
Golf Course Dr
Ash St
A St
25th St
B St
C St
MHPA
Existing City Utilities Access Path
Storm Drain Project
Existing Storm Drain to be Replaced
New Storm Drain - Open Cut Construction
New Storm Drain Easement
New Cleanout Manhole
Sewer Project
Existing Sewer Line to Remain
Existing Sewer Line to be Abandoned
Existing Sewer Line to be Replaced - Pipe Bursting
New Sewer Line - Trenchless Construction
New Sewer Line - Open Cut Construction
Existing Sewer Manhole
Existing Manhole to be Abandoned
Existing Manhole to be Removed
New Sewer Manhole
FIGURE 2
Project Components and MHPA
CITY OF SAN DIEGO STORM DRAIN GJ 828 AND SEWER GJ 828
ROCKS BIOLOGICAL CONSULTING
0 300 600 FEET
N
Aerial Photo: SANDAG & SanGIS 2017
Source: City of San Diego, IEC

Quince St
Palm St
Olive St
30th St
32nd St
Nutmeg St
Burlingame Dr
San Marcos Ave
West
10
8" Sewer
Headwall and Riprap
18" Storm Drain
Palm St
8" Sewer
8" Sewer
8" Sewer
12" Sewer
8" Sewer
Olive St
18" Storm Drain
Headwall and Riprap
8" Sewer
12" Sewer
2
3
10

Survey Area
Existing City Utilities Access Path
MHPA

Storm Drain Project
Existing Storm Drain to be Replaced
New Storm Drain - Open Cut Construction
New Storm Drain Easement
New Cleanout Manhole
Project Impacts - Storm Drain

Sewer Project
Existing Sewer Line to Remain
Existing Sewer Line to be Abandoned
Existing Sewer Line to be Replaced - Pipe Bursting
New Sewer Line - Trenchless Construction
New Sewer Line - Open Cut Construction
Existing Sewer Manhole
Existing Manhole to be Abandoned
New Sewer Manhole
Project Impacts - Sewer
Project Impacts - Sewer Access

Special-status Wildlife
Orange-throated whiptail

Special-status Plants
Bahiopsis laciniata
Iva hayesiana
Romneya coulteri

Vegetation Communities
Mule Fat Scrub
Southern Willow Scrub
Artemisia douglasiana
Unvegetated Channel
Diegan Coastal Sage Scrub
Diegan Coastal Sage Scrub - Revegetated
Chaparral/Coastal Sage Scrub
Eucalyptus Woodland
Ornamental
Disturbed Land
Ruderal
Developed

FIGURE 3a

Biological Resources and Impacts

CITY OF SAN DIEGO STORM DRAIN GJ 828 AND SEWER GJ 828

ROCKS BIOLOGICAL CONSULTING

0 75 150 FEET

N

Aerial Photo: SANDAG & SanGIS 2017
Source: IEC; City of San Diego, SanGIS;

Nutmeg St
Granada Ave
29th St
Date St
Nutmeg St
28th St
8" Sewer
18" Storm Drain
Headwall
and Riprap
15" Sewer
30th St
Laurel St
29th St
Kalmia St
Juniper St

Survey Area
Existing City Utilities Access Path

Storm Drain Project
Existing Storm Drain to be Replaced
New Storm Drain - Open Cut Construction
New Storm Drain Easement
New Cleanout Manhole
Project Impacts - Storm Drain

Sewer Project
Existing Sewer Line to Remain
Existing Sewer Line to be Abandoned
Existing Sewer Line to be Replaced - Pipe Bursting
New Sewer Line - Trenchless Construction
Existing Sewer Manhole
Existing Manhole to be Abandoned
Existing Manhole to be Removed
New Sewer Manhole
Project Impacts - Sewer
Project Impacts - Sewer Access

MHPA

Special-status Wildlife
Coastal California gnatcatcher
Cooper's hawk

Special-status Plants
Artemisia palmeri
Bahiopsis laciniata
Ceanothus verrucosus
Ferocactus viridescens
Iva hayesiana
Selaginella cinerascens

Vegetation Communities
Mule Fat Scrub
Southern Willow Scrub
Unvegetated Channel
Concrete Channel
Coast Live Oak Woodland
Scrub Oak Chaparral
Diegan Coastal Sage Scrub
Diegan Coastal Sage Scrub - Revegetated
Chaparral/Coastal Sage Scrub
Ornamental
Disturbed Land
Ruderal
Developed
Developed - Golf Course

FIGURE 3b

Biological Resources and Impacts

CITY OF SAN DIEGO STORM DRAIN GJ 828
AND SEWER GJ 828

ROCKS BIOLOGICAL CONSULTING

0 75 150 FEET

N

Aerial Photo: SANDAG & SanGIS 2017
Source: IEC; City of San Diego, SanGIS;

15" Sewer

28th St

BALBOA GC

Survey Area
Existing City Utilities Access Path
MHPA

Sewer Project

Existing Sewer Line to be Abandoned
Existing Sewer Line to be Replaced - Pipe Bursting
New Sewer Line - Trenchless Construction
Existing Sewer Manhole
Existing Manhole to be Abandoned
Existing Manhole to be Removed
New Sewer Manhole
Project Impacts - Sewer
Project Impacts - Sewer Access

Vegetation Communities

Coast Live Oak Woodland
Scrub Oak Chaparral
Chaparral/Coastal Sage Scrub
Ornamental
Ruderal
Developed - Golf Course

FIGURE 3c

Biological Resources and Impacts

CITY OF SAN DIEGO STORM DRAIN GJ 828 AND SEWER GJ 828

ROCKS BIOLOGICAL CONSULTING

0 75 150 FEET

N

Aerial Photo: SANDAG & SanGIS 2017
Source: IEC; City of San Diego, SanGIS;

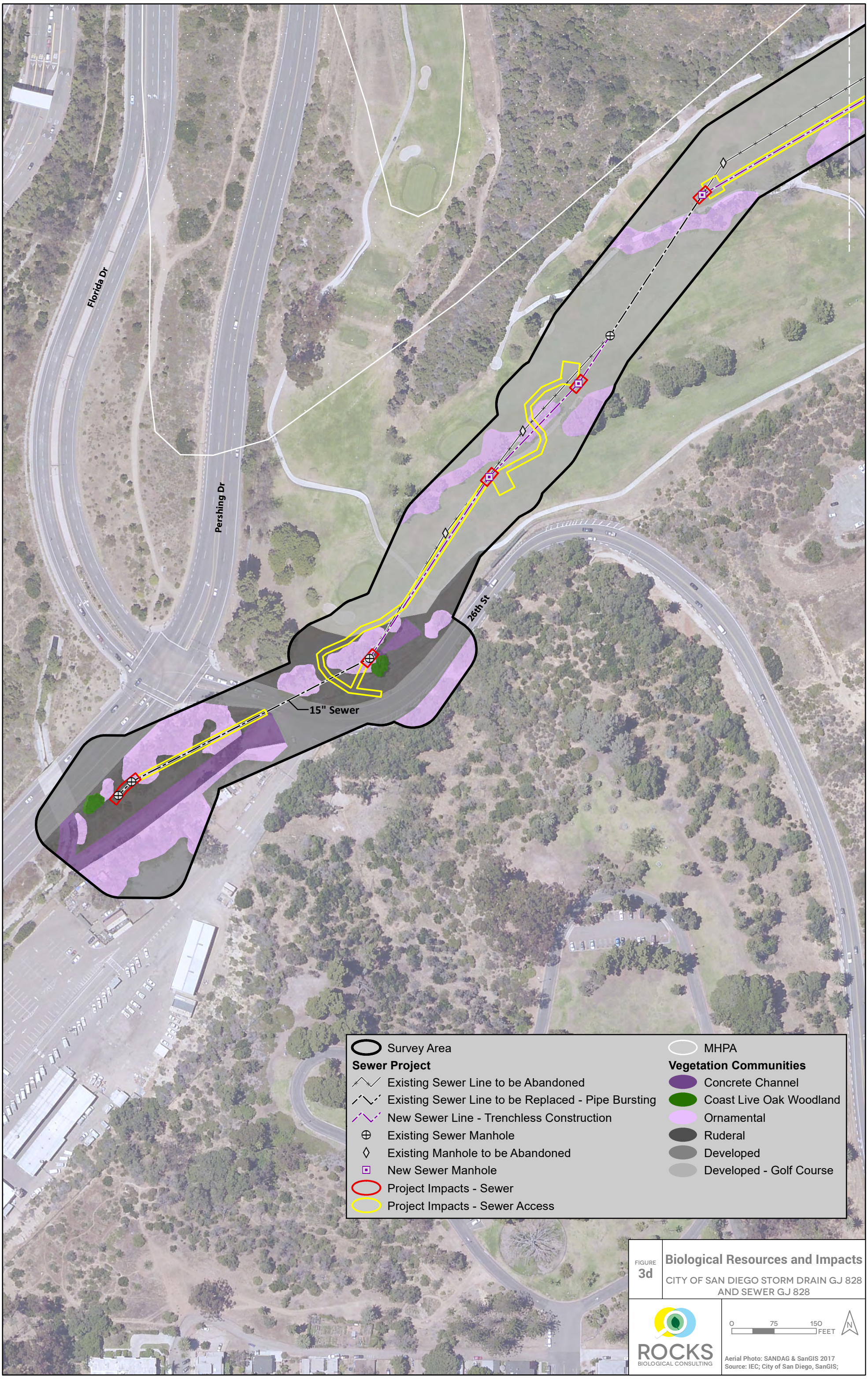


FIGURE 3d

Biological Resources and Impacts

CITY OF SAN DIEGO STORM DRAIN GJ 828 AND SEWER GJ 828

ROCKS BIOLOGICAL CONSULTING

0 75 150 FEET

N

Aerial Photo: SANDAG & SanGIS 2017
Source: IEC; City of San Diego, SanGIS;

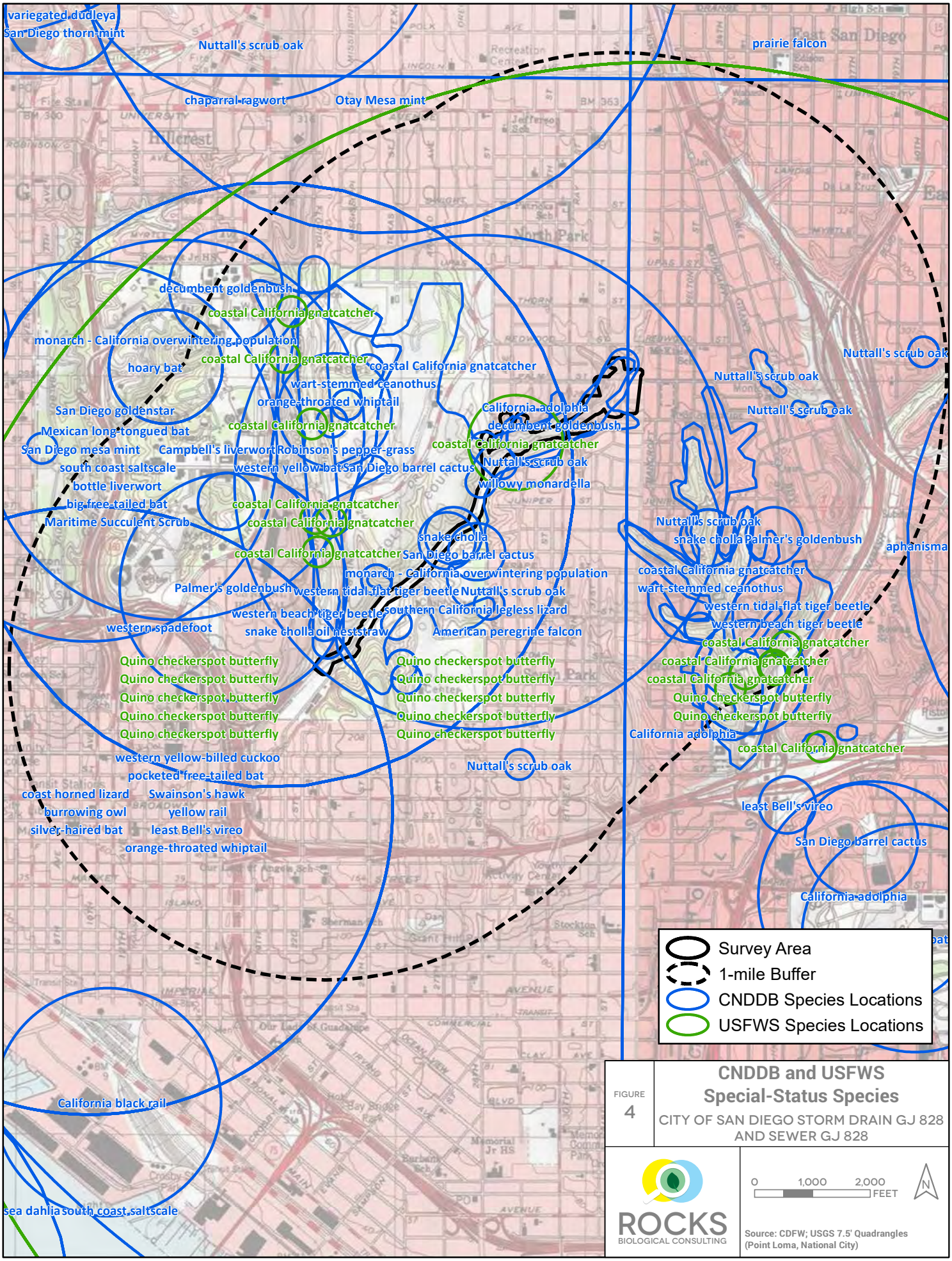


FIGURE 4

CNDDB and USFWS Special-Status Species

CITY OF SAN DIEGO STORM DRAIN GJ 828 AND SEWER GJ 828

ROCKS BIOLOGICAL CONSULTING

0 1,000 2,000 FEET

N

Source: CDFW; USGS 7.5' Quadrangles (Point Loma, National City)

APPENDIX A

SEWER AND STORM DRAIN
GROUP JOB 828 PROJECT SITE PHOTOS

Appendix A

Sewer and Storm Drain Group Job 828 Project Site Photos

Photo 1. View of Switzer Canyon and associated vegetation communities east of 30th Street facing northeast. June 13, 2017.

Photo 2. View of channel and associated vegetation, including a black willow (center; *Salix gooddingii*), at the base of Switzer Canyon facing southwest. June 13, 2017.

Photo 3. View of channel at the northwestern end of Switzer Canyon containing mule fat (*Baccharis salicifolia*) facing northeast. June 13, 2017.

Photo 4. View of *Artemisia douglasiana* vegetation community in the northeastern portion of Switzer Canyon facing northeast. June 13, 2017.

Photo 5. View of mule fat scrub vegetation within the Switzer Canyon channel south of Nutmeg Street facing west. June 13, 2017.

Photo 6. View of project study area on Balboa Park Golf Course and small streambed facing northwest. June 27, 2017.

Photo 7. View of concrete channel south of 28th Street and Maple Street, which passes through a private residence, facing south. June 27, 2017.

Photo 8. View of Balboa Golf Course (beyond fence) oak woodland, ornamental and ruderal vegetation communities at the southern end of the project study area facing north. February 20, 2018.

Photo 9. View of coast live oak woodland habitat adjacent to Balboa Park Golf Course facing southwest. August 17, 2018.

Photo 10. View of Balboa Golf Course and associated slope containing chaparral/coastal sage scrub and ornamental vegetation facing northeast. August 17, 2018.

Photo 11. View of the Open Space Multi Use trail and associated coastal sage scrub habitat within Switzer Canyon near Balboa Golf Course facing west. August 17, 2018.

Photo 12. View of Balboa Golf Course and adjacent coast live oak woodland (foreground) and eucalyptus woodland (background) habitats facing south. August 17, 2018.

Photo 13. View of eucalyptus woodlands and bare, developed soils adjacent to Burlingame Drive facing southwest. August 17, 2018.

Photo 14. View of the Switzer Canyon channel and associated coastal sage scrub habitat containing coyote brush (*Baccharis pillularis*) and California buckwheat (*Eriogonum fasciculatum*) facing southwest. August 17, 2018.

Photo 15. View of dense coastal sage scrub (front left) and scrub oak chaparral (back right) habitat lining slopes of Switzer Canyon west of 30th Street facing east. August 17, 2018.

Photo 16. View of coastal sage scrub (center foreground), scrub oak chaparral (background), and ornamental eucalyptus (back left) habitats within Switzer Canyon facing southeast. August 17, 2018.

Photo 17. View of bare soils within coastal sage scrub habitat where mesa spike-moss (*Selaginella cinerascens*) was documented facing northwest. August 17, 2018.

Photo 18. View of coastal sage scrub habitat (foreground) where coastal California gnatcatcher was observed, facing southwest. August 17, 2018.

APPENDIX B

PLANT SPECIES OBSERVED WITHIN THE PROJECT STUDY AREA

Appendix B

Plant Species Observed within the Project Study Area

Family	Scientific Name	Common Name
Aizoaceae	*Carpobrotus edulis**	Hottentot-Fig*
Anacardiaceae	*Malosma laurina*	Laurel sumac
Anacardiaceae	*Rhus integrifolia*	Lemonadeberry
Anacardiaceae	*Schinus molle**	Peruvian pepper tree*
Apiaceae	*Foeniculum vulgare**	Sweet fennel*
Arecaceae	*Phoenix canariensis**	Canary island date palm*
Asparagaceae	*Agave attenuata**	Lion's tail*
Asparagaceae	*Asparagus asparagoides**	Florist's smilax*
Asteraceae	*Ambrosia psilostachya*	Western ragweed
Asteraceae	*Artemisia californica*	Coastal sagebrush
Asteraceae	*Artemisia douglasiana*	Douglas mugwort
Asteraceae	*Artemisia palmeri* (CRPR 4.2)	Palmer's Sagewort (CRPR 4.2)
Asteraceae	*Baccharis pilularis*	Coyote brush
Asteraceae	*Baccharis salicifolia*	Mule-fat
Asteraceae	*Baccharis sarothroides*	Broom Baccharis
Asteraceae	*Carduus pycnocephalus**	Italian thistle*
Asteraceae	*Centaurea melitensis**	Tocalote*
Asteraceae	*Deinandra fasciculata*	Fascicled tarweed
Asteraceae	*Dittrichia graveolens**	Stinkwort*
Asteraceae	*Encelia californica*	California encelia
Asteraceae	*Erigeron bonariensis**	Flax-Leaf Fleabane*
Asteraceae	*Hazardia squarrosa* var. *grindelioides*	Sawtooth goldenbush
Asteraceae	*Hedypnois cretica**	Crete hydypnois*
Asteraceae	*Heterotheca grandiflora*	Telegraph Weed
Asteraceae	*Hypochaeris glabra**	Smooth cat's ear*
Asteraceae	*Iva hayesiana* (CRPR 2B.2)	San Diego marsh-elder (CRPR 2B.2)
Asteraceae	*Lactuca serriola**	Prickly lettuce*
Asteraceae	*Osmadenia tenella*	Osmadenia
Asteraceae	*Sonchus asper**	Prickly sow-thistle*
Asteraceae	*Viguiera laciniata* (CRPR 4.3)	San Diego County viguiera (CRPR 4.3)
Boraginaceae	*Eriodictyon crassifolium*	Felt-leaf yerba santa
Brassicaceae	*Hirschfeldia incana**	Short pod mustard*
Brassicaceae	*Raphanus sativus**	Wild radish*

Family	Scientific Name	Common Name
Brassicaceae	*Sisymbrium irio**	London rocket*
Cactaceae	*Cylindropuntia prolifera*	Coast cholla
Cactaceae	*Ferocactus viridescens* (CRPR 2B.1)	San Diego barrel cactus (CRPR 2B.1)
Cactaceae	*Opuntia ficus-indica**	Mission prickley-pear*
Cactaceae	*Opuntia oricola*	Chaparral prickly-pear
Caprifoliaceae	*Lonicera subspicata var. denudata*	Johnston's honeysuckle
Caryophyllaceae	*Polycarpon tetraphyllum* var. *tetraphyllum*	Four-leaf allseed
Caryophyllaceae	*Spergularia bocconi**	Boccone's sand-spurrey*
Chenopodiaceae	*Chenopodium murale**	Nettle leaf goosefoot*
Cleomaceae	*Peritoma arborea* var. *arborea*	Coast Bladderpod
Crassulaceae	*Crassula ovata**	Jade plant*
Crassulaceae	*Dudleya pulverulenta*	Chalk dudleya
Cucurbitaceae	*Marah macrocarpa*	Manroot, Wild-Cucumber
Cyperaceae	*Cyperus eragrostis*	Tall flatsedge
Euphorbiaceae	*Euphorbia maculata**	Spotted spurge*
Fabaceae	*Acacia* sp.*	Wattle*
Fabaceae	*Lathyrus vestitus* var. *alefeldii*	San Diego sweet pea
Fabaceae	*Medicago polymorpha**	California burclover*
Fagaceae	*Quercus × acutidens*	Torrey's scrub oak
Fagaceae	*Quercus agrifolia*	Coast live oak
Geraniaceae	*Geranium carolinianum*	Carolina geranium
Geraniaceae	*Pelargonium* sp.*	Geranium species*
Juncaceae	*Juncus bufonius*	Toad rush
Lamiaceae	*Marrubium vulgare**	Horehound*
Lamiaceae	*Saliva apiana*	White sage
Lamiaceae	*Salvia mellifera*	Black sage
Malvaceae	*Malacothamnus densiflorus*	Many-flower bushmallow
Malvaceae	*Malva parviflora**	Cheeseweed*
Malvaceae	*Malva sylvestris**	High mallow*
Myrsinaceae	*Lysimachia arvensis**	Scarlet pimpernel*
Myrtaceae	*Eucalyptus globulus**	Blue gum*
Onagraceae	*Oenothera elata*	Hooker's evening-primrose
Papaveraceae	*Romneya coulteri* (CRPR 4.2)	Coulter's Matilija poppy (CRPR 4.2)
Plantaginaceae	*Plantago lanceolata**	English plantain*

Family	Scientific Name	Common Name
Poaceae	*Arundo donax**	Giant reed*
Poaceae	*Bromus diandrus**	Ripgut grass*
Poaceae	*Bromus rubens**	Red brome*
Poaceae	*Festuca myuros**	Rat-tail fescue*
Poaceae	*Festuca perennis**	Perennial rye grass*
Poaceae	*Hordeum murinum**	Mediterranean barley*
Poaceae	*Paspalum dilatatum**	Dallis grass*
Poaceae	*Phalaris minor**	Little-seed canary grass*
Poaceae	*Stipa miliacea**	Smilo grass*
Polygonaceae	*Eriogonum fasciculatum* var. *fasciculatum*	Coast California buckwheat
Polygonaceae	*Rumex crispus**	Curly dock*
Portulacaeae	*Portulaca oleracea*	Common purslane
Rhamnaceae	*Ceanothus verrucosus* (CRPR 2B.2)	Wart-stem lilac (CRPR 2B.2)
Rhamnaceae	*Rhamnus crocea*	Spiny Redberry
Rosaceae	*Adenostoma fasciculatum*	Chamise
Rosaceae	*Heteromeles arbutifolia*	Toyon
Rosaceae	*Prunus illicifolia*	Holly-leaf cherry
Rosaceae	*Rosa californica*	California Rose
Rosaceae	*Rubus armeniacus**	Himalayan blackberry*
Salicaeae	*Salix exigua var. hindsiana*	Hind's willow
Salicaeae	*Salix gooddingii*	Goodding's black willow
Salicaeae	*Salix lasiolepis*	Arroyo Willow
Sapindaceae	*Acer* sp.	Maple species*
Scrophulariaceae	*Scrophularia californica*	California bee plant
Selaginellaceae	*Selaginella* cinerascens (CRPR 4.1)	Mesa Spike-Moss (CRPR 4.1)
Simaroubaceae	*Ailanthus altissima**	Tree-of-heaven*
Solanaceae	*Nicotiana glauca**	Tree Tobacco*
Solanaceae	*Solanum douglasii*	Douglas' nightshade
Steraceae	*Hypochaeris glabra**	Smooth cats ear*
Tropaeolaceae	*Tropaeolum majus**	Garden nasturtium*

** Non-native species*

CRPR: *California Native Plant Society (CNPS) California Rare Plant Ranking*

APPENDIX C

WILDLIFE SPECIES OBSERVED WITHIN THE PROJECT STUDY AREA

Appendix C

Wildlife Species Observed within the Project Study Area

Family	Common Name	Scientific Name
BUTTERFLIES		
Hesperiidae	fiery skipper	*Hylephila phyleus phyleus*
Lycaenidae	common gray hairstreak	*Strymon melinus pudica*
Lycaenidae	marine blue	*Leptotes marina*
Lycaenidae	western pygmy-blue	*Brephidium exilis*
Nymphalidae	monarch	*Danaus plexippus plexippus*
Nymphalidae	mourning cloak	*Nymphalis antiopa antiopa*
Nymphalidae	striated queen	*Danaus gilippus thersippus*
Pieridae	checkered white	*Pontia protodice*
Pieridae	Harford's sulphur	*Colias harfordii*
Pieridae	southwestern cloudless sulphur	*Phoebis sennae marcellina*
REPTILES		
Phrynosomatidae	side-blotched lizard	*Uta stansburiana*
Phrynosomatidae	western fence lizard	*Sceloporus occidentalis*
BIRDS		
Accipitridae	Cooper's hawk (WL; nesting) †	*Accipiter cooperii*
Accipitridae	red-shouldered hawk	*Buteo lineatus*
Accipitridae	red-tailed hawk	*Buteo jamaicensis*
Aegithalidae	bushtit	*Psaltriparus minimus*
Apodidae	white-throated swift	*Aeronautes saxatalis*
Columbidae	mourning dove	*Zenaida macroura*
Columbidae	rock pigeon*	*Columba livia**
Corvidae	American crow	*Corvus brachyrhynchos*
Corvidae	California scrub-jay	*Aphelocoma californica*
Corvidae	common raven	*Corvus corax*
Fringillidae	house finch	*Haemorhous mexicanus*
Fringillidae	lesser goldfinch	*Spinus psaltria*
Icteridae	hooded oriole	*Icterus cucullatus*
Mimidae	California thrasher	*Toxostoma redivivum*
Mimidae	northern mockingbird	*Mimus polyglottos*
Parulidae	orange-crowned warbler	*Oreothlypis celata*
Parulidae	yellow-rumped warbler	*Setophaga coronata*
Passerellidae	California towhee	*Melozone crissalis*
Passerellidae	dark-eyed junco	*Junco hyemalis*
Passerellidae	song sparrow	*Melospiza melodia*
Passerellidae	spotted towhee	*Pipilo maculatus*
Passerellidae	white-crowned sparrow	*Zonotrichia leucophrys*
Picidae	Nuttall's woodpecker	*Picoides nuttallii*
Polioptilidae	blue-gray gnatcatcher	*Polioptila caerulea*

Family	Common Name	Scientific Name
Polioptilidae	coastal California gnatcatcher (FT, SSC)	*Polioptila californica californica*
Psittacidae	parrot/parakeet species	*Psittacidae* sp.
Regulidae	ruby-crowned kinglet	*Regulus calendula*
Sylviidae	wrentit	*Chamaea fasciata*
Trochilidae	Allen's hummingbird	*Selasphorus sasin*
Trochilidae	Anna's hummingbird	*Calypte anna*
Trochilidae	Costa's hummingbird	*Calyptae costae*
Troglodytidae	Bewick's wren	*Thryomanes bewickii*
Troglodytidae	House wren	*Troglodytes aedon*
Turdidae	hermit thrush	*Catharus guttatus*
Turdidae	western bluebird	*Sialia mexicana*
Tyrannidae	black phoebe	*Sayornis nigricans*
Tyrannidae	Cassin's kingbird	*Tyrannus vociferans*
Tyrannidae	Pacific-slope flycatcher	*Empidonax difficilis*
Tyrannidae	Say's phoebe	*Sayornis saya*
Vireonidae	Hutton's vireo	*Vireo huttoni*
MAMMALS		
Sciuridae	eastern gray squirrel*	*Sciurus carolinenesis**

FT: *Endangered Species Act (ESA) Federally Threatened Species*

SSC: *California Department of Fish and Wildlife (CDFW) Species of Special Concern*

WL: *California Department of Fish and Wildlife (CDFW) Watch List Species*

* *Non-native Species*

† *Species not observed nesting by RBC*

APPENDIX D

FIELDWORK DATES AND TIMES

Appendix D

Fieldwork Dates and Times

Personnel	Task	Date	Time (Start-End)	Temp (°F)	Cloud Cover (%)	Wind Range (MPH)
LR, MR	vegetation mapping, jurisdictional delineation, general bio survey	06/13/2017	0815-1615	63-73	0-5	0-2; 0-2
LR, SS	jurisdictional delineation, general bio survey	06/27/2017	0815-1345	74-76	0-0	2-3; 1-3
LR	vegetation mapping, general bio survey	06/29/2017	0800-1100	64-68	100-40	2-4; 1-3
CT, MA	nesting bird survey	02/20/2018	0930-1345	52-61	0-0	2-3; 0-3
CT	geotechnical exploration monitoring	02/21/2018	0800-1345	46-64	30-20	0-1; 1-3
CT	geotechnical exploration monitoring	02/22/2018	0800-1440	48-54	60-100	0-1; 2-4
CT	geotechnical exploration monitoring	02/23/2018	0800-1340	50-55	50-15	0-2; 7-14
BB, CT	vegetation mapping, general bio survey	08/17/2018	0800-1100	72-82	100-0	0-1; 1-2

Personnel: BB=Brenda Bennett, CT=Chris Thomson, LR=Lee Ripma, MA=Monica Alfaro, MR=Melanie Rocks, SS=Shanti Santulli

APPENDIX E

PREPARER QUALIFICATIONS SUMMARY

Appendix E

Preparer Qualifications Summary

Preparer Qualifications Summary

Melanie Rocks, M.S.
Principal & Senior Project Manager

Ms. Rocks co-owns Rocks Biological Consulting and serves as regulatory specialist, project manager, and biologist for the firm. Melanie Rocks holds a Master of Science degree in environmental science and has nearly 20 years of experience in environmental regulation and biological science in Southern California. Prior to joining Rocks Biological Consulting, Melanie served as the lead biologist for the City of San Diego's Multiple Species Conservation Program (MSCP). Melanie reviewed development projects for conformance with City biological regulations and served on a working group that revised the City's wetland regulations (implemented in 2012). She performed a Citywide vernal pool inventory and oversaw revisions to the MSCP monitoring programs. Melanie is well-versed in local, state, and federal environmental regulations and regularly interacted with agency staff in her capacity as a biologist and planner. She also has extensive experience preparing California Environmental Quality Act (CEQA) documents and holds a USFWS 10(a) recovery permit for the all California fairy shrimps and the Quino checkerspot butterfly.

Lee Ripma, M.S.
Biology Team Lead

Ms. Ripma holds a Master of Science degree in evolutionary biology and has nine years of experience working as a biological consultant in Southern California. Lee performs floristic surveys with an emphasis on the identification of special-status plant species and conducts protocol surveys for endangered plant species. Ms. Ripma holds a USFWS 10(a) recovery permit for the coastal California gnatcatcher, all California fairy shrimps, and the Quino checkerspot butterfly. Lee has extensive experience leading special-status species surveys for alternative energy projects, transportation projects, and private development projects. Lee prepares technical documents for compliance with state and federal environmental regulations, including the California Environmental Quality Act (CEQA), National Environmental Policy Act (NEPA), the Endangered Species Act (ESA), the Clean Water Act (CWA), and local environmental laws.

Shanti Santulli, M.S.
Regulatory Team Lead

Shanti serves as senior regulatory specialist for RBC. Prior to joining the company, Shanti served as a project manager and team lead with the U.S. Army Corps of Engineers Regulatory Division where she developed extensive knowledge of federal and state environmental regulations. She has over ten years of experience in aquatic resource permitting and delineations in Southern California and has frequently coordinated on permitting and compliance matters with all major federal and state regulatory agencies.

Christopher Thomson, B.S.
Associate Biologist

Chris serves as an associate biologist for Rocks Biological Consulting and holds a Bachelor of Science degree in environmental science. Mr. Thomson is conducts surveys for avian species including the federally endangered least Bell's vireo and the special-status burrowing owl and assists USFWS-permitted biologists in surveys for the federally threatened coastal California gnatcatcher. Mr. Thomson is proficient in southern California ecology and physical geography, with experience conducting ecological surveys using various survey protocols; performs biological monitoring and vegetation mapping; conducts nesting bird surveys; and aids clients in the preparation of technical reports for compliance with federal, state, and local environmental laws and regulations.

APPENDIX F

REVEGETATION PLAN

GENERAL REVEGETATION NOTES:

1. REVEGETATION OF THE PROJECT AREA SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE CITY OF SAN DIEGO WHITEBOOK, LANDSCAPE STANDARDS, AND SEWER DESIGN GUIDELINES.
2. REVEGETATION OF THE SITE WILL INCLUDE TREATMENT AND REMOVAL OF NON NATIVE VEGETATION, APPLICATION OF NATIVE SEED MIX HYDROSEED SLURRY, INSTALLATION OF NATIVE CONTAINER PLANTINGS, SUPPLEMENTAL IRRIGATION, AND LONG TERM MAINTENANCE.
3. THESE PLANS ARE TO BE USED AS A GENERAL GUIDE WITH THE FINAL LAYOUT TO BE DETERMINED ON SITE BY THE PROJECT BIOLOGIST.
4. ALL EROSION CONTROL MEASURES (I.E. JUTE NETTING, STRAW WADDLES, GRAVEL BAGS) WILL BE INSTALLED IMMEDIATELY FOLLOWING THE COMPLETION OF CONSTRUCTION ACTIVITIES. REVEGETATION ACTIVITIES SUCH AS INSTALLATION OF CONTAINER PLANTS, HYDROSEED APPLICATION, AND TEMPORARY IRRIGATION SHOULD BE CONDUCTED DURING THE RAINY SEASON (OCTOBER TO APRIL) FOLLOWING COMPLETION OF CONSTRUCTION ACTIVITIES.
5. CONTRACTOR SHALL REPAIR AND/OR REPLACE ALL ABOVE GROUND EROSION CONTROL BMP'S DAMAGED DURING THE 120 PEP AND 25 MONTH MAINTENANCE AND MONITORING PERIOD. ANY ABOVE GRADE EROSION CONTROL MEASURES OR BMP'S SHALL BE REMOVED BY THE CONTRACTOR AND AS DIRECTED BY THE PROJECT BIOLOGIST FOLLOWING ACCEPTANCE OF THE 25 MONTH MAINTENANCE AND MONITORING PERIOD BY CITY REPRESENTATIVE AND PROJECT BIOLOGIST.
6. CONTRACTOR SHALL REMOVE ALL TRASH AND/OR DEBRIS FROM THE REVEGETATION SITE PRIOR TO AND FOLLOWING THE REVEGETATION INSTALLATION, AND UNTIL THE END OF THE 25 MONTH MAINTENANCE AND MONITORING PERIOD.
7. ORANGE CONSTRUCTION FENCE (OR IF IN A WILDLIFE AREA, A YELLOW ROPE BARRIER AS DIRECTED BY THE RE) SHALL BE INSTALLED TO PREVENT UNAUTHORIZED ACCESS TO THE PROJECT AREA. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE FENCE/BARRIER THROUGHOUT THE DURATION OF THE PROJECT
8. PARK AND RECREATION DEPARTMENT OPEN SPACE STAFF SHALL BE INVITED TO QUARTERLY SITE INSPECTIONS, MUST BE PRESENT AT THE FINAL INSPECTION, AND MUST APPROVE THE PROJECT PRIOR TO FINAL ACCEPTANCE. PLEASE CONTACT THE OPEN SPACE SENIOR PLANNER, PAUL KILBURG, AT (619) 685-1327.

SITE PREPARATION:

1. NON-NATIVE SPECIES CURRENTLY OCCUPYING REVEGETATION AREAS SHALL BE REMOVED OR TREATED WITH HERBICIDE PRIOR TO INSTALLATION OF NATIVE PLANT MATERIAL. THE CONTRACTOR SHALL COORDINATE WITH THE PROJECT BIOLOGIST REGARDING IDENTIFICATION OF EXOTIC WEED SPECIES TO BE REMOVED/TREATED.
2. IF EROSION CONTROL MATERIALS SUCH AS SILT FENCING AND FIBER ROLLS REMAIN ON SITE PRIOR TO PLANTING, THEY MUST BE IN A SERVICEABLE CONDITION PRIOR TO THE RESTORATION IMPLEMENTATION AND SHOULD REMAIN IN PLACE. IF THEY ARE DEGRADED HOWEVER, THEY SHOULD BE REPLACED PRIOR TO PLANTING AND HYDROSEEDING THE AREA, AND SHALL REMAIN UNTIL VEGETATION HAS BEEN ESTABLISHED.
3. EXISTING ACCESS PATHS MUST REMAIN INTACT AFTER CONSTRUCTION. REVEGETATION IS NOT NECESSARY IF MULCH PROVIDES ADEQUATE EROSION CONTROL ON THE PATH. IF ANY REVEGETATION OF THE ACCESS PATH DOES OCCUR, USE LOW GROWING NATIVE SEED MIX. (SEE SHEET LT-2 FOR LOCATION)
4. AREAS THAT WILL BE HYDROSEEDED OR HAND SEEDED MUST CLEARED OF LOOSE ROCKS AND DEBRIS PRIOR TO SEED APPLICATION. COMPACTED SOIL SURFACES SHOULD BE SCARIFIED TO A DEPTH BETWEEN 0.25" 0.50" FOR INCREASED SOIL CONTACT AND SEED BEDDING.

SUPPLEMENTAL IRRIGATION SYSTEM:

1. TEMPORARY IRRIGATION VIA IRRIGATION LINES (OR ALTERNATE METHOD APPROVED BY R.E. AND PROJECT BIOLOGIST) SHALL BE PROVIDED BY THE CONTRACTOR FOR A PERIOD SUFFICIENT TO ESTABLISH PLANT MATERIAL AND TO PROVIDE VEGETATIVE COVER THAT PREVENTS SOIL EROSION. METHODS OF TEMPORARY IRRIGATION SHALL BE TESTED IN THE PRESENCE OF PROJECT BIOLOGIST AND/OR CITY REPRESENTATIVE TO ENSURE FULL IRRIGATION COVERAGE AND PROPER OPERATION BY THE SYSTEM AND CONTRACTOR.
2. THE AMOUNT OF IRRIGATION MUST BE ADJUSTED WHEN WARRANTED BY SITE CONDITIONS. PROJECT BIOLOGIST AND CONTRACTOR SHALL MONITOR SOIL MOISTURE TO DETERMINE SUCCESS AND ANY ADDED REQUIREMENTS OR MODIFICATIONS FOR TEMPORARY IRRIGATION.
3. IRRIGATION SHALL BE PERFORMED IN A LOW VOLUME, VARYING SPRAY PATTERN THAT AVOIDS RUNOFF, SEEPAGE, AND OVERSPRAY ONTO ADJACENT PROPERTIES, NON-IRRIGATED AREAS, OR ADJACENT NATIVE OR NON-NATIVE VEGETATION.
4. THE WATER DELIVERY RATE SHALL BE MATCHED TO THE SLOPE GRADIENT AND THE PERCOLATION RATE OF THE SOIL.
5. IRRIGATION SHALL DELIVER WATER SUFFICIENTLY AND UNIFORMLY AND SHALL BE APPROPRIATE TO THE NEEDS OF THE PLANT MATERIALS. OVERWATERING AS EVIDENCED BY SOGGY SOILS, STANDING WATER, RUNOFF, EROSION OR OTHER SIMILAR CONDITIONS SHALL BE MANAGED AND PREVENTED BY THE CONTRACTOR.
6. REPAIRS TO THE IRRIGATION SYSTEM DUE TO VANDALISM OR ANY OTHER REASON SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
7. IRRIGATION SHALL BE DISCONTINUED PRIOR TO THE END OF THE 25 MONTH MAINTENANCE AND MONITORING PERIOD OR EARLIER, AS DIRECTED BY THE PROJECT BIOLOGIST.
8. AFTER FINAL 25 MONTH SUCCESS CRITERIA ARE MET AND THE MITIGATION AND MONITORING PROGRAM HAS BEEN SIGNED OFF, ALL ABOVE GRADE COMPONENTS OF THE IRRIGATION SYSTEM SHALL BE CAREFULLY REMOVED FROM THE SITE WITHOUT ADVERSLY IMPACTING ADJACENT NATIVE VEGETATION.

SEED MIXES:

1. ALL SEEDS SHALL MEET THE MINIMUM % PURE LIVE SEED AS NOTED IN TABLES. IF MINIMUM % PURE LIVE SEED COUNT CANNOT BE MET CONTRACTOR TO COORDINATE AND OBTAIN WRITTEN APPROVAL FROM THE PROJECT BIOLOGIST FOR ALTERNATIVE COMPLIANCE.
2. ALL SEEDS SHALL ORIGINATE FROM WITHIN A 25 MILE RADIUS OF THE COAST AND PROJECT SITE OR CONTRACTOR TO PROVIDE EVIDENCE THAT THE SEED IS NOT AVAILABLE AND NOTIFY THE CITY REPRESENTATIVE AND THE PROJECT BIOLOGIST FOR ALTERNATIVE COMPLIANCE.
3. ALL AREAS WHERE MINOR GROUND DISTURBANCE OCCURRED AS THE RESULT OF ABANDONMENT ACTIVITIES (MANHOLE AND CONCRETE REMOVAL), SHALL BE HAND SEEDED WITH THE DIEGAN COAST SAGE SCRUB SEED MIX. SEED MIX SHALL BE HAND BROADCASTED AND RAKED INTO DISTURBED SOILS.

HYDROSEEDING PROCEDURES:

1. AREAS TO BE HYDROSEEDED SHALL INCLUDE ALL AREAS IDENTIFIED ON THE REVEGETATION PLANS AND ALL AREAS IMPACTED BY THE CONTRACTOR DURING ABANDONMENT WORK. AREAS WHERE MINOR GROUND DISTURBANCE OCCURRED (LESS THAN 25 SQUARE FEET) MAY BE HAND SEEDED, PER THE DISCRETION OF THE PROJECT BIOLOGIST.
2. HYDROSEEDING SHALL OCCUR ONLY AFTER THE PROJECT BIOLOGIST HAS OBSERVED AND APPROVED THAT THE SITE HAS BEEN PROPERLY PREPARED.
3. HYDROSEED SLURRY SHALL BE APPLIED AT THE RATES SHOWN ON THE PLANS OR AS DIRECTED BY THE PROJECT BIOLOGIST.
4. EQUIPMENT USED FOR THE APPLICATION OF SLURRY SHALL HAVE A BUILT-IN AGITATION SYSTEM TO SUSPEND AND HOMOGENEOUSLY MIX THE SLURRY. THE SLURRY MIX SHALL BE DYED GREEN. THE EQUIPMENT MUST HAVE A PUMP CAPABLE OF APPLYING SLURRY UNIFORMLY.

CONTAINER PLANT PROCEDURES:

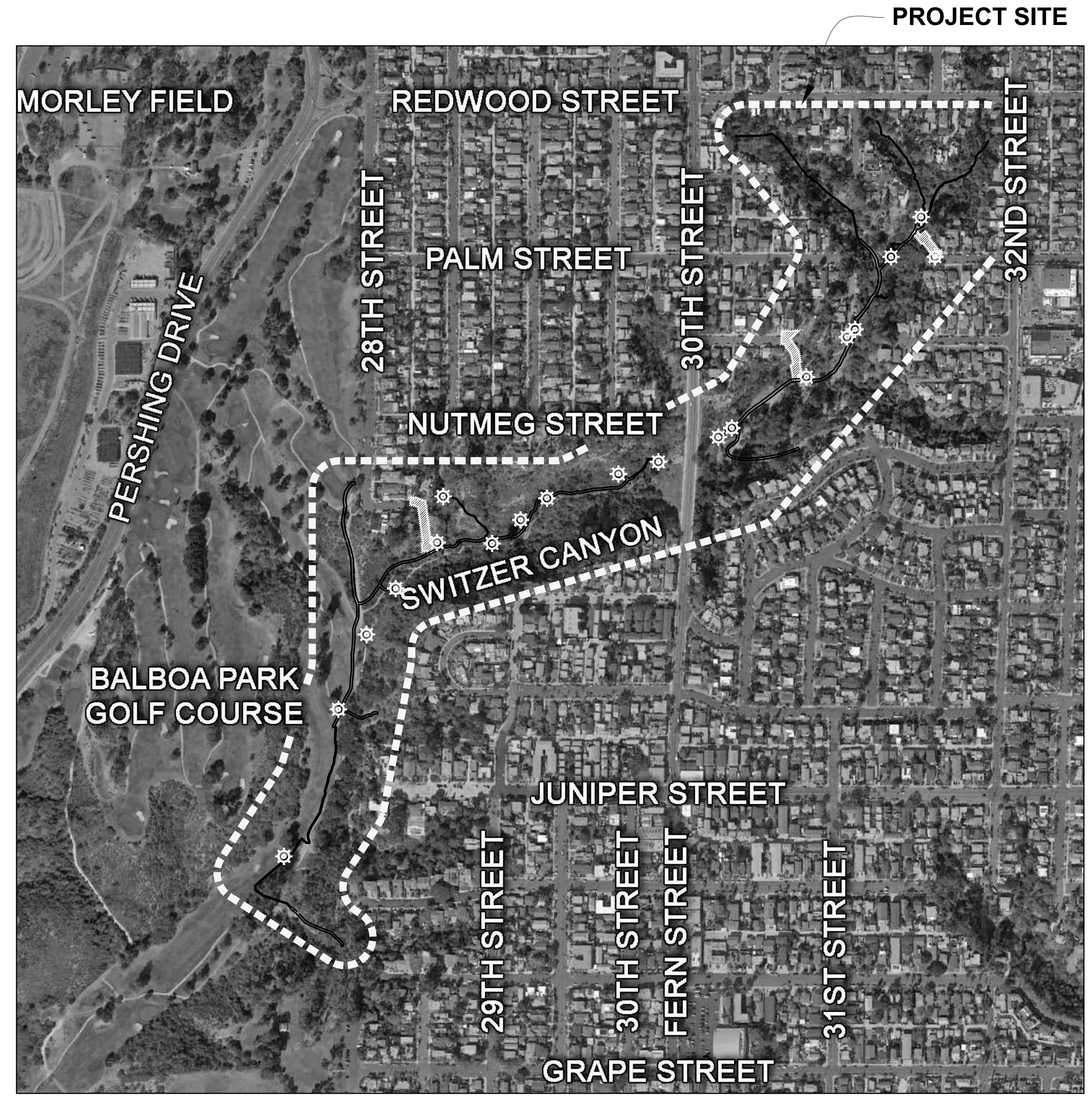
1. CONTAINER PLANTS SHALL BE PROCURED FROM A NURSERY QUALIFIED TO PROPAGATE AND CARE FOR NATIVE PLANT SPECIES. SOURCE FOR ANY NATIVE CONTAINER PLANT MATERIALS SHALL ORIGINATE WITHIN A 25-MILE RADIUS OF THE SAN DIEGO COAST AND/OR PROJECT SITE, OR AS DETERMINED BY THE PROJECT BIOLOGIST.
2. CONTAINER PLANT MATERIAL MUST BE DELIVERED TO THE PROJECT SITE AT THE APPROPRIATE TIME AND IN A HEALTHY AND VIGOROUS CONDITION. THE PROJECT BIOLOGIST WILL REJECT PLANT MATERIAL DELIVERED PRIOR TO ITS PLANTING DATE. SPECIMENS SHOWING EVIDENCE OF DISEASE, MISHANDLING, DEFECTS OR DAMAGE, OVER OR UNDER WATERING, OR OTHER DEFICIENCY AT THE TIME OF DELIVERY WILL BE REJECTED.
3. CONTAINER PLANTS WILL BE PLACED BY THE CONTRACTOR FOR THE REVIEW AND APPROVAL BY THE PROJECT BIOLOGIST IN THE REVEGETATION AREAS. CONTAINER PLANTS SHALL BE ARRANGED BY THE CONTRACTOR IN A NATURALLY RANDOM MANNER, OBSERVING MINIMUM SPACING AS INDICATED IN THE PLANTING PALETTE.
4. PLANTING PITS FOR CONTAINER PLANTS SHALL BE APPROXIMATELY 1.5 TIMES AS DEEP AND 3 TIMES AS WIDE AS THE CONTAINER SIZE. ALL PLANTING PITS SHALL BE FILLED WITH WATER AND ALLOWED TO COMPLETELY DRAIN PRIOR TO PLANT INSTALLATION. AFTER THE PLANTING PITS HAVE BEEN PRESOAKED, THE CONTRACTOR SHALL BACKFILL THE HOLE TO THE APPROPRIATE PLANTING DEPTH AND SET PLANTS IN THE CENTER OF THE HOLE, BACKFILL THE HOLE, AND THOROUGHLY APPLY MORE WATER.
5. THE HOLE SHALL BE BACKFILLED WITH AN EQUAL COMBINATION OF NATIVE SOIL AND WEED FREE TOPSOIL, AND AN EARTHEN WATERING BASIN SHALL BE CREATED IN A TWO FOOT DIAMETER AROUND EACH ROOTBALL. THE PLANT SHALL THEN BE WATERED IN BY HAND IMMEDIATELY AFTER PLANTING.

MAINTENANCE REQUIREMENTS:

1. THE 120 DAY PEP WILL BE BEGIN FOLLOWING SUCCESSFUL COMPLETION OF REVEGETATION INSTALLATION AND ACCEPTANCE BY THE CITY REPRESENTATIVE.
2. THE MAINTENANCE PERIOD BEGINS FOLLOWING COMPLETION AND ACCEPTANCE OF THE 120 DAY PEP AND MAY BE EXTENDED AT THE DETERMINATION OF THE CITY REPRESENTATIVE. REVEGETATION AREA SHALL BE MAINTAINED FOR A PERIOD OF NOT LESS THAN 25 MONTHS (TABLE 2). ALL REVEGETATED AREAS SHALL BE MAINTAINED BY THE CONTRACTOR UNTIL FINAL APPROVAL BY THE CITY.
3. PRIOR TO FINAL APPROVAL, THE CITY REPRESENTATIVE MAY REQUIRE CORRECTIVE ACTION INCLUDING BUT NOT LIMITED TO RE SEEDING AND THE REPAIR OF ANY SOIL EROSION OR SLOPE SLIPPAGE, IN CONSULTATION WITH THE PROJECT BIOLOGIST.
4. WEEDING AND/OR HERBICIDE APPLICATION SHALL BE DONE REGULARLY BY THE CONTRACTOR. WEEDING SHALL BE DONE AT A MINIMUM OF BIWEEKLY UNTIL THE END OF THE 120 DAY PEP, AND MONTHLY THROUGHOUT THE 25 MONTHS OF MAINTENANCE.
5. CONTRACTOR SHALL CONTROL WEEDS AS IDENTIFIED BY THE PROJECT BIOLOGIST SUCH THAT NO WEED COVER EXCEEDS 5% OF THE PROJECT SITE, BEFORE THEY EXCEED TWELVE INCHES (6") IN HEIGHT, AND BEFORE THEY SET SEED. IN ADDITION, THERE WILL BE 0% NON NATIVE INVASIVE WEED COVER THROUGHOUT THE DURATION OF THE PROJECT. INVASIVE WEEDS ARE IDENTIFIED IN THE CITY LANDSCAPE GUIDELINES AS INVASIVE PLANT SPECIES OR RATED BY THE CALIFORNIA INVASIVE PLANT COUNCIL (CAL-IPC) AS HIGHLY INVASIVE.

BRUSH MANAGEMENT REQUIREMENTS:

1. REVEGETATION AREAS WITHIN 100 FEET OF HABITABLE STRUCTURES (I.E. BRUSH MANAGEMENT ZONES) NEED TO BE MARKED IN THE FIELD PRIOR TO PLANT INSTALLATION. WITHIN THESE AREAS, BRUSH MANAGEMENT REQUIREMENTS SHALL BE IMPLEMENTED.
2. THE CONTRACTOR IS RESPONSIBLE FOR PERFORMING BRUSH MANAGEMENT ACTIVITIES FOR ALL REVEGETATION AREAS WITHIN THE BRUSH MANAGEMENT ZONE.



LOCATION MAP - NOT TO SCALE

TABLE 1: SUCCESS CRITERIA*

	Performance Standard			
	Percent Cover Native Vegetation	*Percent Cover Nonnative Vegetation*		*Container Plant Survival*
		Herbaceous	CAL-IPC Listed Species	
Year 1	25	<10	0	100
Year 2 (25-Month)	50	<5	0	80
Access paths See Sheet LT-2	No percent cover criteria	No erosion		

*FINAL SUCCESS CRITERIA MAY BE LOWERED BY BIOLOGIST IF NATURAL SITE CONDITIONS PREVENT THE ESTABLISHMENT OF VEGETATION

TABLE 2: SUMMARY AND SCHEDULE FOR MAINTENANCE, MONITORING, AND REPORTING FOR PROJECT

Period	Contractor Responsibilities	Project Biologist Responsibilities	Reporting and Submittals
Installation	Contractor is responsible for preparation of site, implementation of the revegetation plan, and installation of container plants and seed as shown on the plans or as directed by the Project Biologist.	Project Biologist is responsible for monitoring installation, as needed, to ensure successful installation and implementation of the revegetation plan.	Project Biologist to submit memo to City Representative within 7 days of installation completion. Contractor to notify MMC.
120 Day PEP	Contractor is responsible for all necessary maintenance (watering, weed abatement, replacement planting, maintain BMP's) to ensure establishment of vegetation and site remains erosion free. Maintenance activities shall occur as-needed, but not less than bi-weekly.	Project Biologist is responsible for monitoring revegetation and providing maintenance recommendations. Monitoring shall occur bi-weekly for the first two months, then monthly thereafter.	Contractor to notify MMC prior to the completion of the 120 Day PEP for site inspection. Project Biologist to submit monitoring memo to City Representative following each site visit and completion memo within 7 days of completion.
25 Month Maintenance and Monitoring	Contractor is responsible for all necessary maintenance (watering, weed abatement, replacement planting, maintain BMP's) to meet success criteria. Maintenance activities shall occur as-needed, but not less than monthly.	Project Biologist is responsible for monitoring revegetation and providing maintenance recommendations. Monitoring shall occur quarterly.	Project Biologist to submit monitoring memo to City Representative. Prior to completion of the 25 Month, Contractor to contact MMC for final site visit. Project Biologist to submit final memo within 14 days of completion of the 25 Month monitoring period.

TABLE 3: CONTAINER PLANTS *

Species	Common Name	Unit Size	Quantity[3]
Diegan Coastal Sage Scrub			
ACMISPON GLABER VAR. GLABER	COASTAL DEERWEED	1-GALLON	205
BAHIOPSIS LACINIATA (VIGUIERA LACINATA)	SAN DIEGO SUN FLOWER	1-GALLON	206
CEANOTHUS VERRUCOSUS	WART STEMMED CEANOTHUS	5-GALLON	28
ENCELIA CALIFORNICA	CALIFORNIA ENCELIA	1-GALLON	215
ERIOGONUM FASCICULATUM	CALIFORNIA BUCKWHEAT	1-GALLON	61
FEROCACTUS VIRIDESCENS	SAN DIEGO BARREL CACTUS	1-GALLON	72
MIMULUS PUNICEUS	MONKEY FLOWER	1-GALLON	103
SALVIA APIANA [1]	WHITE SAGE	1-GALLON	62
Total			952

(1) DO NOT INSTALL THESE SPECIES WITHIN THE BRUSH MANAGEMENT ZONE
(2) THESE SPECIES MUST BE INSTALLED AT THE SPACING REQUIRED BY THE BRUSH MANAGEMENT REQUIRMENTS: A. CALIFORNICA – 10 FEET.
(3) THIS IS THE TOTAL NUMBER OF PLANTS ESTIMATED FOR THE ENTIRE SITE.
★ ADD:

IVA HAYESIANA	SAN DIEGO MARSH ELDER	1-GALLON	18

AT STORM DRAIN OUTFALLS PER DETAIL.

TABLE 4: HYDROSEED SEED PALETTE*

Species	Common Name	Density Lbs./Acre	Minimum PLS/LB.
Diegan Coastal Sage Scrub - Seed Mix			
AMBROSIA PSILOSTACHYA	WESTERN RAGWEED	3	244,720
DEINANDRA FASCICULATA	CLUSTERED TARWEED	0.5	131,200
ENCELIA CALIFORNICA	CALIFORNIA ENCELIA	4	48,045
ERIOPHYLLUM CONFERTIFLORUM	GOLDEN YARROW	1	743,750
ESCHSCHOLZIA CALIFORNICA	CALIFORNIA POPPY	1	234,000
FESTUCA MICROSTACHYS	THREE WEEK FESCUE	4	294,300
LASTHENIA CALIFORNICA	GOLDFIELDS	1	1,750,000
LUPINUS SUCCULENTUS	ARROYO LUPINE	3	12,000
MIMULUS PUNICEUS	MONKEY FLOWER	0.5	158,400
SISYRINCHIUM BELLUM	BLUE-EYED GRASS	2	240,000
STIPA (NASSELLA) PULCHRA	PURPLE NEEDLE GRASS	1.5	80,250
Total:		58 lbs./acre	

★ ADDITIONAL SEED FOR STORM DRAIN OUTFALLS SHOWN ON THE PLANS.

JUNCUS BUFONIUS *	TOAD RUSH	DR	DR
SISYRINCHIUM BELLUM *	BLUE-EYED GRASS	2# ADDITIONAL	240,000

TABLE 5: HYDRO SLURRY COMPONENTS

PRODUCT	
YUCCA EXTRACT	6 GALS./ACRE
SUPERTHRIVE™	2 OZ./100 GAL. SLURRY
FERTILIZER - TRI-C 6-2-4	500 LBS./ACRE
FLEXTERRA HP-FGM	2,000 LBS./ACRE
MYCO - DRENCH BY TRI-C	2 OZ./100 GAL. SLURRY
FLOWABLE GYPSUM	400 LBS./ACRE

SEE ALSO SHEET LP-4 FOR SPECIAL PLANTING DETAILS AND NOTES

LT–1

SEWER AND STORM DRAIN GROUP 828

RE-VEGETATION PLAN

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET OF 10 SHEETS

STORM DRAIN WBS B–16155
SEWER WBS B–00434

CONSULTANT

DAVID REED LANDSCAPE ARCHITECTS
3585 FIFTH AVENUE, SUITE 100 SAN DIEGO, CALIFORNIA 92103
(619) 239-3300 / www.drasla.com

LICENSED LANDSCAPE ARCHITECT DAVID REED #1362 STATE OF CALIFORNIA
Signature 9-30-21 Renewal Date 3-4-20 Date

APPROVED:
FOR CITY ENGINEER — DATE
ANDREA DEMICH, P.E. — C70321
PRINT DCE NAME — RCE#

SUBMITTED BY: SABEEN COCHINWALA, PROJECT MANAGER
CHECKED BY: VALERY POLYAK, PROJECT ENGINEER

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	XXX			

CCS27 COORDINATE
CCS83 COORDINATE

CONTRACTOR — DATE STARTED
INSPECTOR — DATE COMPLETED

39884– X –D

100% DESIGN

EXISTING CITY UTILITIES ACCESS PATHS, TYPICAL, THIS SYMBOL, SEE ALSO SHEET LT-1

APPROXIMATE MHPA BOUNDARY, SEE PLANTING AND IRRIGATION PLANS FOR PRECISE LOCATION.

APPROXIMATE LOCATION OF 15 FT X 30 FT DISTURBED AREAS AT MANHOLES. RE-VEGETATE PER DETAIL C, SHEET LP-1, AND ALL NOTES AND SPECIFICATIONS.

NORTH

LT-2

SEWER AND STORM DRAIN GROUP 828

RE-VEGETATION KEY MAP

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET OF 10 SHEETS

STORM DRAIN WBS B-16155
SEWER WBS B-00434

SUBMITTED BY: SABEEN COCHINWALA, PROJECT MANAGER

APPROVED: FOR CITY ENGINEER ANDREA DEMICH, P.E. (PRINT DCE NAME) DATE C70321 (RCE#)

CHECKED BY: VALERY POLYAK, PROJECT ENGINEER

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	XXX			

CCS27 COORDINATE

CCS83 COORDINATE

CONTRACTOR

INSPECTOR

DATE STARTED

DATE COMPLETED

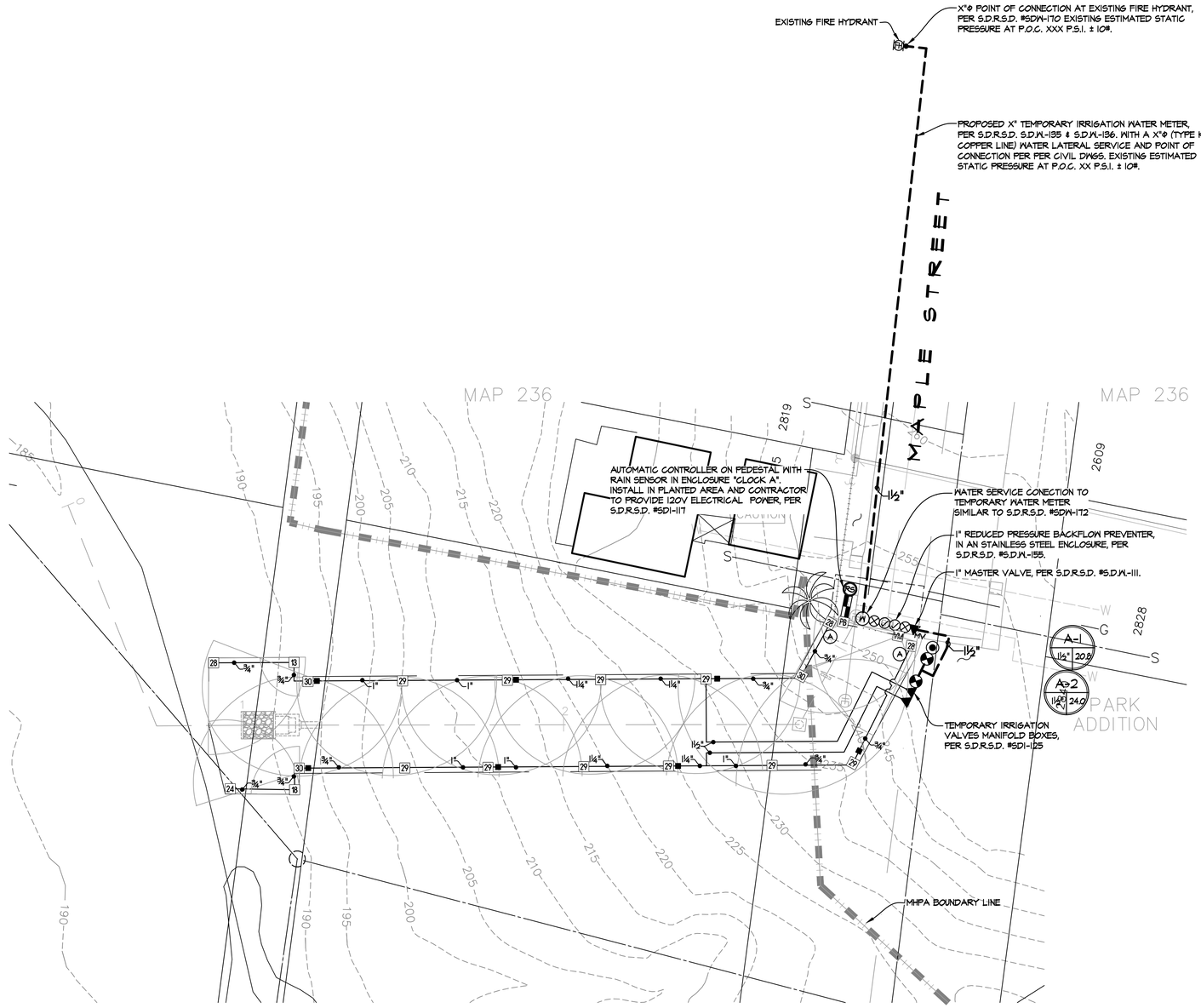
39884- -D

CONSULTANT

DAVID REED LANDSCAPE ARCHITECTS
3585 FIFTH AVENUE, SUITE 100 SAN DIEGO, CALIFORNIA 92103
(619) 239-3300 / www.dralo.com

LICENSED LANDSCAPE ARCHITECT — DAVID REED 1787 — Registered 4-30-21 — Renewal Date — Date 2-4-20 — STATE OF CALIFORNIA

100% DESIGN



TEMPORARY IRRIGATION NOTES AND DETAILS, PER CITY OF SAN DIEGO LANDSCAPE STANDARDS AND SAN DIEGO REGIONAL STANDARD DRAWINGS.
FOR IRRIGATION LEGEND SEE SHEET X-D.
FOR IRRIGATION NOTES, SUPPLEMENTAL NOTES AND DETAILS, SEE SHEET X-D.
FOR STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION SEE "THE GREENBOOK" 2015 EDITION AND SUPPLEMENTALS.

NOTE: PLAN IS DIAGRAMMATIC.
LOCATE MAIN, LATERAL LINE AND VALVES INSIDE PLANTED AREA.
SLEEVE ALL IRRIGATION PIPE AND WIRING WHICH RUNS UNDER ANY PAVEMENT, TYPICAL.

TEMPORARY IRRIGATION SHALL BE MAINTAINED FOR A MINIMUM OF 25 MONTHS OR UNTIL THE OPINION OF THE PROJECT BIOLOGIST AND THE GOAL OF THE MMRP IS MET.

0 10 20 40
SCALE: 1"=20'-0"

NORTH

L1-1

SEWER AND STORM DRAIN GROUP 828
AT MAPLE STREET
TEMPORARY IRRIGATION PLAN

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET OF 10 SHEETS

STORM DRAIN WBS B-16155
SEWER WBS B-00434

SUBMITTED BY: SABEEN COCHINWALA PROJECT MANAGER
CHECKED BY: VALERY POLYAK PROJECT ENGINEER

APPROVED:
FOR CITY ENGINEER ANDREA DEMICH, P.E.
PRINT DCE NAME
DATE C70321
RCE#

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	XXX			

CCS27 COORDINATE
CCS83 COORDINATE

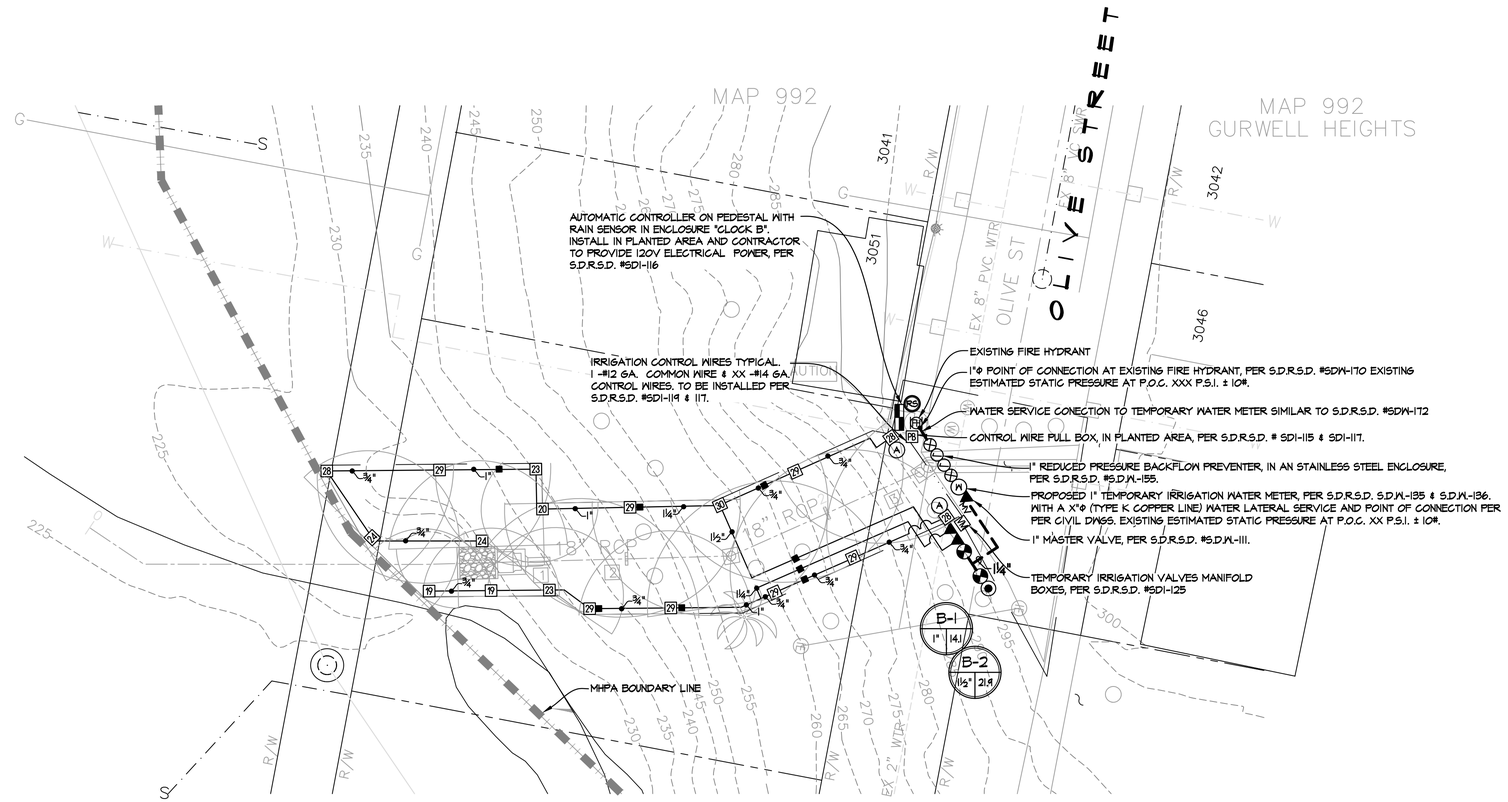
CONTRACTOR DATE STARTED
INSPECTOR DATE COMPLETED

39884- -D

CONSULTANT
DAVID REED LANDSCAPE ARCHITECTS
3585 FIFTH AVENUE, SUITE 100 SAN DIEGO, CALIFORNIA 92103
(619) 229-3300 / www.drasla.com

LICENSED LANDSCAPE ARCHITECT DAVID REED FIRTH Signature 4-30-21 Renewal Date 3-4-20 Date STATE OF CALIFORNIA

100% DESIGN



TEMPORARY IRRIGATION NOTES AND DETAILS, PER CITY OF SAN DIEGO LANDSCAPE STANDARDS AND SAN DIEGO REGIONAL STANDARD DRAWINGS.
FOR IRRIGATION LEGEND SEE SHEET X-D.
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NORTH
0 5 10 20
SCALE: 1"=20'-0"

LI-2

SEWER AND STORM DRAIN GROUP 828
AT OLIVE STREET

TEMPORARY IRRIGATION PLAN

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET OF 10 SHEETS

STORM DRAIN WBS B-16155
SEWER WBS B-00434

CONSULTANT
DAVID REED LANDSCAPE ARCHITECTS
3585 FIFTH AVENUE, SUITE 100 SAN DIEGO, CALIFORNIA 92103
(619) 239-3300 / www.drasla.com

LICENSED LANDSCAPE ARCHITECT DAVID REED 7186 Signature 4-30-21 Renewal Date 3-4-20 Date STATE OF CALIFORNIA

APPROVED:
FOR CITY ENGINEER ANDREA DEMICH, P.E.
PRINT DCE NAME
DATE
RCE# C70321

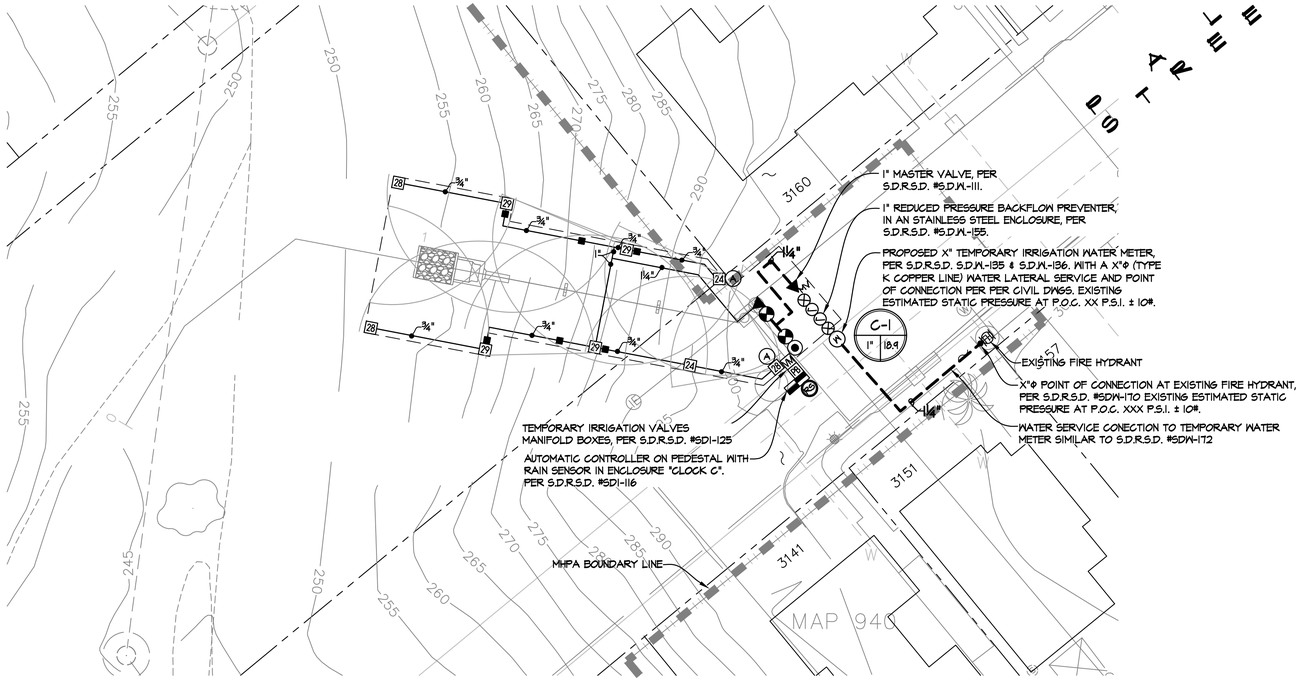
DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	XXX			

SUBMITTED BY: SABEEN COCHINWALA PROJECT MANAGER
CHECKED BY: VALERY POLYAK PROJECT ENGINEER
CCS27 COORDINATE
CCS83 COORDINATE

CONTRACTOR
INSPECTOR
DATE STARTED
DATE COMPLETED

39884- -D

100% DESIGN



0 10 20 40

SCALE: 1"=20'-0"

NORTH

LI-3

TEMPORARY IRRIGATION NOTES AND DETAILS, PER CITY OF SAN DIEGO LANDSCAPE STANDARDS AND SAN DIEGO REGIONAL STANDARD DRAWINGS.
FOR IRRIGATION LEGEND SEE SHEET X-D.
FOR IRRIGATION NOTES, SUPPLEMENTAL NOTES AND DETAILS, SEE SHEET X-D.
FOR STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION SEE "THE GREENBOOK" 2015 EDITION AND SUPPLEMENTALS.

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SEWER AND STORM DRAIN GROUP 828
AT PALM STREET
TEMPORARY IRRIGATION PLAN

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET OF 10 SHEETS

STORM DRAIN WBS B-16155
SEWER WBS B-00434

APPROVED:
FOR CITY ENGINEER
ANDREA DEMICH, P.E.
PRINT DCE NAME
DATE
RCE# C70321

SUBMITTED BY: SABEEN COCHINWALA PROJECT MANAGER
CHECKED BY: VALERY POLYAK PROJECT ENGINEER

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	XXX			

CCS27 COORDINATE
CCS83 COORDINATE

CONTRACTOR
INSPECTOR
DATE STARTED
DATE COMPLETED

39884- -D

CONSULTANT
DAVID REED LANDSCAPE ARCHITECTS
3585 FIFTH AVENUE, SUITE 100 SAN DIEGO, CALIFORNIA 92103
(619) 239-3300 / www.drasla.com

LICENSED LANDSCAPE ARCHITECT DAVID REED 2369 Signature 4-30-21 Renewal Date 3-4-20 Date STATE OF CALIFORNIA

100% DESIGN

IRRIGATION LEGEND

SIM.	MFGR	DESCRIPTION	MODEL	NOTES	S.D.R.S.D DETAIL
⊕	HUNTER	POP UP BODY SPRAY	PROS-12-PRS-40-CV	TOP FLUSH W/ GRADE. USE 12" POP-UPS IN PLANTED AREAS, INSTALL 24" AWAY FROM DRIVEWAY/ ROAD, PER DETAIL	# SDI-103
#	RAINBIRD	SHRUB ADAPTER BODY	PROS-00-PRS-40	TOP OF SPRAY AND ROTOR SHALL BE 12" HEIGHT, SIMILAR (BUT ON GRADE) TO S.D.R.S.D.	# SDI-101
	V.I.T.	SPRINKLER STABILIZER	SS-18	STAKES SHALL BE INSTALLED SO AS NOT TO CREATE A SAFETY HAZARD.	
	VALCON	EXCESS FLOW VALVE	ADV-XS	1" SIZE, FOR ALL POP-UPS & RISERS, PER DETAILS IF THE ELEVATION CHANGE IS LESS THAN 13', IF MORE, INSTALL ON RISER OF ALL SPRINKLERS DOWNHILL FROM VALVE THAT ARE 13 FT. OR GREATER IN ELEVATION CHANGE ONLY.	# SDI-101 & SDI-103
	ALT. ITEM KBI / NDS	ADJUSTABLE IN-LINE SPRING CHECK VALVE	CV-1000-FF		
▼	RAINBIRD	REMOTE CONTROL VALVE	100-EFB-CP-R #30-421	SIZE PER PLAN, INSTALL IN PLASTIC VALVE BOX WITH UV INHIBITORS LID, ID TAG VALVE & HOT BRAND BOX LID WITH "RCV", OR CLOCK & STATION, PER SPECS AND DETAIL	# SDI-114
	DIG	SOLENOID ADAPTER			
⊗	CHAMPION	GLOBE VALVE	100RS SERIES	VALVE SIZE AS MANIFOLD MAINLINE SIZE, 1" SIZE FOR QUICK COUPLER, INSTALL IN PLASTIC VALVE BOX, HOT BRAND BOX LID WITH "BV", PER DETAIL	# SDI-106
◉	RAINBIRD	QUICK COUPLER	44-LRC	1" VALVE SIZE AND 1" SUPPLY LINE, INSTALL IN PLASTIC VALVE BOX WITH UV INHIBITORS LID, ID VALVE & BOX LID "QC", PER SPECIFICATIONS AND DETAIL	# SDI-105
VM	NDS	TEMPORARY IRRIGATION VALVES MANIFOLD BOXES	RCV-318BCB BV -314BCB QCV-312BCB	VALVE BOXES FOR ALL TEMPORARY IRRIGATION RCV, MANIFOLD ISOLATION VALVES & Q.C. SHALL BE PERPENDICULAR TO HARDSCAPE WHERE OCCURS AND FLUSH W/ FINISHED GRADE, FOR B.V. BOX LIDS ON SLOPE SHALL BE MARKED "EMERGENCY SHUT OFF" & PER DETAIL	# SDI-125
▼VM	GRISWOLD	MASTER VALVE	2160 SERIES	1" SIZE (STRAIGHT), NORMALLY OPEN VALVE, INSTALL IN CONCRETE VALVE BOX WITH IRON LID, ID TAG VALVE & BOX, PER SPECIFICATIONS AND DETAIL	# SDI-111
	DIG	SOLENOID ADAPTER	#30-421		
	BROOKS	CONCRETE BOX	#3-HL / #3TL	WHERE DETAIL REFERENCE CONCRETE BOX W/ IRON LID SHALL BE MARKED APPROPRIATELY PER NOTES	
⊗⊗⊗⊗		REDUCED PRESSURE BACKFLOW PREVENTER DEVICE IN	825YA	SIZE PER PLAN, LOCATE IN PLANTING AREA PER PLAN AND PER DETAIL	#SDW-155
	FEBCO STRONG BOX	STAINLESS STEEL ENCLOSURE	SBBC SERIES	REDUCED PRESSURE BACKFLOW PREVENTER ENCLOSURE, PER DETAIL	#SDW-155
M	ANY APPROVED	WATER METER	ANY APPROVED	SIZE PER CIVIL'S PLANS WATER METER PROVIDED AND INSTALLED BY THE CITY. WATER SERVICE PER CIVIL'S PLANS W.M. SHALL BE INSTALLED IN POLYMER CONC. METER BOX & PER DETAILS	#SDW-150, 134, & 136,
A	NETAFIM	AIR VACUUM RELIEF VALVE	TLAVRV	INSTALL AT HIGHEST POINT OF LATERAL WHERE SHOWN, INSTALL IN PLASTIC VALVE BOX WITH LID HOT BRANDED "AR" PER PLAN AND PER DETAIL	# SDI-128

SIM.	MFGR	DESCRIPTION	MODEL	NOTES	S.D.R.S.D DETAIL
■	HUNTER	ADJUSTABLE CHECK VALVE	¾" HCV	INSTALL IN-LINE, IN CORRECT DIRECTION ADJUST PRESSURE REGULATION AS NECESSARY (PRE-SET WITH 12 LBS.) FINE TUNE ON-SITE UP TO 31' OF ELEVATION CHANGE PER MFR'S SPECS AS NEEDED AND PER DETAIL	A LI-5
	DIG	SOLAR AUTOMATIC CONTROLLERS, PEDESTAL MOUNT	LEIT-4004-ENCL400-S-MCOL4000L	INSTALL ON A PEDESTAL ENCLOSURE (PROVIDE 12" DEEP CONCRETE FOOTING) PROVIDE RAIN SENSOR IN VANDAL RESISTANT ENCLOSURE, AND ADAPTER, INSTALL PER MANUFACTURERS SPECS AND PER DETAIL	# SDI-116
RS	RAINBIRD	RAIN SENSOR	RSD		
	ANY APPROVED	PVC LATERAL LINE	PVC SCH. 40-UVR	TO BE INSTALLED ON-GRADE AND SECURED WITH HOOKED STAKES AT EVERY 10' AND AT TEE. PER S.D.S.D. WHERE MAINLINE TO BE INSTALL IN PLANTINS AREA ADJACENT TO THE EDGE OF WALKWAY PAVINS, OR CURB WHERE OCCURS, INSTALL MAINLINE AT THE FOLLOWING DEPTHS:	# SDI-120 & #SDI-123
	V.I.T.	PIPE STABILIZER	PS-18		
	V.I.T.	SPRINKLER STABILIZER	SS-18		
	ANY CITY APPROVED	PVC MAIN LINE	PVC SCH. 40-UVR	USE PVC PIPE "SCH. 40" TO BE INSTALLED ON-GRADE CONDITIONS AND SECURED WITH HOOKED STAKES AT EVERY 10' AND AT TEE. PER S.D.S.D. WHERE MAINLINE TO BE INSTALLED IN PLANTING AREA ADJACENT TO THE EDGE OF WALKWAY PAVINS, CURB DIRT ALLEYS WHERE OCCURS. INSTALL MAINLINE AT THE FOLLOWING DEPTHS: • 18"-21" DEEP UNDER PLANTING & 30"-36" DEEP IN SLEEVE UNDER VEHICULAR PAVEMENT, WHERE OCCURS, PER 2.4-2 TABLE 4 PIPE DEPTHS THE LANDS. STDS & DETAIL	# SDI-120 & #SDI-123 # SDI-110 # SDI-110
	V.I.T.	PIPE STABILIZER	PS-18		
			PVC SCH. 40		
	ANY CITY APPROVED 3M	CONTROL WIRE CONNECTORS	SCOTCH LOCK 3570 OR APPROVED EQ.	INSTALL UNDER MAINLINE, PER NOTES & DETAIL PROVIDE SAMPLE OF CONTROL WIRE CONNECTORS	# SDI-115 & # SDI-116
PB	BROOKS	IRRIGATION WIRING PULLBOX	#3-HL / #3TL	LOCATE IN PLANTING AREA, PER PLAN AND NOTES, INSTALL IN CONCRETE BOX AND PER STD. DETAIL	# SDI-115 & # SDI-116

A-7 — CONTROL VALVE SPRINKLER ZONE #
16.7 — GALLONS PER MINUTE
1" — SIZE OF REMOTE

FOR CITY APPROVED MATERIAL LIST, SEE APPENDIX D OF THE C.S.D.M.C. LANDSCAPE STANDARDS

IRRIGATION LEGEND

SIM.	MFGR	DESCRIPTION	MODEL	PSI	RAD	GPM	NOTES	DETAIL
	HUNTER	MP ROTATOR					**USE PROS-00-PRS-40** FOR SHRUB BODY RISER, PER DETAILS	# SDI-101
		6'-12" ADJ. ARC						
1		90°	MP800-SR-90	40	10'	.23		
2		180°		40	10'	.42		
3		210°		40	10'	.44	FIELD INSTALLED DRAIN	
4		360°	MP800-SR-360	40	10'	.78	CHECK VALVE MOD.# ¾"HCV	
		8'-16' ADJ. ARC						
5		90°	MP815-90	40	15'	.48	**USE PROS-06-PRS-40-CV-F** POP UP BODY FOR ALL SHRUB AREAS ADJACENT TO WALKS, PER DETALS	# SDI-103
6		180°		40	15'	.93		
7		210°	MP815-210	40	15'	1.10		
8		270°		40	15'	1.40		
9		360°	MP815-360	40	15'	1.87		
		8'-15' CORNER ADJ.	MPCORNER					
10		45°		40	14'	.19		
11		90°		40	14'	.34		
12		105°		40	14'	.45		
		8'-15' ADJ. ARC						
13		90°	MP1000-90	40	14'	.19		
14		180°		40	14'	.37		
15		210°	MP1000-210	40	14'	.48		
16		270°		40	14'	.57		
17		360°	MP1000-360	40	14'	.75		
		13'-21" ADJ. ARC						
18		90°	MP2000-90	40	20'	.40		
19		180°		40	20'	.74		
20		210°	MP2000-210	40	20'	.86		
21		270°		40	20'	1.10		
22		360°	MP2000-360	40	20'	1.47		
		22'-30' ADJ. ARC						
23		90°	MP3000-90	40	30'	.86		
24		180°		40	30'	1.82		
25		210°	MP3000-210	40	30'	2.12		
26		270°		40	30'	2.73		
27		360°	MP3000-360	40	30'	3.64		
		30'-35' ADJ. ARC						
28		90°	MP3500-90	40	35'	1.28		
29		180°		40	35'	2.86		
30		210°		40	35'	3.29		
		STRIP PATTERN						
31		LEFT CORNER	MPLCS-515	40	5'X15'	0.22		
32		SIDE STRIP	MPSS-530	40	5'X15'	0.44		
33		RIGHT CORNER	MPRCS-515	40	5'X30'	0.22		
		TREE SUPPLEMENTAL						
34		ROOT ZONE WATER	RZWS-10-50-CV	30	-	0.50		# SDI-104
35			RZWS-10-25-CV					

TEMPORARY IRRIGATION NOTES AND DETAILS, PER CITY OF SAN DIEGO LANDSCAPE STANDARDS AND SAN DIEGO REGIONAL STANDARD DRAWINGS.
FOR IRRIGATION NOTES, SUPPLEMENTAL NOTES AND DETAILS, SEE SHEET X-D.
FOR STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION SEE "THE GREENBOOK" 2015 EDITION AND SUPPLEMENTALS.

LI-4

SEWER AND STORM DRAIN GROUP 828

TEMPORARY IRRIGATION LEGEND

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET OF 10 SHEETS

STORM DRAIN WBS B-16155
SEWER WBS B-00434

APPROVED:
FOR CITY ENGINEER ANDREA DEMICH, P.E.
PRINT DCE NAME
DATE
RCE# C70321

SUBMITTED BY: SABEEN COCHINWALA PROJECT MANAGER
CHECKED BY: VALERY POLYAK PROJECT ENGINEER

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	XXX			

CCS27 COORDINATE
CCS83 COORDINATE

CONTRACTOR
INSPECTOR
DATE STARTED
DATE COMPLETED

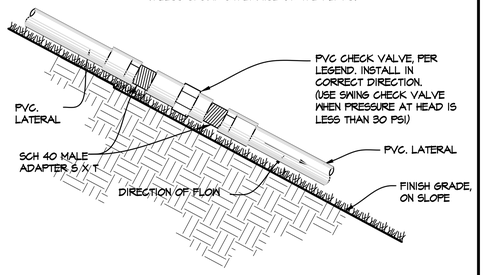
39884- -D

CONSULTANT
DAVID REED LANDSCAPE ARCHITECTS
3585 FIFTH AVENUE, SUITE 100 SAN DIEGO, CALIFORNIA 92103
(619) 239-3300 / www.draska.com

LICENSED LANDSCAPE ARCHITECT — DAVID REED TRUE — STATE OF CALIFORNIA
Signature 9-30-21 Renewal Date 9-4-20 Date

100% DESIGN

NOTE:
LOCATE CHECK VALVE IMMEDIATELY ADJACENT TO A SPRINKLER HEAD, UNLESS SHOWN OTHERWISE ON THE PLANS.



ANTI-DRAIN (CHECK) VALVE

NOT TO SCALE

A

IRRIGATION NOTES

S.C.I CITY SAN DIEGO NOTE: ALL IRRIGATION IMPROVEMENTS ARE TO BE INSTALLED AS SHOWN ON THE PLANS AND IN ACCORDANCE WITH THE CRITERIA AND STANDARDS OF THE CITY-WIDE LANDSCAPE REGULATIONS AND THE CITY OF SAN DIEGO LAND DEVELOPMENT MANUAL LANDSCAPE STANDARDS AND ALL OTHER LANDSCAPE RELATED CITY AND REGIONAL STANDARDS AS OF THE APPROVED DATE OF THESE PLANS.

1. CONTRACTOR SHALL INSTALL IRRIGATION SYSTEMS THAT ARE COMPLETE AND FUNCTIONING IN EVERY WAY.

2. PLANS ARE PRECISE, AND YET DIAGRAMMATIC. PRECISE LOCATION OF HEADS SHALL BE FIELD ADJUSTED TO MEET MINOR VARIATIONS IN PLAN.

3. CONTRACTOR SHALL CHECK AND VERIFY ALL SITE CONDITIONS, UTILITIES, AND SERVICES PRIOR TO TRENCHING.

4. CONTRACTOR SHALL CHECK AND VERIFY WATER PRESSURE OF 84 PSI ± 10# AT C STREET POINT OF CONNECTION (P.O.C.) FOR SYSTEM CLOCK 'A' AND 54 PSI ± 10# AT FEDERAL BLVD INTERSECTION POINT OF CONNECTION (P.O.C.) FOR SYSTEM CLOCK 'B', PRIOR TO BEGINNING OF WORK. NOTIFY LANDSCAPE ARCHITECT OF ANY DISCREPANCY.

5. POINT OF CONNECTION (P.O.C.) SHALL BE AT NEW 1" TEMPORARY IRRIGATION WATER METERS PER CIVIL'S PLANS, SEE PLANS FOR LOCATIONS. CONTRACTOR TO PROVIDE A NEW 1" REDUCED PRESSURE BACKFLOW PREVENTERS FOR THIS PROJECT.

6. IN-LINE WIRE SPLICES SHALL BE MADE ONLY IN FULL BOXES, OR PLASTIC VALVE BOXES, WITH WATERPROOF SEALING PACKETS.

7. CONTRACTOR SHALL BE RESPONSIBLE FOR SLEEVES AND CHASES UNDER PAVING, THROUGH WALLS, ETC., UNLESS OTHERWISE NOTED. SLEEVING SHALL BE MARKED AT EACH END OF FLATWORK OR WALLS BY A PAINT DOT.

8. CONTRACTOR SHALL NOTE LOCATIONS OF TREES ON PLANTING PLAN AND SHALL ROUTE IRRIGATION PIPE AND PLACE HEADS TO PREVENT CONFLICTS WITH TREE PLANTING. GROUP VALVES IN BOXES, PARALLEL TO EACH OTHER, IN PLANTING AREAS. LOCATE PIPE ALONG EDGE OF PLANTING AREAS WHEREVER POSSIBLE.

9. ALL PIPE AND WIRE UNDER VEHICULAR USE AREAS AND PAVING SHALL BE 36" DEEP AND INSTALLED IN PVC SCHEDULE 40 SLEEVES. SLEEVES SHALL BE AT LEAST TWICE THE DIAMETER OF THE PIPE OR WIRE BUNDLE TO BE ENCLOSED, WITH A MINIMUM OF 2" SIZE.

10. FLUSH ALL PIPES CLEAN PRIOR TO INSTALLING SPRINKLER HEADS.

11. ALL HEADS TO BE 24" MINIMUM FROM PAVEMENT.

12. OBTAIN AN IRRIGATION COVERAGE APPROVAL FROM THE LANDSCAPE ARCHITECT PRIOR TO PLANTING. CONTACT LANDSCAPE ARCHITECT AT LEAST 24 HOURS IN ADVANCE OF DESIRED INSPECTION TIME.

13. PROVIDE ANTI-DRAIN VALVES OF CORRECT LINE SIZE WHERE FIELD CONDITIONS DEMAND, PER PLANS, AND/OR AS REQUIRED.

14. CONTROL WIRES SHALL BE BUNDLED WITH ELECTRICAL TAPE AND BURIED BENEATH MAINLINE WHERE POSSIBLE OR AT THE SAME DEPTH AS MAINLINE ALONG EDGES OF PLANTING AREAS.

15. CONTRACTOR SHALL ADJUST ALL IRRIGATION HEADS TO COMPLETELY COVER PLANTING AREAS WHILE AVOIDING WALKS, BUILDINGS, POSTS, COLUMNS, AND WINDOWS.

16. ALL TRENCHES SHALL BE WETTED AND RECOMPACTED TO 90% MINIMUM UNDER FLATWORK AND 85% IN PLANTING AREAS.

20. SYSTEM CONTROLLER SHALL BE SUPPLIED WITH THE CORRECT BATTERY BACK UP AND CONNECTED TO A RAIN SENSOR SHUTOFF DEVICE AND MOISTURE SENSOR, PER PLAN.

21. CONTRACTOR'S MAINTENANCE PERIOD SHALL NOT BE TERMINATED UNTIL THE FOLLOWING CONDITIONS ARE SATISFIED AND APPROVED BY THE LANDSCAPE ARCHITECT:

A. VALVES SHALL BE WIRED TO CONTROLLER IN SAME NUMERICAL SEQUENCE AS INDICATED ON PLANS.

B. PROVIDE PLASTIC SEALED DIAGRAMMATIC PLAN OF SYSTEM IDENTIFYING STATION NUMBERS AND AREA THEY WATER; MOUNT INSIDE EACH CONTROLLER.

C. CONTRACTOR SHALL MOUNT IRRIGATION SCHEDULING GUIDELINES (PROVIDED BY LANDSCAPE ARCHITECT) IN A PLASTIC SLEEVE IN THE CONTROLLER BOX. CONTRACTOR IS REQUIRED TO USE MULTIPLE STARTS FOR EACH VALVE TO ACHIEVE DEEP WATERING.

D. "AS-BUILT" DRAWINGS SHALL INCLUDE LOCATIONS OF ALL MAINS, VALVES, SOURCE OF ELECTRICAL POWER FOR CONTROLLER CLOCK, CONTROL WIRE SLEEVES, AND BELOW GRADE HEADS, IF DIFFERENT THAN PLANS. LOCATE BY DIMENSIONING FROM TWO FIXED POINTS (CONTRACTOR MAY USE A BLUEPRINT OF THE SPRINKLER PLAN AND EDIT IN PERMANENT RED INK FOR THE AS-BUILT DRAWING.)

22. PROVIDE THE FOLLOWING TOOLS AND MATERIALS AS PART OF THIS CONTRACT:

A. ALL EQUIPMENT OPERATION MANUALS AND GUARANTEES.
B. 1 AS-BUILT DRAWINGS.
C. 2 SETS OF AUTOMATIC CONTROLLER KEYS FOR EACH CONTROLLER.
D. 1 QUICK COUPLER VALVE KEYS AND 1 HOSE SWIVEL AND BIBB ASSEMBLIES.
E. 1 WRENCH FOR DISASSEMBLING EACH TYPE OF SPRINKLER HEAD SUPPLIED.
F. 1 SCREWDRIVER FOR ADJUSTING EACH TYPE OF SPRINKLER HEAD SUPPLIED.

CITY OF SAN DIEGO SUPPLEMENTAL IRRIGATION NOTES

GENERAL:

ALL MATERIALS AND EQUIPMENT USED IN SPRINKLER IRRIGATION WORK SHALL BE NEW AND WITHOUT FLAWS OF DEFECTS AND OF QUALITY AND PERFORMANCE AS SPECIFIED. PRIOR TO INSTALLATION OF ANY IRRIGATION WORK, THE CONTRACTOR SHALL SUBMIT FOR APPROVAL BY THE CITY, A LIST OF ALL PROPOSED MATERIALS AND EQUIPMENT. SHOULD THE CONTRACTOR PROPOSE TO USE MATERIAL(S) OR EQUIPMENT OTHER THAN THOSE AS LISTED AS "APPROVED", THE CONTRACTOR SHALL SUBMIT IN WRITING, TO THE CITY, A REQUEST TO DEVIATE FROM THE APPROVED LIST. SAMPLES OF THE MATERIAL(S) OR EQUIPMENT SHOULD ACCOMPANY THE REQUEST TO ASSIST IN THE EVALUATION OF THE PROPOSED SUBSTITUTION. THE BURDEN OF PROOF SHALL BE BORNE BY THE CONTRACTOR.

1. MAIN LINE PIPE CONNECTIONS: SHALL BE MADE HORIZONTALLY PER STANDARDS.

2. PIPE THRUST BLOCKS: ALL PRESSURE PIPE 4" AND SMALLER, POLYVINYL CHLORIDE OR ASBESTOS CEMENT SHALL HAVE THE CORRECT SIZED CONCRETE THRUST BLOCK INSTALLED AT EVERY ABRUPT CHANGE OF ALIGNMENT; AT GLOBE OR GATE VALVES, AT TEES, ELBOWS AND CROSSES, AND AT ENDS OF PIPE RUNS; OR WHEREVER THE FIELD ENGINEER DEEMS ONE TO BE NECESSARY. THRUST BLOCKS ARE TO BE INSTALLED AS PER STANDARDS, SIZED AS FOR 4" PIPE.

3. PIPE SLEEVES: SHALL BE SCH. 40 PVC, TWO TIMES THE PIPE SIZE DIAMETER AND EXTEND 12" BEYOND EACH SIDE OF PAVEMENT. THE LETTERS "E" FOR ELECTRICAL OR "W" FOR WATER SHALL BE STAMPED OR CHISELED ON THE PAVEMENT DIRECTLY ABOVE THE SLEEVE.

4. TRENCH MARKER TAPE FOR ALL PRESSURE PIPE: SHALL HAVE A CONTINUOUS BLUE COLORED TRENCH MARKER METALLIC TAPE PLACED NINE INCHES (9") BELOW FINISHED GRADE AND DIRECTLY ABOVE THE BURIED PIPE.

5. SAND ENGASEMENT FOR PIPES: FOR ALL IRRIGATION PIPE, DIRECT BURIAL CONTROL WIRE AND ELECTRICAL CONDUIT SHALL BE PLASTER OR MORTAR SAND AS PER SECTION 200 OF THE STANDARD SPECIFICATIONS, WITH A MINIMUM SAND EQUIVALENT OF 30.

6. REMOTE CONTROL VALVE BOXES: SHALL BE CONCRETE WITH A CAST IRON LOCKING LID. THE CONTRACTOR SHALL PAINT THE IDENTIFICATION NUMBER OF THE VALVE BOX. THE PAINT SHALL BE WHITE OR YELLOW ALUMINUM ASPHALTIC-BASE WATERPROOF PAINT. IN ADDITION, WEATHERPROOF, PLASTIC IDENTIFICATION TAGS SHALL BE AFFIXED TO THE COLORED CONDUCTOR IN THE VALVE BOX.

7. VALVE BOX LOCKING LIDS: THE CONTRACTOR SHALL REWORK THE LOCKING TOGGLES OF THE CONCRETE VALVE BOXES BY REPLACING THE EXISTING CLEVIS PIN AND SHEET METAL CLIP WITH A MARINE-TYPE STAINLESS STEEL MACHINE BOLT AND SELF-LOCKING UNIT. APPLY OIL TO LUBRICATE AND TO PREVENT RUST.

8. ANTI-DRAIN/EXCESS-FLOW VALVE: SHALL BE INSTALLED UNDER EACH SPRINKLER HEAD WHICH IS NOT EQUIPPED WITH AN INTERNAL CHECK VALVE (AS ANTI-GEYSER DEVICE AS WELL AS A LOW HEAD ANTI\FS23 DRAIN VALVE).

9. ALTERNATE PIPE SLEEVE LOCKING CAP FOR VALVES: SHALL BE PER STANDARD DRAWING 113, HEAVY DUTY RED BRASS LOCKING CAP THREADED TO FIT 2" DIAMETER SCH. 40 PVC PIPE.

10. MULTIPLE CONTROLLER INSTALLATIONS: ENCLOSURES SHALL BE SIZED ACCORDINGLY. NO 110 VOLT WIRE RUNS SHALL PASS FROM CONTROLLER CABINET TO CABINET. EACH CONTROLLER SHALL HAVE A SEPARATE ELECTRICAL SERVICE THROUGH A RACEWAY. PROVIDE ONE POWER OFF-ON SWITCH FOR EACH CONTROLLER.

11. DIRECT BURIAL CONTROL WIRES: SHALL BE SOLID COPPER, 600 VOLT, TYPE UF, CONFORMING TO THE STANDARD SPECIFICATIONS AND DRAWINGS, SPECIAL PROVISIONS AND THE FOLLOWING WIRE COLORS AND INSTALLATION REQUIREMENTS.

- NEUTRAL WIRES: WHITE (#12 AWG), DO NOT INTERCONNECT NEUTRAL WIRES BETWEEN CONTROLLERS.
- PILOT WIRES: (#14 AWG), USE AS MANY AS NECESSARY.
- VALVE NO. VALVE NO.

VALVE NO.	VALVE NO.
1. YELLOW	9. RED W/ BLACK STRIPE
2. ORANGE	10. WHITE W/ RED STRIPE
3. BLUE	11. YELLOW W/ RED STRIPE
4. BLACK	12. BLUE W/ RED STRIPE
5. BROWN	13. ORANGE W/ RED STRIPE
6. PURPLE	14. PURPLE W/ WHITE STRIPE
7. YELLOW W/ BLACK STRIPE	15. BROWN W/ WHITE STRIPE
8. ORANGE W/ BLACK STRIPE.	16. BLUE W/ WHITE STRIPE
	17. RED W/ WHITE STRIPE

- SPARE WIRES: TWO (2) RED (#14 AWG) FROM FURTHEST VALVE OR MANIFOLD TO EACH CONTROLLER.
- *COLORS REPEAT FOR VALVES BEYOND 18.

12. WIRE CONNECTIONS: NEUTRAL, PILOT AND SPARE WIRES SHALL BE INSTALLED WITH A 2' -0" COILED EXCESS WIRE LENGTH AT EACH END ENCLOSURE. EACH AND EVERY WIRE SPLICE SHALL BE SOLDERED TOGETHER (USING 60-40 SOLDER), THEN ENCASED IN THE WATERPROOF EPOXY CONNECTORS. WIRE SPLICES SHALL BE MADE ONLY IN VALVE OR PULL BOXES.

13. WIRE BUNDLES: EACH INDIVIDUAL CONTROLLER CLOCK'S CONTROL WIRES SHALL BE BUNDLES AND TAPED TOGETHER WITH COLORED TAPE AT INTERVALS NOT EXCEEDING 10'-0". CONTROLLER IDENTIFICATION TAPE COLORS SHALL BE AS FOLLOW: (USE AS MANY AS NECESSARY).
CONTROLLER COLOR
"A" BLACK
"B" RED

14. WIRES IN PULL BOXES: SHALL BE LOOSE AND SHALL NOT COME WITHIN THREE (3") INCHES FROM LID. BOXES SHALL BE SIZED ACCORDINGLY TO ACCOMMODATE THIS REQUIREMENT.

15. TRENCH MARKER TAPE FOR WIRES: ALL DIRECT BURIAL WIRES SHALL BE MARKED WITH A CONTINUOUS RED COLORED TRENCH MARKER PLASTIC TAPE PLACED NINE INCHES (9") BELOW FINISHED GRADE AND DIRECTLY ABOVE THE BURIED WIRES. TAPE SHALL BE THREE INCHES (3") WIDE.

16. WIRE TESTING: SHALL BE TESTED FOR CONTINUITY, OPEN CIRCUITS, AND UNINTENTIONAL GROUNDS PRIOR TO CONNECTING TO EQUIPMENT. THE MINIMUM INSULATION RESISTANCE TO GROUND SHALL BE FIFTY (50) MEGOHMS. ANY WIRING NOT MEETING THIS REQUIREMENT SHALL BE REPLACED, AT THE CONTRACTOR'S EXPENSE.

17. GUARANTEE: THE CONTRACTOR'S GUARANTEE SHALL CONSIST OF SECTION 308-7 OF THE STANDARD SPECIFICATIONS AND THE FOLLOWING:
THE ENTIRE IRRIGATION SYSTEM SHALL BE GUARANTEED AGAINST DEFECTS IN MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF ACCEPTANCE OF WORK. SHOULD THE CONTRACTOR FAIL DURING THE GUARANTEE PERIOD TO EXPEDITIOUSLY CORRECT A DEFECT UPON WRITTEN NOTIFICATION BY THE CITY, THE CITY SHALL CAUSE THE WORK TO BE CORRECTED AND BILL THE ACTUAL COSTS INCURRED TO THE CONTRACTOR. DEFECT CORRECTIONS SHALL INCLUDE THE COMPLETE RESTORATION OF EXISTING IMPROVEMENTS THAT WERE DAMAGED AS A RESULT OF THE DEFECT.

18. AS BUILT IRRIGATION PLANS: A REDUCED COPY OF THE APPROVED AS-BUILT IRRIGATION PLAN(S), COLOR CODED BY STATIONS AND LAMINATED IN PLASTIC, SHALL BE MOUNTED ON THE INSIDE OF EACH CONTROLLER ENCLOSURE FOR MAINTENANCE PERSONNEL AT THE TIME OF THE FINAL ACCEPTANCE.

TEMPORARY IRRIGATION NOTES AND DETAILS, PER CITY OF SAN DIEGO LANDSCAPE STANDARDS & SAN DIEGO REGIONAL STANDARD DRAWINGS. FOR STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION SEE "THE GREENBOOK" 2015 EDITION & SUPPLEMENTAL.

L1-5

SEWER AND STORM DRAIN GROUP 828

TEMPORARY IRRIGATION NOTES

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET OF 10 SHEETS

STORM DRAIN WBS B-16155
SEWER WBS B-00434

APPROVED:
FOR CITY ENGINEER
ANDREA DEMICH, P.E.
PRINT DCE NAME
DATE
C70321
RCE#

SUBMITTED BY:
SABEEN COCHINWALA
PROJECT MANAGER

CHECKED BY:
VALERY POLYAK
PROJECT ENGINEER

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	XXX			

CCS27 COORDINATE

CCS83 COORDINATE

CONTRACTOR
INSPECTOR
DATE STARTED
DATE COMPLETED

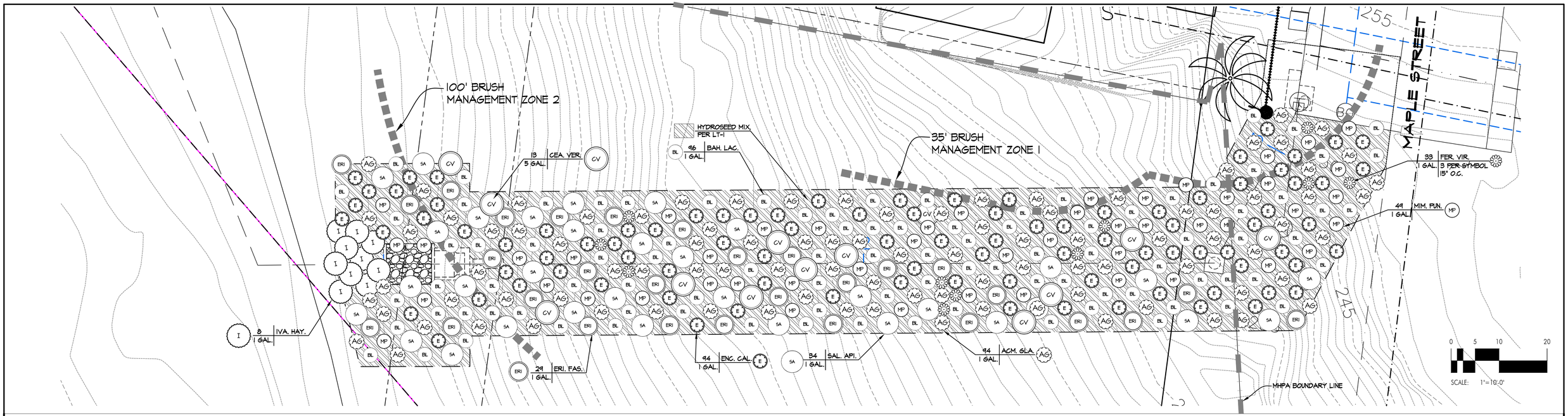
39884- -D

CONSULTANT

DAVID REED LANDSCAPE ARCHITECTS
3585 FIFTH AVENUE, SUITE 100 SAN DIEGO, CALIFORNIA 92103
(619) 239-3300 / www.drasla.com

LICENSED LANDSCAPE ARCHITECT
DAVID REED 4766
Expires
4-30-21
Renewal Date
2-4-20
Date
STATE OF CALIFORNIA

100% DESIGN



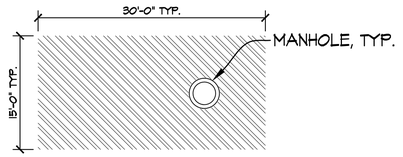
ENLARGED RE-VEGETATION PLAN

SCALE: 1"=10'-0"

A

DISTURBANCE AREAS AT MANHOLES, TYPICAL (SEE SHEET LT-2 FOR LOCATIONS).

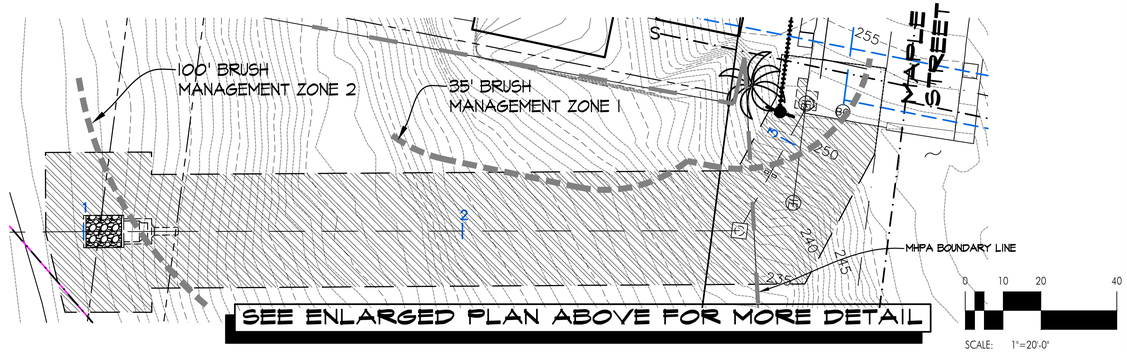
AREAS OF DISTURBANCE SHALL BE RE-VEGETATED AS SHOWN HEREIN AND PER THE NOTES AND SPECIFICATIONS, AND WHERE REQUIRED BY THE RESIDENT ENGINEER. CONTRACTOR SHALL HAND SEED IN AREAS TOO REMOTE OR TOO IMPRACTICAL FOR MACHINE HYDROSEEDING WITH THE SAME SPECIES AND RATES AS THE SPECIFIED HYDROSEED MIX, SLURRY AND SOIL STABILIZATION GRANULES, SUCH AS SEED-AIDE AERO, AT THE RATE OF 2,000 LBS. PER ACRE (20 LBS PER 15 FT. BY 30 FT. AREA). AFTER ALL CONSTRUCTION IS COMPLETE, RAKE ALL OF THE ABOVE INTO EXISTING SOILS.



DISTURBANCE AREA AT MANHOLES (16 TOTAL)

SCALE: 1"=10'-0"

C



RE-VEGETATION PLAN

SCALE: 1"=20'-0"

B

FOR PLANTING LIST AND RE-VEGETATION NOTES SEE ALSO SHEET LT-1.

FOR PLANTING DETAILS SEE AT LEFT.

NOTE: THE PLANT COUNTS ON THE CALL-OUTS ON THIS SHEET ARE FOR THIS SHEET ONLY. A SUMMARY OF PLANT COUNTS FOR THE ENTIRE PROJECT ARE ON THE MASTER PLANT LIST, SEE SHEET LT-1.

LP-1

SEWER AND STORM DRAIN GROUP 828
AT MAPLE STREET

RE-VEGETATION PLAN

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET OF 10 SHEETS

STORM DRAIN WBS B-16155
SEWER WBS B-00434

SUBMITTED BY: SABEEN COCHINWALA, PROJECT MANAGER
CHECKED BY: VALERY POLYAK, PROJECT ENGINEER

APPROVED:
FOR CITY ENGINEER
ANDREA DEMICH, P.E.
PRINT DCE NAME
DATE
RCE# C70321

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	XXX			

CCS27 COORDINATE
CCS83 COORDINATE

CONTRACTOR
INSPECTOR
DATE STARTED
DATE COMPLETED

39884- -D

CONSULTANT

DAVID REED LANDSCAPE ARCHITECTS
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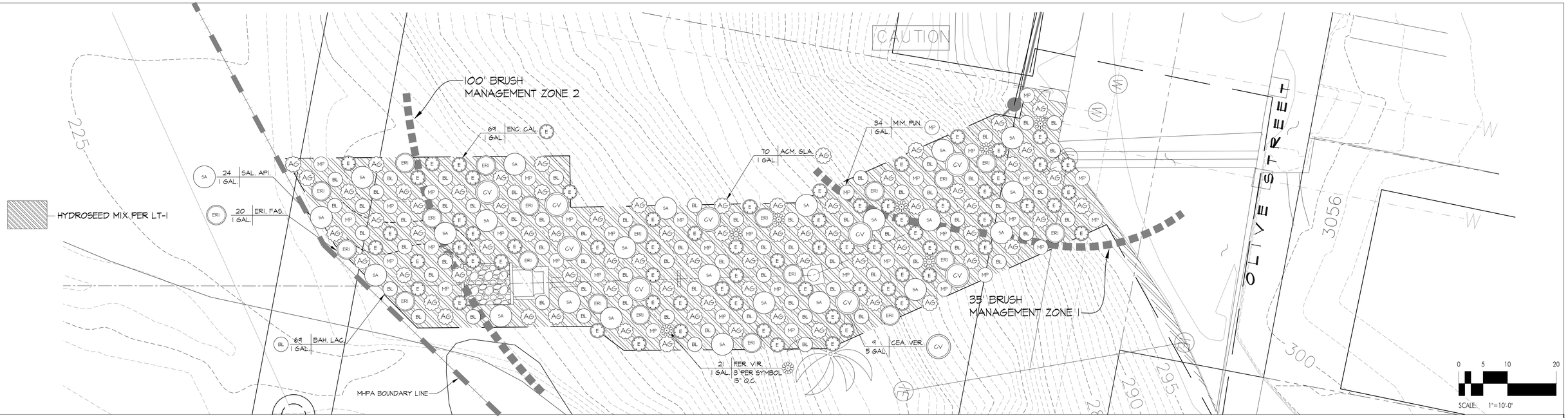
(619) 239-3300 / www.drasla.com

LICENSED LANDSCAPE ARCHITECT
DAVID REED #1981
4-30-21
Renewal Date
5-1-20
Date
STATE OF CALIFORNIA

100% DESIGN



ENLARGED RE-VEGETATION PLAN

SCALE: 1"=10'-0"

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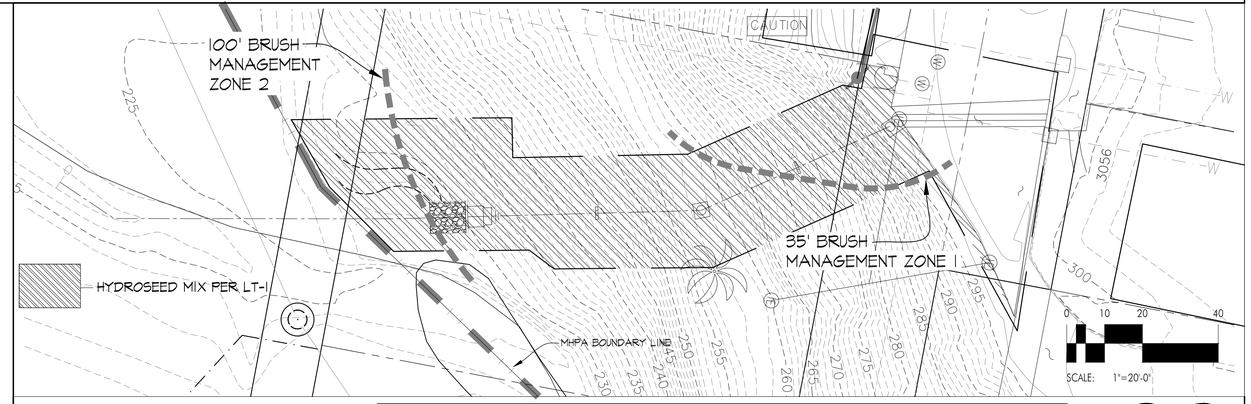

RE-VEGETATION PLAN

SCALE: 1"=20'-0"

SEE ENLARGED PLAN ABOVE FOR MORE DETAIL

B

FOR PLANTING LIST AND RE-VEGETATION NOTES SEE ALSO SHEET LT-1.

FOR PLANTING DETAILS SEE SHEET LP-3.

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LP-2

SEWER AND STORM DRAIN GROUP 828

AT OLIVE STREET

RE-VEGETATION PLAN

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET OF 10 SHEETS

STORM DRAIN WBS B-16155
SEWER WBS B-00434

CONSULTANT

DAVID REED LANDSCAPE ARCHITECTS
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(619) 239-3300 / www.draala.com

LICENSED LANDSCAPE ARCHITECT — DAVID REED #1866 — Signature — 4-30-21 Renewal Date — 3-4-20 Date — STATE OF CALIFORNIA

APPROVED:
FOR CITY ENGINEER ANDREA DEMICH, P.E. — DATE
PRINT DCE NAME — RCE# C70321

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	XXX			

SUBMITTED BY: SABEEN COCHINWALA, PROJECT MANAGER
CHECKED BY: VALERY POLYAK, PROJECT ENGINEER
CCS27 COORDINATE
CCS83 COORDINATE

CONTRACTOR — DATE STARTED
INSPECTOR — DATE COMPLETED

39884- -D

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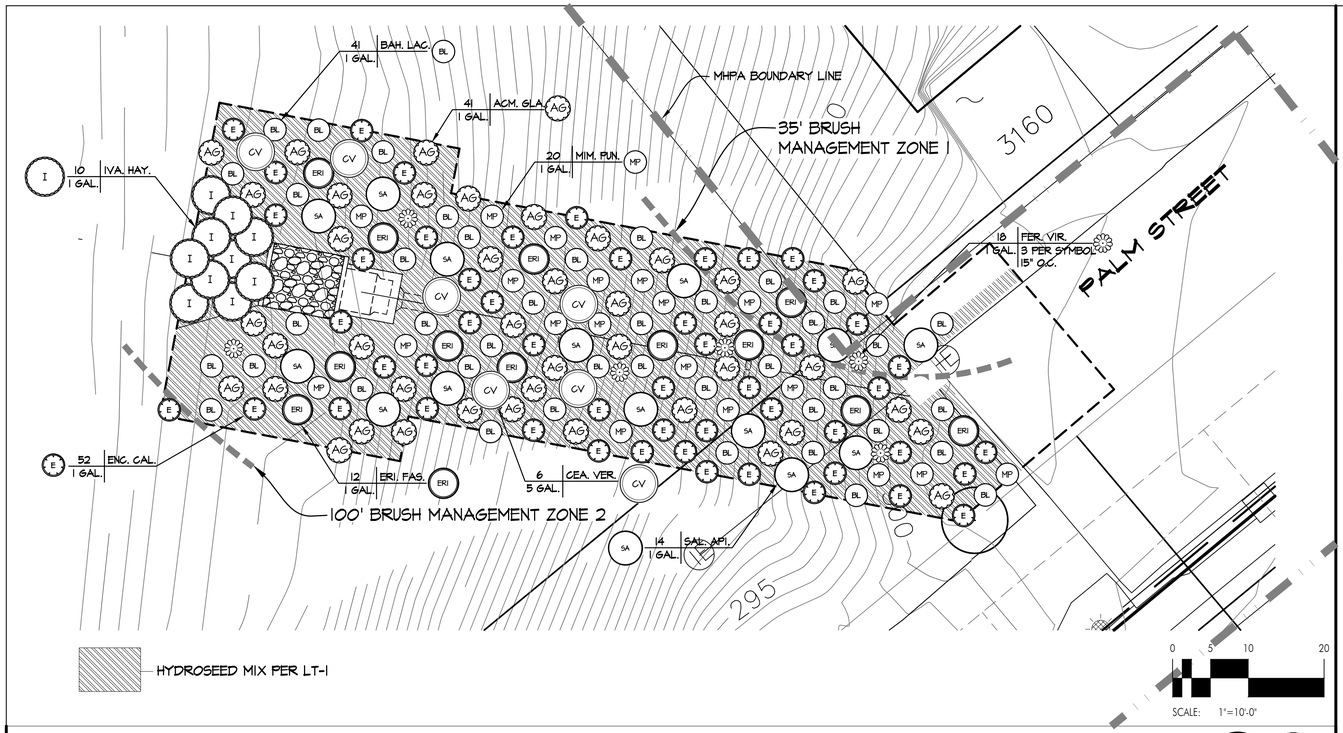

ENLARGED RE-VEGETATION PLAN

SCALE: 1" = 10'-0"

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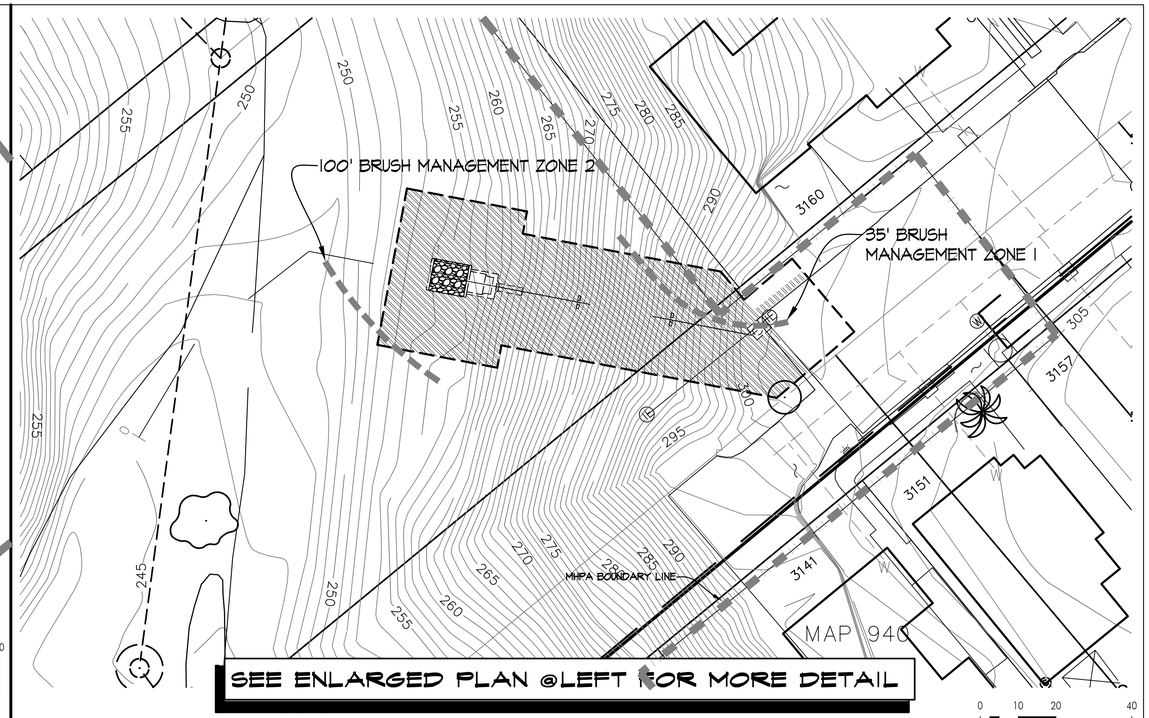

RE-VEGETATION PLAN

SCALE: 1"=20'-0"

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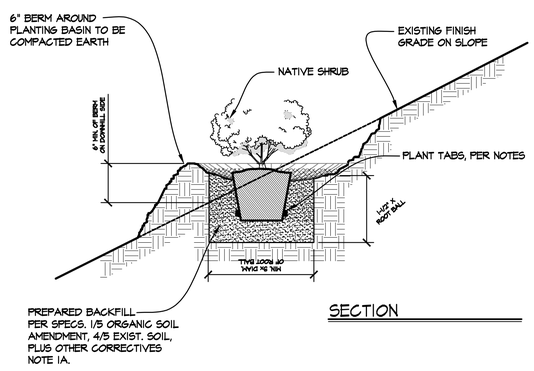

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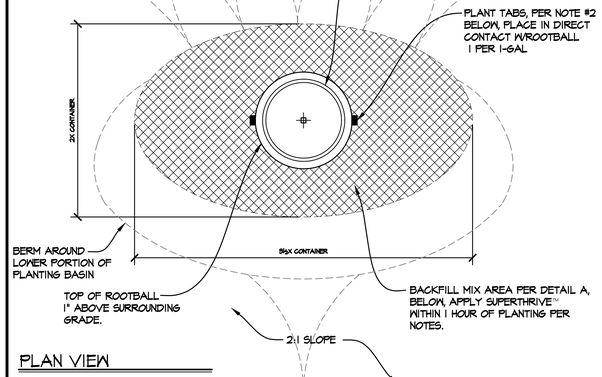

PLAN VIEW

NATIVE PLANTING ON SLOPE

NOT TO SCALE

B

SUPPLEMENTAL PLANTING NOTES

1.A. ALL NATIVE PLANT PITS SHALL BE AMENDED WITH 1/5 NITROLIZED ORGANIC AMENDMENT, 4/5 NATIVE SOILS, 5 LBS. OF TRI-C (6-2-4) FERTILIZER, 4 LBS GYPSUM AND 1/2 LB SULFUR PER CUBIC YARD OF BACKFILL.

1.B. ALL PLANTED AREAS SHALL BE WATERED IN THOROUGHLY WITH YUCCA EXTRACT, PER MANUFACTURERS SPECIFICATIONS IN ADVANCE OF PLANTING. ALL PLANTS SHALL BE WATERED THOROUGHLY WITH SUPERTHRIVE WITHIN 1 HOUR OF PLANTING.

2. ALL PLANTS SHALL RECEIVE ONE OF THE 2 TYPES OF FERTILIZER TABLETS (BELOW) AT THE FOLLOWING RATES:

SIZE OF PLANT	# OF 7 GRAM TABLETS	# OF 21 (OR 5) GRAM TABLETS
FLAT PLANTS	1	1-5 GRAM
4" POTS	1	2-5 GRAM
1 GALLON	3	1-21 GRAM

PLACE TABLETS AT HALF THE DEPTH OF THE PLANTING PIT AND IN DIRECT CONTACT WITH THE ROOTBALL.

3. ALL PLANTS THAT SHOW EXTENSIVE ROOTING ON THE OUTSIDE OF THE ROOTBALL FROM CONTAINERS SHALL HAVE THEIR ROOTBALLS SCORED WITH A SHARP TOOL TO A DEPTH OF 1/2" IN THREE LONGITUDINAL INCISIONS AT LOCATIONS SPACED AROUND THE ROOTBALL BEFORE PLACING PLANT IN PLANTING HOLE.

FOR PLANTING LIST AND RE-VEGETATION NOTES SEE ALSO SHEET LT-1.

FOR PLANTING DETAILS SEE AT LEFT.

NOTE: THE PLANT COUNTS ON THE CALL-OUTS ON THIS SHEET ARE FOR THIS SHEET ONLY. A SUMMARY OF PLANT COUNTS FOR THE ENTIRE PROJECT ARE ON THE MASTER PLANT LIST, SEE SHEET LT-1.

NOTES:
THE HATCHED AREA REPRESENTS THE MAXIMUM ANTICIPATED DISTURBANCE TO EXISTING CONDITIONS FROM CONSTRUCTION. IT IS IN THE CONTRACTOR'S INTEREST TO DISTURB AS LITTLE AREA AS REQUIRED TO PERFORM THE WORK WITHIN THE LIMIT-OF-WORK .

IF THE DISTURBED AREA IS SIGNIFICANTLY LESS THAN THE AREA SHOWN HEREIN, CONTRACTOR MAY ADJUST THE TEMPORARY IRRIGATION, WITH THE APPROVAL OF THE RESIDENT ENGINEER, TO ACCOMMODATE, YET INSURE FULL TEMPORARY COVERAGE.

CONVERSELY, IF THE CONTRACTOR DISTURBS AREAS OUTSIDE THE LIMIT OF WORK SHOWN, HE SHALL RE-VEGETATE THEM IN A MANNER SIMILAR TO THESES PLANS AND IN ACCORDANCE WITH THE SPECIFICATIONS.

LP-3

SEWER AND STORM DRAIN GROUP 828

AT PALM STREET

RE-VEGETATION PLAN

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET OF 10 SHEETS

STORM DRAIN WBS B-16155
SEWER WBS B-00434

CONSULTANT

DAVID REED LANDSCAPE ARCHITECTS
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LICENSED LANDSCAPE ARCHITECT — DAVID REED — Signature — 6-30-21 Renewal Date — 5-4-20 Date — STATE OF CALIFORNIA

APPROVED:
FOR CITY ENGINEER ANDREA DEMICH, P.E. — DATE — RCE# C70321

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	XXX			

SUBMITTED BY: SABEEN COCHINWALA, PROJECT MANAGER
CHECKED BY: VALERY POLYAK, PROJECT ENGINEER
CCS27 COORDINATE
CCS83 COORDINATE
CONTRACTOR — DATE STARTED
INSPECTOR — DATE COMPLETED
39884- -D

100% DESIGN