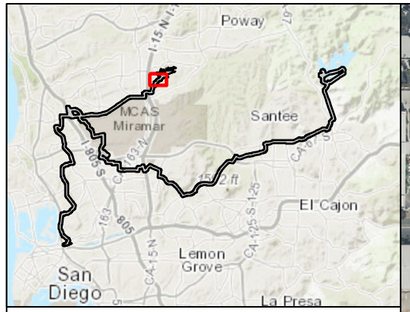


- Alignment A - Meanley Drive Alignment
- Alignment A1 - APN 319-170-23
- Alignment A2 - APN 319-170-22
- Alignment A3 - Scripps Ranch Branch Library Pathway
- Alignment B - Hoyt Park Drive Reroute
- Alignment C - Scripps Lake Drive Alternative
- Alignment D - Modified APN 319-170-23 Alternative
- Alignment E - Modified Alignment through KBS Ingress/Egress & Landscaped Area
- Alignment F - Modified Alignment within 20' wide setback of Scripps Ranch Tech Park Parcel

SCRIPPS RANCH BLVD
SCRIPPS LAKE DR
SCRIPPS RANCH BLVD
A
A1
A2
A3
B
C
D
E
F

0 200 400 Feet

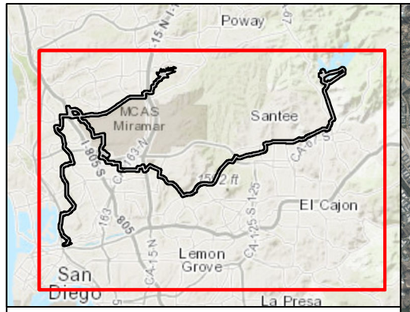
SOURCE: Brown and Caldwell, 2017; MWH, 2017; SANDAG 2014, SanGIS 2017

DUDEK

FIGURE 3-31B
North City Pure Water Pipeline Alternative Alignments

Pure Water San Diego Program North City Project EIR/EIS

INTENTIONALLY LEFT BLANK



Apparent Best Alignment

Alternate Alignment

SOURCE: Brown and Caldwell, 2017; SANDAG 2014, SanGIS 2017

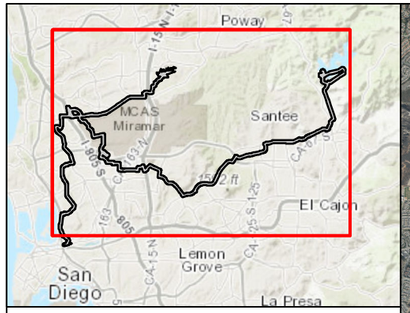
DUDEK

FIGURE 3-32A

San Vicente Pure Water Pipeline Alternative Alignments

Pure Water San Diego Program North City Project EIR/EIS

INTENTIONALLY LEFT BLANK



Proposed Alignment

Base Alignment

Miramar Reservoir

San Vicente Reservoir

1

2

3

4

5

6

7

8

9

0 1 2 Miles

SOURCE: Brown and Caldwell, 2017; SANDAG 2014, SanGIS 2017

DUDEK

FIGURE 3-32B

San Vicente Pure Water Pipeline Alternative Alignments

Pure Water San Diego Program North City Project EIR/EIS

INTENTIONALLY LEFT BLANK

CHAPTER 4 HISTORY OF PROJECT CHANGES

The original North City Project outlined in the Public Notice of Preparation for the Pure Water San Diego Program, North City Project Environmental Impact Report/ Environmental Impact Statement (EIR/EIS) dated August 4, 2016, and the Notice of Intent dated August 5, 2016, did not include proposed improvements at the Miramar Water Treatment Plant or the Dechlorination Facility, both of which are now included in the Miramar Reservoir Alternative. The North City Project originally did not include improvements to the centrate system, but the City has recognized the need for new and improved facilities related to this system at both the Metro Biosolids Center and the North City Water Reclamation Plant (NCWRP).

At the time of the Notice of Preparation, three Electrical Transmission Line alignments were under consideration to connect the NCWRP to a future cogeneration facility at Metro Biosolids Center to deliver power for North City Project components. Since then, the City has decided to locate the North City Renewable Energy Facility at the NCWRP and to construct a Landfill Gas Pipeline between the Miramar Landfill gas collection system and the NCWRP. As the North City Renewable Energy Facility would no longer have independent utility, it is now considered a component of the North City Project.

Two alternative inlets into the San Vicente Reservoir have been identified for the San Vicente Purified Water Pipeline under the San Vicente Reservoir Alternative. In addition to the original "Tunnel Alternative," the "Marina Alternative" and "In-Reservoir Alternative" are now under consideration.

As a result of the extensive biological surveys and historical resources surveys that have been conducted, both the North City Pipeline and San Vicente Pipeline have undergone numerous changes to the alignment in order to avoid sensitive resources. The North City Pipeline has undergone additional alignment changes due to difficulty obtaining easements across private property. The Morena Pipelines alignment has also been revised, particularly in the northern section, to avoid the number of trenchless crossings necessary.

The titles of specific Project components have been refined and simplified since release of the Notice of Preparation to enhance the clarity and readability of the document. In particular, the North City Pure Water Pump Station is now referenced as the North City Pump Station. The North City Purified Water Pipeline and San Vicente Reservoir Purified Water Pipelines have each been abbreviated to North

City Pipeline and San Vicente Pipeline, respectively. The Wastewater Forcemain and Brine Pipeline has also been abbreviated to Morena Pipelines and "Centrate" has been added to the full title. The North City Power Generation Facility was renamed to the North City Renewable Energy Facility.

As a result of coordination with the University Community Planning Group, construction along Genesee Avenue was changed from nighttime construction to limited daytime hours, to minimize impacts to residents and to avoid peak commute hours.

As a result of coordination with Murphy Development, alignment changes were incorporated to address concerns that the proposed Miramar pipeline would prohibit the full development of the Scripps Ranch Technology Park. The proposed pipeline alignment was shifted into the setback zone of parcels within the technology park, to avoid conflict with future development plans.

CHAPTER 5 AFFECTED ENVIRONMENT/EXISTING CONDITIONS

5.1 LAND USE

5.1.1 INTRODUCTION

The following discussion describes the existing conditions related to existing uses, land use designations, zoning, and environmental plans including the City of San Diego's (City's) General Plan and Community Plans and Marine Corps Air Station (MCAS) Miramar's Integrated Natural Resources Management Plan 2011-2015 (MCAS Miramar INRMP 2011) in the vicinity of proposed facilities associated with the North City Project. Pursuant to California Government Code Section 53091 (e), "zoning ordinances of a county or city do not apply to the location of construction of facilities for the production, generation, storage, treatment, or transmission of water," and therefore, the development standards associated with zoning underlying North City Project facilities are not applicable. Noteworthy development regulations of zones underlying project facilities are, however, discussed in this section and are considered recommendations (and not required regulations) for project facility development. As proposed, the North City Project includes a number of facilities (including the North City Pure Water Facility (NCPWF), pump and booster stations, and a Dechlorination Facility) and pipelines primarily located in the northern and central portions of the City of San Diego (and across MCAS Miramar; applies to the North City Water Reclamation Plant (NCWRP), Landfill Gas Pipeline, and Metro Biosolids Center) but would also extend into the City of Santee and community of Lakeside in San Diego County. The examination of existing land uses was based on a review of aerial imagery and street view images. Planned land use information was obtained from geographic information system (GIS) data and local planning documents of the City of San Diego, City of Santee, and County of San Diego.

Potential conflicts with the provision of the City's MSCP Subarea Plan (or other adopted environmental plans) and with adopted Airport Land Use Compatibility Plans are described elsewhere in this EIR/EIS. See Section 5.4, Biological Resources; Section 5.9, Health and Safety/Hazards; and Section 5.12, Noise.

5.1.2 ENVIRONMENTAL SETTING

The North City Project includes a variety of facilities located throughout the North City geographic area of the City of San Diego (City). A new pure water facility and three pump stations would be located within the corporate boundaries of the City, and proposed pipelines would traverse a number of local jurisdictions, including

the cities of San Diego and Santee, and the community of Lakeside in unincorporated San Diego County. Table 5.1-1 identifies the jurisdiction in which each proposed project facility and linear component would be located.

Table 5.1-1
North City Project: Jurisdiction of Facilities and Linear Components

Components Common to Project Alternatives		
Facility/Linear Components	*Jurisdiction*	*Community Plan Area/Community Plan*
Moreno Pump Station (including overflow pipes)	City of San Diego	Linda Vista (Mission Valley)
Morena Wastewater Forcemain and Brine/Centrate Line	City of San Diego	Linda Vista Clairemont Mesa University
North City Water Reclamation Plant Expansion	City of San Diego	University
North City Pure Water Facility	City of San Diego	University
North City Pure Water Facility Influent Pump Station and Conveyance	City of San Diego	University
North City Pure Water Pump Station	City of San Diego	University
Landfill Gas Pipeline (including *repurposed existing 36-inch pipeline*)	City of San Diego and MCAS Miramar	University Kearney Mesa N/A (MCAS Miramar)
Landfill Gas (LFG) Pipeline and Compressor Station Expansion	MCAS Miramar	N/A
Metro Biosolids Center Improvements	MCAS Miramar	N/A
Miramar Reservoir Alternative		
North City Pure Water Pipeline	City of San Diego and MCAS Miramar	University N/A (MCAS Miramar) Miramar County of San Diego (unincorporated County island) Scripps Miramar Ranch
Dechlorination Facility	City of San Diego	Scripps Miramar Ranch
Miramar Water Treatment Plant Improvements	City of San Diego	Scripps Miramar Ranch

Table 5.1-1
North City Project: Jurisdiction of Facilities and Linear Components

Components Common to Project Alternatives		
Facility/Linear Components	*Jurisdiction*	*Community Plan Area/Community Plan*
San Vicente Reservoir Alternative		
San Vicente Pure Water Pipeline	City of San Diego City of Santee County of San Diego	University Kearny Mesa Navajo East Elliott City of Santee Lakeside (County of San Diego)
Mission Trails Booster Station	City of San Diego	Navajo

5.1.2.1 Components Common to Project Alternatives

Morena Pump Station

The Morena Pump Station site encompasses two developed parcels (approximately 1.6 acres total) that currently support San Diego Humane Society, the Society for the Prevention of Cruelty to Animals, and Project Wildlife buildings/facilities. Adjacent parcels are developed public storage warehouses and distribution centers, home improvement showrooms and office development. The larger, approximately 1.0-acre northern parcel of the site is designated for Industrial Employment and the remaining approximately 0.6-acre parcel is designated for Park, Open Space, and Recreation use by the City's General Plan. The site is zoned for Industrial-Light (IL-3-1) use. The Morena Pump Station site is also located in the southwestern portion of the Linda Vista Community Plan area and according to Community Plan Figure 1, the site is designated for Industrial use. The General Plan land use and zoning designations underlying project components (including the Morena Pump Station) are depicted on Figures 5.1-1A through 5.1-1D and 5.1-2A and 5.1-2B.

The Industrial Employment designation provides for a range of office uses including scientific research and technology parks; business parks; and light (i.e., manufacturing, storage and distribution and transportation terminals) and heavy industrial including manufacturing, extractive, and processing (City of San Diego 2015a). The Park, Open Space, and Recreation designation provides for open space, population and resource-based parks, and private commercial recreation; however, given the constrained nature (i.e., the parcel is located adjacent to MTS Trolley right-of-way) and size, the southern parcel is designated for Open Space.

General Plan land use designation and zoning designations of lands underlying the Morena Pump Station and surrounding area are depicted on Figures 5.1-2A and 5.1-2B. Relevant goals and objectives of the City's General Plan are discussed in Section 5.1.3.

The IL-3-1 zone allows a mix of light industrial, offices, and commercial uses. While pump stations are not specifically listed within the Institutional Use category in Municipal Code Table 131-06B, Use Regulations for Industrial Zones, flood control facilities are listed and are considered a permitted use with limitations in the IL-3-1 zone. Noteworthy development regulations for the IL-3-1 zone include minimum lot area (15,000 square feet), setbacks (minimum front setback of 15 feet, minimum street side setback of 15 feet, and minimum rear setback of 0 feet), and maximum structure height (there are no height limits for structures in the industrial zones).

While the Linda Vista Community Plan does not contain descriptions of land use designation intended uses, it does describe the general goals of the community plan area. Please refer to Section 5.1.3 for a discussion of relevant goals of the Linda Vista Community Plan. City of San Diego Community Plan area boundaries are depicted on Figure 5.1-3.

Morena Wastewater Forcemain and Brine/Centrate Line

Travelling primarily along paved roadways between the Morena Pump Station in Linda Vista and the NCWRP in University Towne Center, the proposed alignment of the Morena Wastewater Forcemain and Brine/Centrate Line (Morena Pipelines) is depicted on Figure 3-1. As proposed, the Morena Pipelines would traverse the Linda Vista, Clairemont Mesa, and University communities and tunnel beneath a state highway (State Route 52 (SR-52)), an interstate (I-805), and canyons (San Clemente, Rose, and Miramar Canyons) between the Morena Pump Station and NCWRP. The pipelines' alignment would run through several neighborhoods and is located adjacent to industrial, commercial, residential and park, open space, & recreation uses associated with a variety of industrial, commercial, and residential zoning designations. General Plan land use designation and zoning designations of lands adjacent to the Morena Pipelines alignment are depicted on Figures 5.1-2A and 5.1-2B.

North City Water Reclamation Plant Expansion

The proposed NCWRP Expansion, North City Influent Pump Station, and North City Power Generation Facility would occur at the existing NCWRP, a City of San Diego water reclamation plant facility located south of the proposed NCPWF site and

Eastgate Mall. In addition, a new electrical transmission line would be constructed from the North City Power Generation Facility to the NCPWF. The NCWRP is located immediately east of I-805, west of a high-voltage transmission corridor and undeveloped lands within the boundary of MCAS Miramar, and immediately north of Miramar Road. Similar to the NCPWF site (described below), the NCWRP is located in the University community planning area and is designated for Public Facility/Institutional use, is designated for Institutional & Public and Semi-Public Facilities use by the General Plan, and is zoned RS-1-14. The general plan land use designations applied to the NCWRP and parcels in the surrounding area are depicted on Figure 5.1-1B.

According to Figure 2.2 of the Integrated Natural Resources Management Plan (INRMP) (MCAS Miramar INRMP 2011), the NCWRP is located immediately west of the western MCAS Miramar boundary (and the South/West Miramar sector) but is partially within Accident Potential Zone II area of MCAS Miramar. Accidental Potential Zone II (APZ II) is located adjacent to APZ I, which is located adjacent to areas immediately beyond ends of military airport runways (see Section 5.9, Health and Safety/Hazards, for more detail regarding accident potential zones). The NCWRP is identified in the INRMP as a current, non-military use located just west of MCAS Miramar boundary. Current, non-military uses on MCAS Miramar near the NCWRP include a SDG&E Electrical Transmission Lines/easements that parallel I-805, an SDG&E electrical transmission line/easement that traverse the site located immediately east of the NCWRP site, Miramar Wholesale Nursery, and the Miramar Landfill.

While the INRMP is not a generalized land use plan that designates lands on MCAS Miramar with general use designations, the plan identifies land use sectors, training areas, and special natural resource areas and designates management areas (MCAS Miramar INRMP 2011).

North City Pure Water Facility

The NCPWF site is located on an undeveloped and disturbed triangular-shaped parcel located north of the existing NCWRP. I-805 is located downslope to the west of the site, and Eastgate Mall is located immediately to the south. An existing San Diego Gas & Electric (SDG&E) electrical substation is located directly north of the NCPWF site, and a transmission corridor featuring multiple high-voltage electrical lines supported by tall wooden and steel poles borders the eastern extent of the site. Two large industrial warehouses and a cement mixing plant are

located east of the transmission corridor and are accessible off Eastgate Drive. Land uses to the west of the NCPWF site and west of I-805 consist of undeveloped canyon lands that slope upwards to the west and a mesa landform developed with several industrial office complexes.

The NCPWF site is located within the boundaries of University community planning area. The community plan designates the southwestern corner of the site for Public Facility/Institutional use, and the remainder of the site is designated for Industrial use. Land use designations of the City of San Diego General Plan are also applied to the site; the southern portion of the site is designated for Institutional & Public and Semi-Public Facilities use, and the northern portion of the site is designated for Industrial Employment use. The site is zoned RS-1-14, which provides for single unit residential use (minimum 5,000-square-foot lots) with in a Planned Urbanized Community or Proposition A Land (San Diego Municipal Code Section 131.0403(b)(2), City of San Diego 2008). Noteworthy development regulations for the RS-1-14 zone include setbacks (minimum front setback of 15 feet and minimum rear setback of 10 feet), and maximum structure height (35 feet). The general plan land use designations applied to the NCPWF site and parcels in the surrounding area are depicted on Figure 5.1-1B.

Lands to the north of the NCPWF site are designated for Industrial Employment use and are zoned RS-1-14. The transmission corridor east of the site and undeveloped canyon lands to the northeast are designated Park, Open Space, & Recreation and are zoned IL-2-1, which provides for a mix of light industrial and office uses with limited commercial. South of Eastgate Mall, lands associated with the NCWRP are designated for Institutional & Public and Semi-Public Facilities use and are zoned RS-1-14. To the west, the I-805 corridor is designated for Roads, Freeway, and Transportation use, and office complexes are designated for Industrial Employment use. Zoning designations for industrial office development located west of I-805 and north and south of Eastgate Mall include Industrial-Heavy (IH-2-1, which provides for manufacturing uses with some office) and Industrial-Park (IP-1-1, which provides for research and development uses with some limited manufacturing).

Similar to the NCWRP, the NCPWF is located within APZ II of MCAS Miramar. Accident potential zones are described in greater detail in Section 5.9, Health and Safety/Hazards.

North City Pure Water Facility Influent Pump Station and Conveyance

The NCPWF Influent Pump Station would be constructed at the NCWRP, and thus, would be located in the University community planning area. With the exception of the Industrial Employment land designation applied to the northern portion of the North City Pure Water Facility–Miramar Reservoir (NCPWF-MR), the General Plan land use designations and zoning designations concerning the NCPWF-MR and NCWRP sites would also be applicable to the NCPWF Influent Pump Station and conveyance.

Since the NCPWF Influent Pump Station is proposed within the NCWRP boundary, it would also be located within APZ II of MCAS Miramar.

North City Pure Water Pump Station

The North City Pure Water Pump Station (North City Pump Station) site encompasses an approximate 0.7-acre site located adjacent to the southeastern corner of the NCPWF site. Located on a vacant yet disturbed site in the University community plan area (and designated for Industrial use by the community plan), the North City Pump Station site is designated for Institutional & Public and Semi-Public Facilities use by the City's General Plan and is zoned RS-1-14. Please refer to the NCPWF discussion above for a characterization of the existing land uses in the vicinity of the North City Pump Station.

The North City Pump Station site is located within APZ II of MCAS Miramar.

Landfill Gas Pipeline

The proposed underground Landfill Gas (LFG) Pipeline would primarily be located on MCAS Miramar land and would generally follow the existing disturbed City utility easement (recycled water line, centrate line, sludge line, landfill gas line, and fiber-optic cable) that runs between the Miramar Landfill and NCWRP. On MCAS Miramar, the LFG Pipeline alignment is proposed to be located within two utility easements across the base, which run generally north–south between the Miramar Landfill and the NCWRP and under a portion of Miramar Road between Miramar Mall and the BNSF Railway. The approximately 3-mile-long LFG Pipeline would be constructed using a combination of open cut and trenchless methods. Existing access roads would be used to access the underground alignment. The southern end of the LFG Pipeline would connect to a proposed landfill gas compressor station that would be located within the Miramar Landfill lease area.

Approximately 0.6 mile of the LFG Pipeline alignment is located in the University community plan area. This segment of the alignment is designated for Military Use by the City's General Plan and is zoned Agricultural-Residential (AR-1-1; requires minimum 10-acre lots). The purpose of the AR-1-1 zone is to accommodate a wide range of agricultural uses while also permitting the development of single dwelling unit homes at a very low density. The remaining segment of the alignment is located on designated Military land and as proposed would travel along the existing utility corridor through the Miramar National Cemetery, across Miramar Canyon and MTS railroad track, along the eastern boundary of a wholesale nursery (Miramar Wholesale Nursery), and along an existing access road at the northwestern extent of Miramar Landfill lease area. The compressor station is also proposed on designated Military land.

As stated above, the majority of the LFG Pipeline alignment is located on MCAS Miramar and more specifically, is located within the South/West Miramar sector of MCAS Miramar. While the INRMP does not designate all lands on MCAS Miramar with general use designations, it identifies existing and proposed non-military uses located on MCAS Miramar, constraints, and management areas. The proposed LFG Pipeline would border and traverse existing non-military uses on MCAS Miramar including Miramar Wholesale Nursery and Miramar Landfill. In addition, the alignment would traverse APZs II and I and Level II, III, and V Management Areas (MAs). Management Area (MA) levels generally denote the natural resource (primarily biological resources) sensitivity of MCAS Miramar lands with Level I MAs (vernal pools and associated watersheds) being the most sensitive and Level V MAs (developed land) being the least sensitive. MAs are discussed in more detail in Section 5.1.3.

Metro Biosolids Center Improvements

The Metro Biosolids Center is an existing regional biosolids treatment facility located on 39 acres adjacent to the Miramar landfill. The facility is located within the boundary of MCAS Miramar, is designated for Military use by the City's General Plan, and is zoned AR-1-1.

The Metro Biosolids Center is located on MCAS Miramar and is identified in the INRMP as being located on the "Old South Landfill" site (MCAS Miramar INRMP 2011). The facility is located within MCAS Miramar APZ I and within a Level V (developed land) MA.

5.1.2.2 Miramar Reservoir Alternative

North City Pure Water Pipeline and Dechlorination Facility

As proposed, the North City Pure Water Pipeline (North City Pipeline) alignment is primarily located within existing paved roadways and travels between the NCPWF-MR and the Miramar Reservoir. The alignment of the North City Pipeline is depicted on Figure 3-1 and as proposed, the alignment traverses MCAS Miramar and the City's University, Mira Mesa (primarily along Miramar Road), and Scripps Miramar Ranch communities. The alignment would also tunnel beneath I-15, briefly traverse private property located encompassing a San Diego County "island" of land surrounded by City jurisdictional lands, continue through the Scripps Miramar Ranch community, and ultimately end at the Miramar Reservoir. The pipeline alignment would run through industrial, commercial, office park, and parks and open space (i.e., lands surrounding Miramar Reservoir), and neighborhoods; and uses and adjacent lands are primarily zoned as industrial or commercial by the City. The General Plan land use designation and zoning designations of lands adjacent to the North City Pipeline alignment are depicted on Figures 5.1-1B and 5.1-2B. The City's community plan boundaries are depicted on Figure 5.1-3. As indicated on Figures 5.1-1B and 5.1-2B, immediately east of I-15 the North City Pipeline alignment briefly traverses an unincorporated island of San Diego County land designated for Office Professional and Village Residential (VR-24) use and zoned commercial and residential.

The Dechlorination Facility site is located in an industrial office park area off the Meanley Drive cul-de-sac in the Scripps Miramar Ranch community. Located approximately 0.2 mile south of the Miramar Reservoir, the site is designated for Industrial Employment by the City's General Plan, Industrial Park use by the Scripps Miramar Ranch Community Plan, and is zoned Industrial-Park (IP-2-1). The IP-2-1 zone allows for research and development uses with some limited manufacturing and while Dechlorination Facilities are not expressly permitted within the IP-2-1 zone, flood control facilities are permitted with limitations. Noteworthy development regulations of the IP-2-1 zone include setbacks (minimum front setback of 20 feet, minimum street side setback of 20 feet, and minimum side setback abutting residential of 30 feet), and maximum structure height (there are no height limits for structures in the industrial zones).

A short segment of the North City Pipeline alignment along Miramar Road is located within APZ I and II of MCAS Miramar.

Miramar Water Treatment Plant Improvements

The existing Miramar Water Treatment Plant is located in the Scripps Miramar Ranch community and operates along the southern shoreline of the reservoir. The Miramar Water Treatment Plant and immediate surrounding lands are designated for Park, Open Space, & Recreation Use by the City's General Plan and are zoned AR-1-1. In addition to the reservoir, surrounding land uses include an elementary school and single-and multi-family residences to the south across Scripps Lake Drive, and single- and multi-family residences to the east. According to the City, "the reservoir is very popular for bicycling, jogging, walking, rollerblading and picnicking" (City of San Diego 2016a).

5.1.2.3 San Vicente Reservoir Alternative

San Vicente Reservoir Pure Water Pipeline

The San Vicente Reservoir Pure Water Pipeline (San Vicente Pipeline) alignment is primarily located within existing paved roadways between the North City Pure Water Facility–San Vicente Reservoir (NCPWF-SVR) and the San Vicente Reservoir. The NCPWF-SVR is located on the same vacant 8.7-acre City-owned lot across Eastgate Mall to the north of the NCWRP as the NCPWF-MR. Similar to the NCPWF-MR, a pump station would also be located adjacent to the NCPWF-SVR. The alignment of the San Vicente Pipeline is depicted on Figure 3-1 and as proposed, the alignment traverses MCAS Miramar and the City's University, Kearney Mesa, Tierrasanta, East Elliott, and Navajo communities. Near Mission Trail Regional Park, the alignment exits City jurisdiction and enters the City of Santee, tunnels beneath SR-52, travels along Carlton Oaks Drive, Mast Boulevard, and Riverside Drive, tunnels beneath SR-67, enters County of San Diego jurisdiction (i.e., the community of Lakeside) and ends at the San Vicente Reservoir. The pipeline alignment would run through industrial, residential, recreational, commercial, school, and rural residential neighborhoods and uses and adjacent lands are primarily zoned industrial residential, or commercial. The General Plan land use designation and zoning designations of lands adjacent to the San Vicente Pipeline alignment are depicted on Figures 5.1-1A, 5.1-1C, 5.1-1D, 5.1-2A, 5.1-2C, and 5.1-2D. In addition to the City's community plan boundaries, the City of Santee and County of San Diego boundaries are depicted on Figure 5.1-3.

Mission Trails Booster Station

The Mission Trails Booster Station (MTBS) would be on an approximate 1.2-acre site located along Mission Gorge Road and north of a small commercial center. The site abuts single-family residential land uses to the east and is located atop an elevated landform that severely slopes to the west towards Mission Gorge Road. The surrounding area is characterized by a mix of single-family and multi-family residential land uses. The site is located in the Navajo community plan area and is designated for Single-Family Residential use by the community plan and Park, Open Space, & Recreation and Commercial Employment, Retail, & Services by the City's General Plan and is zoned RS-1-7 and Commercial Neighborhood (CN-1-2). The CN-1-2 zone allows development with an auto orientation and permits a maximum density of one dwelling unit for each 3,000 square feet of lot area. While booster stations are not expressly permitted in the CN-1-2 zone, flood control facilities are permitted with limitations. Noteworthy development regulations of the RS-1-7 zone include minimum front setback (15 feet), minimum rear setback (13 feet), and maximum structure height (24 feet). Noteworthy development regulations of the CN-1-2 zone include minimum lot area (5,000 square feet) and maximum lot area (10 acres), minimum front and rear setbacks (10 feet), and maximum structure height (30 feet).

5.1.3 REGULATORY FRAMEWORK

Federal

MCAS Miramar Integrated Natural Resources Management Plan

The MCAS Miramar strategy for conservation and management is to (1) limit activities, minimize development, and mitigate actions in areas supporting high densities of vernal pool habitat, threatened or endangered species, and other wetlands and (2) manage activities and development in areas of low densities, or no regulated resources, with site-specific measures and programmatic instructions (MCAS Miramar INRMP 2011). To that end, MCAS Miramar adopted an Integrated Natural Resources Management Plan (INRMP) in 2011 (MCAS Miramar INRMP 2011). The INRMP establishes guidelines for management of natural resources on lands administered by MCAS Miramar. While the INRMP does not dictate land use decisions, it does provide important resource information to support sound land use decisions and natural resource management. For example, the INRMP considers the interrelationships between individual components of natural resources management (e.g., soils, vegetation, wetlands, wildlife), mission requirements, and other land-use

activities affecting MCAS Miramar natural resources. This information is in turn intended to provide technical guidance for the integration of natural resource issues and concerns into facilities and operational planning, in accordance with the National Environmental Policy Act (NEPA) decision-making processes.

MCAS Miramar has developed Management Areas (MAs) to highlight the area's supporting differing regulated resources. MAs also serve as a basis for planning natural resource management actions. Regardless of sensitivity, all of MCAS Miramar's undeveloped areas are subject to natural resource management, conservation, and best management practices.

The current INRMP covers 2011 through 2015, and is reviewed and updated on a 5-year schedule.

State

California Government Code Section 53091

Pursuant to Section 53091 (d) of the California Government Code, "building ordinances of a county or city shall not apply to the location or construction of facilities for the production, generation, storage, treatment, or transmission of water, wastewater, or electrical energy by a local agency." Furthermore, per California Government Code Section 53091 (e), "zoning ordinances of a county or city shall not apply to the location or construction of facilities for the production, generation, storage, treatment, or transmission of water." Although Section 53091 does not expressly exempt cities and counties from each other's building and zoning ordinances, it was held in 40 Ops.Cal.Atty.Gen. 243 (1962) that such exemption is implicit in section 53090, despite excluding cities and counties from the definition of "local agencies." (Id., at pp. 245-247.) 40 Ops.Cal.Atty.Gen. Thus, cities and counties are mutually exempt from each other's zoning regulations relative to property that one such entity may own within the territory of the other. (*Lawler v. City of Redding* (1992) 7 Cal.App.4th 778, 783-784; 40 Ops.Cal.Atty.Gen. 243 (1962)).

Local

City of San Diego General Plan

The City's General Plan was unanimously adopted by the City Council on March 10, 2008, and was subsequently amended in 2010 and again in 2012. The General Plan builds upon many of the goals and strategies of the previously adopted 1979

General Plan, in addition to offering new policy direction in the areas of urban form, neighborhood character, and conservation. It recognizes and explains the critical role of the community planning program as the vehicle to tailor the "City of Villages" strategy for each neighborhood. The General Plan consists of the following elements: Land Use Community Planning, Mobility, Urban Design, Economic Prosperity, Public Facilities, Services & Safety, Recreation, Conservation, Noise, and Historic Preservation. A discussion of elements that are particularly relevant to an analysis of potential land use impacts is provided below.

Land Use and Community Planning Element. The purpose of this element is to guide future growth and development into a sustainable citywide development pattern while maintaining or enhancing quality of life in the City's communities. The Land Use and Community Planning Element addresses land use issues that apply to the City as a whole. The community planning program is the mechanism to refine citywide policies, designate land uses, and make additional site-specific recommendations as needed. The Land Use and Community Planning Element establishes the structure to respect the diversity of each community and includes policy direction to govern the preparation of community plans. The element also provides policy direction in areas including zoning and policy consistency, the plan amendment process, coastal planning, airport land use compatibility planning, annexation policies, balanced communities, equitable development, and environmental justice.

Applicable goals of the Land Use and Community Planning Element include the following:

- City of Villages Strategy Goal: Mixed-use villages located throughout the City and connected by high-quality transit.
- Consistency Goal: Zoning concurrent with community plan updates and amendments to ensure consistency with community plan land use designations.
- Airport Land Use Compatibility Goal: Protection of public use airports and military air installations from the encroachment of incompatible land uses within an airport influence area that could unduly constrain airport operations.

Urban Design Element. The purpose of this element is the guide physical development toward a desired scale and character that is consistent with the social, economic, and aesthetic values of the City. According to the Urban Design Element, "San Diego's distinctive character results from its unparalleled natural setting,

including beaches, bays, hills, canyons and mesas that allow the evolution of geographically distinct neighborhoods."

Applicable goals of the Urban Design Element include the following:

- General Urban Design: A pattern and scale of development that provides visual diversity, choice of lifestyle, opportunities for social interaction, and that respects desirable community character and context.
- Office and Business Park Development: Promote the enhanced visual quality of office and industrial development.
- Public Spaces and Civic Architecture: Distinctive civic architecture, landmarks and public facilities.
- Public Art and Cultural Amenities: A City enhanced with distinctive public art and cultural amenities.

Applicable aesthetics/visual resources and neighborhood character policies from the Urban Design Element are discussed in Section 5.2, Aesthetics/Visual Resources and Neighborhood Character.

Public Facilities, Services, and Safety Element. This element addresses facilities and services that are publicly managed and have a direct influence on the location of land use. These include Fire-Rescue, Police, Wastewater, Storm Water, Water Infrastructure, Waste Management, Libraries, Schools, Information Infrastructure, Disaster Preparedness, and Seismic Safety. Public Facilities, Services, and Safety Element goals and policies are associated with providing adequate public facilities and services to serve the existing population and new growth. The following wastewater, water, and public utility goals are specifically applicable to the North City Project:

- Wastewater: Environmental sound collection, treatment, re-use, disposal, and monitoring of wastewater.
- Wastewater: Increased use of reclaimed water to supplement the region's limited water supply.
- Water: A safe, reliable, and cost-effective water supply for San Diego.
- Water: Water supply infrastructure that provides for the efficient and sustainable distribution of water.

- Public Utilities: Public utilities that sufficiently meet existing and future demand with facilities and maintenance practices that are sensible, efficient, and well-integrated into the natural and urban landscape.

Conservation Element. The overarching purpose of the Conservation Element is to provide for the long term conservation and sustainable management of the rich natural resource that help define the City's identity, contribute to its economy, and improve its quality of life. The following water resources management goal is applicable to the North City Project:

- A safe and adequate water supply that effectively meets the demand for the existing and future population through water efficiency and reclamation.

University Community Plan

According to the University Community Plan, dominant existing uses include UCSD, University Towne Center, the research and corporate headquarters, and medical centers in the northern portion of the planning area and the major parkland resources of the Torrey Pines, Rose Canyon and San Clemente Canyon areas (City of San Diego 2016b). The NCWRP and NCPWF are located in the Miramar Subarea whose visual character is "dominated by open space with restricted industrial development" (City of San Diego 2016b). Project components located in the University Community Plan area are depicted on Figure 5.1-3.

Relevant goals and objectives of the University Community Plan are listed below:

- Overall Urban Design Goal: Ensure that San Diego's climate and the community's unique topography and vegetation influence the planning and design of new projects.
- Overall Urban Design Goal: Ensure that every new development contributes to the public realm and street livability by providing visual amenities and a sense of place.
- Objective: Improve the visual image of the industrially developed portion of Miramar Road.
- Objective: Enhance the eastern entrance into the community.
- Industrial Element D: Encourage the development of industrial land uses that are compatible with adjacent non-industrial uses and match the skills of the local labor force.

Mira Mesa Community Plan

The Mira Mesa community is approximately 10,500 acres in area and is located in the northcentral portion of the City of San Diego (City of San Diego 2011a). As proposed, the North City Pipeline alignment would traverse the southern boundary of the community plan area (i.e., Miramar Road), which is characterized by industrial land uses occasionally separated by pockets of commercial centers. Through the community, the North City Pipeline alignment is proposed entirely in existing paved roadways.

Relevant goals of the Mira Mesa community plan include:

- Industrial Land Use Goal: Improvement in the visual quality of industrial development in the community.

Clairemont Mesa Community Plan

Clairemont Mesa is an urbanized residential community with several shopping centers, parks and recreational facilities and educational opportunities. The community has well-established single-family neighborhoods with streetscape parkways (City of San Diego 2015b). Identified goals and objectives were developed to provide a general framework for the continued development of the Clairemont Mesa Community. Applicable goals, objectives, and recommendations include the following:

- Primary Goal for Industrial Development: Provide new, high quality office and industrial park development within the community and rehabilitate older office and industrial development.
- Industrial Development Objective 3: Decrease potential land use conflicts between industrial and residential or commercial development.
- Primary Goal for Open Space and Environmental Resources: Provide an open space system that preserves existing canyons and hillsides and dedicate open space areas as infill development occurs in the community.
- Open Space and Environmental Resources 4: Protect the resource value of canyon areas and plant and animal wildlife within the community.
- Recommendations for Open Space and Resource Based Parks – Design: All public improvements such as roads, drainage channels and utility service and maintenance facilities should be developed in a manner that minimizes the visual and physical impacts of such improvements on the open space system.

As depicted on Figure 5.1-3, a segment of the Morena Pipelines, which would be installed primarily within existing paved roadways, is the lone project component located in the Clairemont Mesa community plan area.

Linda Vista Community Plan

Linda Vista is a primarily residential community with distinct neighborhoods. It is centrally located near Centre City, Mission Valley, and Mission Bay, with easy freeway access and a street system with relatively good traffic flow (City of San Diego 2011b). In addition to residential, significant land uses in the plan area include light industrial and commercial in the Morena area, a university, and retail uses in central Linda Vista.

Applicable goals of the Linda Vista community plan are listed below:

- Commercial and Industrial Land Use Goal 2: Retain the existing industrial area west of Morena Boulevard as a diverse employment base for the community and the City. Encourage more utilization of existing rail facilities.
- Commercial and Industrial Land Use Goal 3: Ensure that development in the Morena area presents a positive visual image to viewers from Interstate 5, Pacific Highway, Interstate 8, and Mission Bay Park.

An approximate 0.7-mile-long segment of the Morena Pipelines and the Morena Pump Station are proposed in the industrial southwestern area of Linda Vista (see Figure 5.1-3).

Mission Valley Community Plan

The Mission Valley planning area comprises approximately 2,418 net acres and is located near the geographic center of the City of San Diego. It is bounded on the west by Interstate 5 (I-5), on the north by Friars Road west of State Route 163 (SR-163) and by the northern slopes of the valley east of SR-163, on the east by the eastern bank of the San Diego River, and on the south by approximately the 150-foot elevation contour line (City of San Diego 2013). Piping associated with the Morena Pump Station located within Friars Road is located within this community plan area.

Kearney Mesa Community Plan

The community of Kearny Mesa is a major industrial and commercial center occupying a central location in the City of San Diego and the community meets employment, business, and retail needs for a large portion of the City (City of San Diego 2011c).

Applicable goals of the Kearney Mesa community plan are listed below:

- Urban Design Element Primary Goal: Preserve and enhance the physical environment, visual appearance, identity and character of the Kearny Mesa community.
- Conservation and Open Space Element Recommendation: Developments within the MCAS Miramar "airport influence area" should be reviewed for consistency with the MCAS Miramar Airport Land Use Compatibility Plan. Refer to Airport Element-Montgomery Field of this Plan.
- Airport Element – Montgomery Field Primary Goal: Encourage the provision of "compatible" development in areas adjacent to airport property.

A segment of the San Vicente Pipeline that would be installed within existing paved roadways is the lone project component located in the Kearney Mesa community plan area. See Figure 5.1-3.

Scripps Miramar Ranch Community Plan

Scripps Miramar Ranch is located on the north central part of metropolitan San Diego and the planning area contains approximately 4,365 acres of land (City of San Diego 2011d). The predominant land use in the planning area is residential although business park uses are concentrated in a southwestern portion of the community. Relevant overall community goals and industrial elements objectives include the following:

- Preserve and enhance the valued natural resources of the Scripps Miramar Ranch community: hills, trees, water resources, Miramar Reservoir, Carroll Canyon and subsidiary canyons; maximize public benefit through public ownership and/or access, both visual and physical, to these resources.
- Encourage development of open space buffers, which will effectively screen disparate elements of the community.

- Preserve the existing sense of neighborhood identity, which unifies residents and promotes social interaction and civic cooperation.
- Protect areas designated for industrial use from encroachment by incompatible land uses.
- Encourage the development of industries which would provide desirable employment opportunities within Scripps Miramar Ranch.

Tierrasanta Community Plan

The Tierrasanta community is centrally located within the greater San Diego metropolitan area, and with the exception of the Open Space portion of the plan area in Mission Trails Regional Park, the predominant land use in Tierrasanta is residential (City of San Diego 2011e).

Applicable goals and objectives of the Tierrasanta community plan are listed below:

- Industrial Goal: Accommodate uses which are compatible with the designated site.
- Industrial Objective: To protect surrounding uses from visual impact or other disruption caused by uses on the industrially designated sites.
- Industrial Objective: To ensure that industrial development is sensitive to the surrounding open space areas.
- Open Space Objective: To preserve canyons and hillsides as open space.
- Open Space Objective: To preserve the San Diego River environs and protect surrounding uses from flooding.

A segment of the San Vicente Pipeline that would be installed within existing paved roadways is the lone project component located in the Tierrasanta community plan area. See Figure 5.1-3.

Navajo Community Plan

Of the total zoned land in the Navajo area, 4,018 acres, is zoned for single-family homes; 389 acres, is zoned for multiple family use; 315 acres, is zoned for commercial use; and 56 acres, is zoned for industrial use. The remaining 3,018 acres, located predominantly in the southern and eastern sections of the area, including Cowles Mountain, is zoned for agriculture and the San Diego River floodway (City of San Diego 2015c). Public and semi-public uses and single-family homes are the predominant land

uses within the community. While not a residential land use, the proposed MTBS site is split zoned for residential and commercial use and the Site Design proposals for residential land uses including recontour rather cut and fill and develop hillsides to complement the existing terrain are relevant. Further, community environment proposals including the screening of unaesthetic land uses are also relevant due to the proximity of the MTBS to residential land uses.

A portion of the San Vicente Pipeline primarily along Mission Gorge Road and the MTBS site are located in the Navajo community plan area. See Figure 5.1-3.

City of San Diego Municipal Code

Referred to as the Land Development Code (LDC), Chapters 11 through 14 of the City's Municipal Code contain the City's planning, zoning, subdivision, and building regulations that provide the framework for how land is to be developed within the City. The City of San Diego Zoning Ordinance, found in Chapter 13 of LDC, establishes base zones to help ensure that the general land use designations applied to properties under the jurisdiction of the City are properly located and that adequate space is provided for each type of development identified. Furthermore, base zones are intended to regulate uses; to minimize the adverse impacts of these uses; to regulate the zone density and intensity; to regulate the size of buildings; and to classify, regulate, and address the relationships of uses of land and buildings (San Diego Municipal Code Section 131.0101, City of San Diego 2008). The LDC also contains overlay zones and supplemental regulations that provide additional development requirements.

The City's base zone designations applied to lands underlying above ground facilities are identified and described in Section 5.1.2.

City of San Diego Land Development Code – Environmentally Sensitive Lands Regulations

The purpose of the Environmentally Sensitive Lands (ESL) Regulations is to protect, preserve, and where damaged, restore the environmentally sensitive lands of San Diego and the viability of the species supported by those lands ((LDC Chapter 14, Article 1, Division 1; City of San Diego 2000). These regulations are intended to assure that development, including, but not limited to coastal development in the Coastal Overlay Zone, occurs in a manner that protects the overall quality of the resources and the natural and topographic character of the area, encourages a sensitive form of development, retains biodiversity and interconnected habitats, maximizes physical

and visual public access to and along the shoreline, and reduces hazards due to flooding in specific areas while minimizing the need for construction of flood control facilities. These regulations are intended to protect the public health, safety, and welfare while employing regulations that are consistent with sound resource conservation principles and the rights of private property owners.

Environmentally sensitive lands include sensitive biological resources, steep hillsides, coastal beaches, sensitive coastal bluffs, and special flood hazard areas (San Diego Municipal Code Chapter 14, Article 3, Division 1; City of San Diego 2006).

Please refer to Section 5.1.2.3. With the exception of San Vicente Pipeline components along the south side of the reservoir, project components would not traverse City of San Diego environmentally sensitive lands.

City of Santee General Plan

Adopted in 2003, the City of Santee General Plan 2020 contains four elements: Community Development, Resource Management, Public Health and Safety, and Community Design.

Through the City of Santee, the San Vicente Pipeline would be located within existing roadways including Carlton Oaks Drive and Mast Boulevard. No other project components are proposed in Santee. Through the City, the alignment is located adjacent to a number of residentially designated lands (including low medium (R2), medium (R7), high (R22) density residential), planned development (PD), park/open space (P/OS), neighborhood commercial (NC), office professional (OP) and town center (TC) (City of Santee 2003). Relevant goals and objectives of the Land Use Element (consolidated into the Community Development Element), and Conservation Element, are listed below:

- Land Use Goal 6.0: Promote development of a well-balanced and functional mix of residential, commercial, industrial, open space, recreation, and civic uses that will create and maintain a high quality environment.
- Land Use Objective 5.0: Develop industrial uses which are compatible with adjacent land uses.
- Land Use Objective 9.0: Minimize land use conflicts between land uses in adjacent areas and existing and planned land uses in the City.
- Conservation Element Objective 1.0: Protect areas of unique topography or environmental significance to the greatest extent possible.

County of San Diego General Plan

Land Use Element. The County's Land Use Element provides a framework to accommodate future development in an efficient and sustainable manner that is compatible with the character of unincorporated communities and the protection of valuable and sensitive natural resources. The San Vicente Pipeline would primarily be aligned within existing roads travelling adjacent to land designated for Specific Plan Area, General Commercial, Village Residential, Semi-Rural Residential, Medium-Impact Industrial, Public Agency Lands, and Open Space (Recreation). Relevant goals of the Land Use Element are listed below:

- **Goal LU-2: Maintenance of the County's Rural Character.** Conservation and enhancement of the unincorporated County's varied communities, rural setting, and character.
- **Goal LU-4: Inter-jurisdictional Coordination.** Coordination with the plans and activities of other agencies and tribal governments that relate to issues such as land use, community character, transportation, energy, other infrastructure, public safety, and resource conservation and management in the unincorporated County and the region.
- **Goal LU-2: Infrastructure and Services Supporting Development.** Adequate and sustainable infrastructure, public facilities, and essential services that meet community needs and are provided concurrent with growth and development.

Conservation Element. The primary focus of the Conservation and Open Space Element is to provide direction to future growth and development in the County of San Diego with respect to the following:

- The conservation, management, and utilization of natural and cultural resources.
- The protection and preservation of open space.
- The provision of park and recreation resources.

Relevant goals of the Conservation Element are listed below:

- **Goal COS-4: Water Management.** A balanced and regionally integrated water management approach to achieve the long-term viability of the County's water quality and supply.

- **Goal COS-7: Protection and Preservation of Archaeological Resources.** Protection and preservation of the County's important archaeological resources for their cultural importance to local communities, as well as their research and educational potential.
- **Goal COS-8: Protection and Conservation of the Historical Built Environment.** Protection, conservation, use, and enjoyment of the County's important historic resources.
- **Goal COS-12: Preservation of Ridgelines and Hillsides.** Ridgelines and steep hillsides that are preserved for their character and scenic value.

Lakeside Community Plan

Lakeside is essentially a rural residential community that has experienced pressure to urbanize and accommodate suburban residential developments. The segment of the San Vicente Pipeline alignment through Lakeside is located within a rural residential neighborhood composed of larger lots featuring modest residences, equestrian facilities, and landscaping. Relevant goals and recommendations of the Lakeside community plan are listed below:

- **Community Character Goal:** Foster development which will preserve a rural atmosphere and enhance a sense of spaciousness.
- **Community Character Recommendation 1:** Protect Lakeside's unique natural environment, and preserve its rural way of life and cultural heritage.
- **Land Use Recommendation 4:** Provide for the preservation of open space areas, such as steep slopes and canyons, floodplains, agricultural lands, and unique scenic views and vistas, which serve to reinforce Lakeside's rural identity by locating residential development away from such areas.
- **Industrial Goal:** Provide for the kind of industrial development that does not detract from the existing rural character of the community.
- **Industrial Recommendation 4:** Encourage new and existing industrial facilities to blend with their surroundings by utilizing harmonious architectural design, undergrounding utilities, landscaping, and a high standard of maintenance.
- **Industrial Recommendation 12:** Industrial development that detracts from the rural character of Lakeside shall not be approved.

- **Conservation Recommendation 4:** Ensure that land uses within or adjacent to recreational, natural preserve, agricultural, or industrial areas are compatible with those areas.

San Diego Forward

The San Diego Association of Governments (SANDAG) San Diego Forward: The Regional Plan (Regional Plan) is the long-range planning document developed that addresses how the San Diego region will grow and how SANDAG will invest in transportation infrastructure that will provide more choices, strengthen the economy, promote a healthy environment, an support thriving communities (SANDAG 2015). San Diego Forward essentially combines the Regional Comprehensive Plan (RCP), the Regional Transportation Plan, and its Sustainable Communities Strategy (RTP/SCS). Adopted in 2004, the RCP laid out key principles for managing the region's growth while preserving natural resources and limiting urban sprawl. The plan covered eight policy areas including urban form, transportation, housing, healthy environment, economic prosperity, public facilities, our borders, and social equity. These policy areas were addressed in the 2050 Regional Transportation Plan and its Sustainable Communities Strategy (2050 RTP/SCS) and are now fully integrated into the Regional Plan.

At the core of the Regional Plan is a Sustainable Communities Strategy (SCS) that "charts a course toward lower greenhouse gas emissions related to cars and light trucks, and proposes other measures to make the San Diego Region more environmentally sustainable" (SANDAG 2015). The five strategies intended to move the region toward sustainability (per the Regional Plan) include the following:

- Focus housing and job growth in urbanized areas where there is existing and planned transportation infrastructure, including transit.
- Protect the environment and help ensure the success of smart growth land use policies by preserving sensitive habitat, open space, cultural resources, and farmland.
- Invest in a transportation network that gives people transportation choices and reduces greenhouse gas emissions.
- Address the housing needs of all economic segments of the population.
- Implement the Regional Plan through incentives and collaboration.

Goals of the Regional Plan are to provide innovative mobility choices and planning to support a sustainable and healthy region, a vibrant economy, and an outstanding quality of life for all (SANDAG 2015). While the Regional Plan places an emphasis on transportation and planning, it also shows concern for and addresses water resources and water supply. For example, when implemented, the Regional Plan is intended to result in a more efficient use of the region's water supply through the construction of more compact developments, which use less water per capita compared to suburban housing developments (SANDAG 2015).

While the 2004 RCP stressed a need for the region to diversify its water sources including through the development of local recycling, groundwater and desalination projects (SANDAG 2004), the Regional Plan generally emphasizes the need to protect water resources. Regarding the Regional Plan's Habitat and Open Space Preservation Objective, protection and restoration of our region's urban canyons, coastlines, beaches, and water resources is included as a specific objective.

Multiple Species Conservation Program

The City of San Diego is a participant in the San Diego Multiple Species Conservation Program (MSCP), a comprehensive, regional long-term habitat conservation program designed to provide permit issuance authority for take of covered species to the local regulatory agencies. The MSCP addresses habitat and species conservation within approximately 900 square miles in the southwestern portion of San Diego County (County of San Diego 1998). It serves as an approved habitat conservation plan pursuant to an approved Natural Communities Conservation Plan in accordance with the state Natural Communities Conservation Planning Act (County of San Diego 1998).

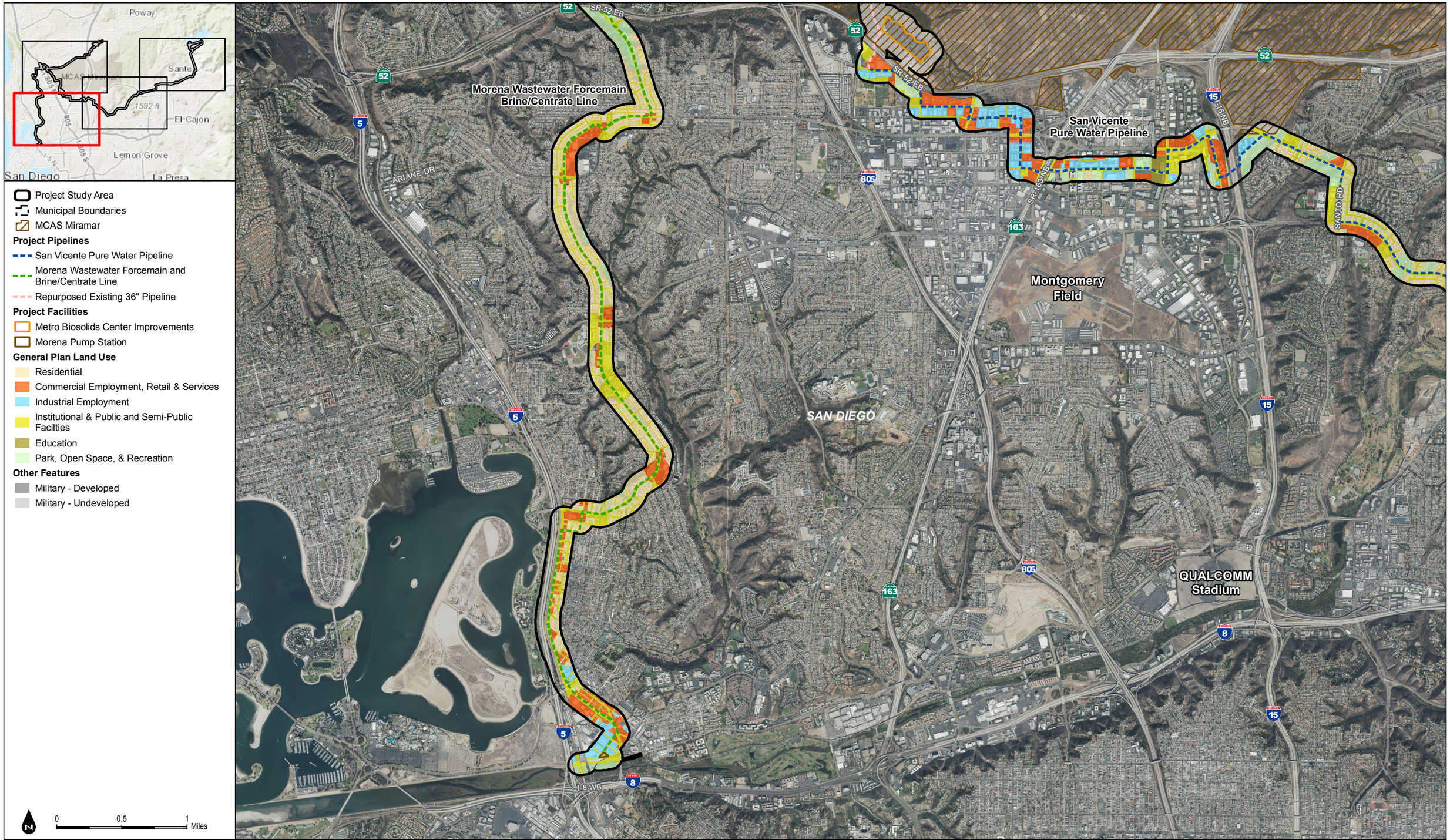
The MSCP establishes a preserve system designed to conserve large blocks of interconnected habitat having high biological value that are delineated in Multi-Habitat Planning Areas (MHPAs). The City MHPA is a "hard line" preserve developed by the City in cooperation with the wildlife agencies, property owners, developers, and environmental groups. The MHPA identifies biological core resource areas and corridors targeted for conservation, in which only limited development may occur (City of San Diego 1997). The City MHPA is shown on Figure 5.1-4A and the County of San Diego MSCP is shown on Figure 5.1-4B.

Please refer to Section 5.4, Biological Resources, for additional information regarding the MSCP and other local habitat conservation plans or policies.

Airport Land Use Compatibility Plans

The San Diego Regional Airport Authority acts as the Airport Land Use Commission (ALUC) for the San Diego region as provided in Section 21670.3 of the California Public Utilities Code and is charged with developing airport land use compatibility plans (ALUCPs) for each airport in the County, including military air installations. ALUCPs provide guidance on appropriate land uses surrounding airports to protect the health and safety of people and property within the vicinity of an airport, as well as the public in general. An ALUCP focuses on a defined area around each airport known as the Airport Influence Area (AIA). The AIA is composed of noise, safety, airspace protection and overflight factors. ALUCPs have been adopted for 16 airports countywide, including rural airports, military installations, and urban airports, such as SDIA. Airport Review Area boundaries for airports near project components are depicted on Figures 5.1-5A, 5.1-5B, and 5.1-5C.

Please refer to Sections 5.9, Health and Safety/Hazards, and Section 5.12, Noise, for additional information regarding ALUCPs and safety and noise factors considered in this EIR/EIS analysis.



SOURCE: SanGIS 2016; SANDAG 2016

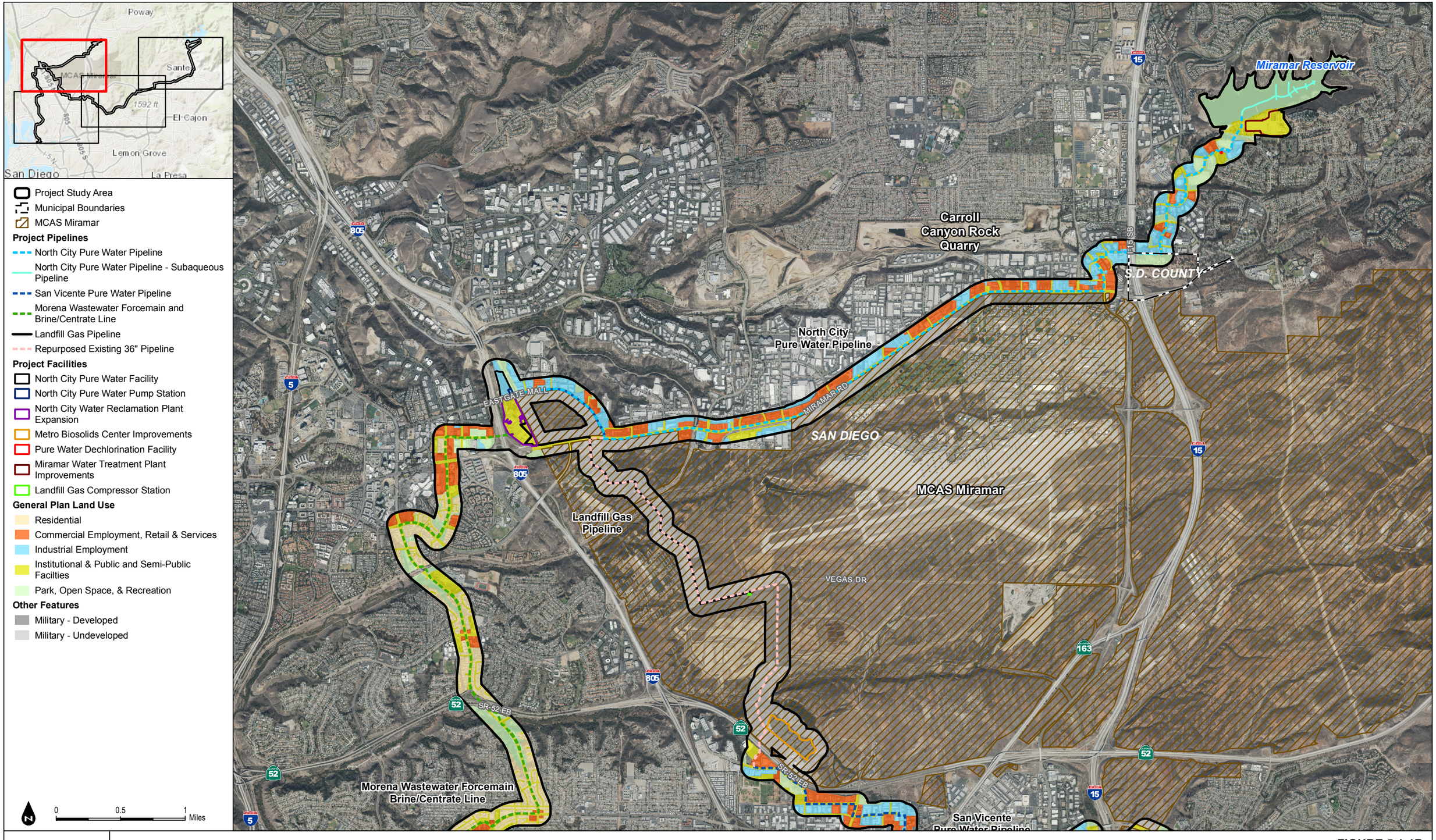
DUDEK

FIGURE 5.1-1A

General Plan Land Use Designations

Pure Water San Diego Program North City Project EIR/EIS

INTENTIONALLY LEFT BLANK



SOURCE: SanGIS 2016; SANDAG 2016

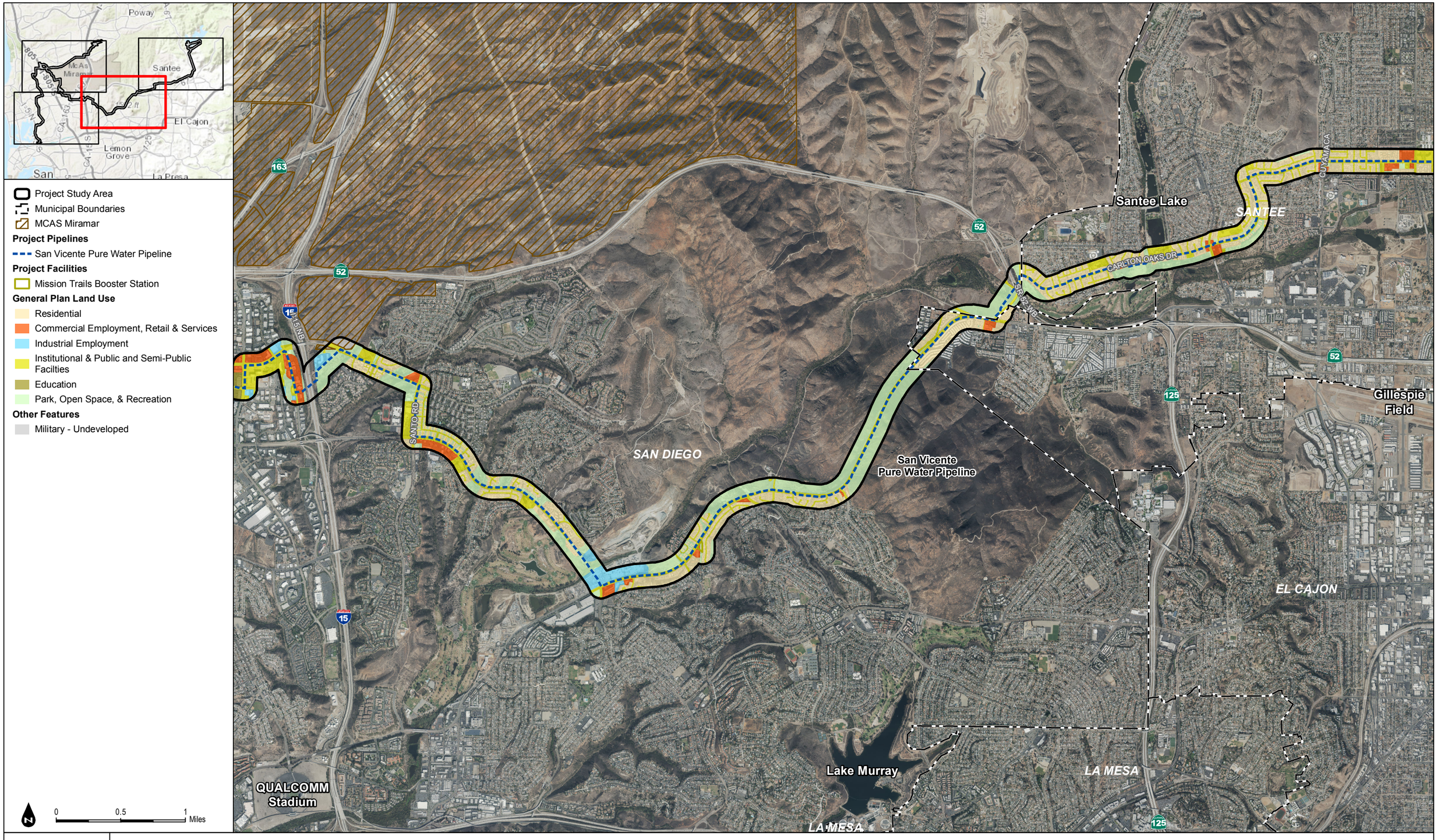
FIGURE 5.1-1B

General Plan Land Use Designations

DUDEK

Pure Water San Diego Program North City Project EIR/EIS

INTENTIONALLY LEFT BLANK



SOURCE: SanGIS 2016; SANDAG 2016

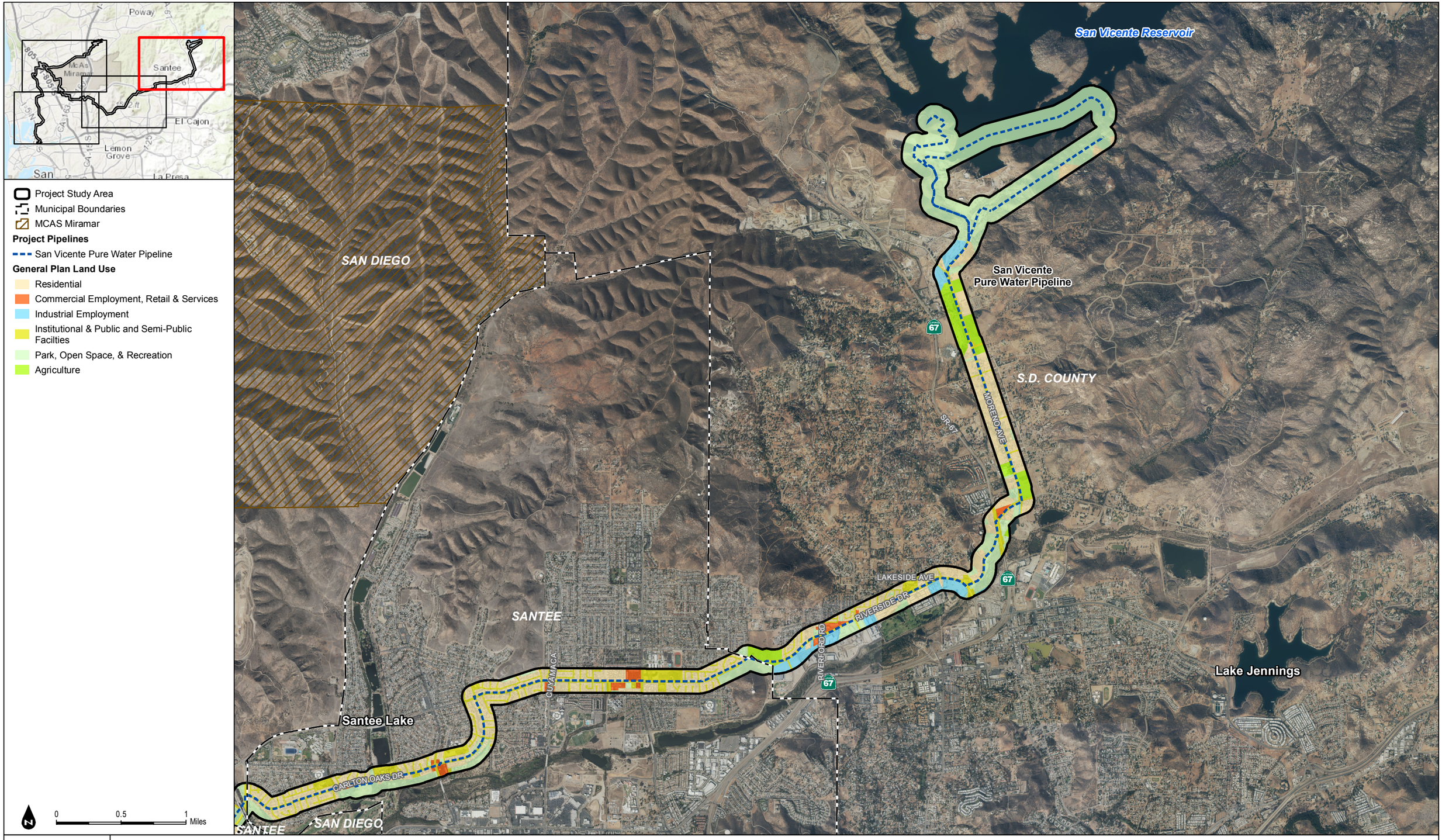
FIGURE 5.1-1C

General Plan Land Use Designations

DUDEK

Pure Water San Diego Program North City Project EIR/EIS

INTENTIONALLY LEFT BLANK



SOURCE: SanGIS 2016; SANDAG 2016

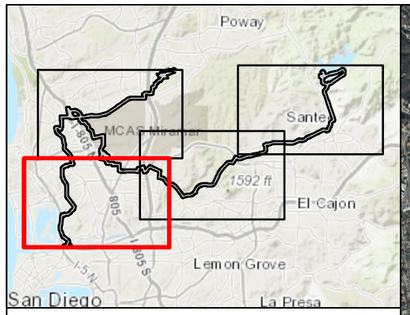
DUDEK

FIGURE 5.1-1D

General Plan Land Use Designations

Pure Water San Diego Program North City Project EIR/EIS

INTENTIONALLY LEFT BLANK



Project Study Area
Municipal Boundaries
MCAS Miramar

Project Pipelines

San Vicente Pure Water Pipeline
Morena Wastewater Forcemain and Brine/Centrate Line
Repurposed Existing 36" Pipeline

Project Facilities

Metro Biosolids Center Improvements
Morena Pump Station

City San Diego Zoning

AR-1-1
CC-1-1
CC-1-3
CC-2-3
CC-3-4
CC-4-2
CC-4-5
CN-1-2
CO-1-2
CP-1-1
IH-2-1
IL-2-1
IL-3-1
IP-2-1
OF-1-1
OP-1-1
RM-1-1
RM-1-3
RM-2-5
RM-3-7
RM-4-10
RS-1-1
RS-1-7
UNZONED

0 0.5 1 Miles

Wastewater Forcemain and Brine Pipeline
San Vicente Pipeline
Montgomery Field
QUALCOMM Stadium
SAN DIEGO
ARIANE DR
SR-52 EB
SR-163 NB
I-15 NB
SANTO RD
I-8 WB

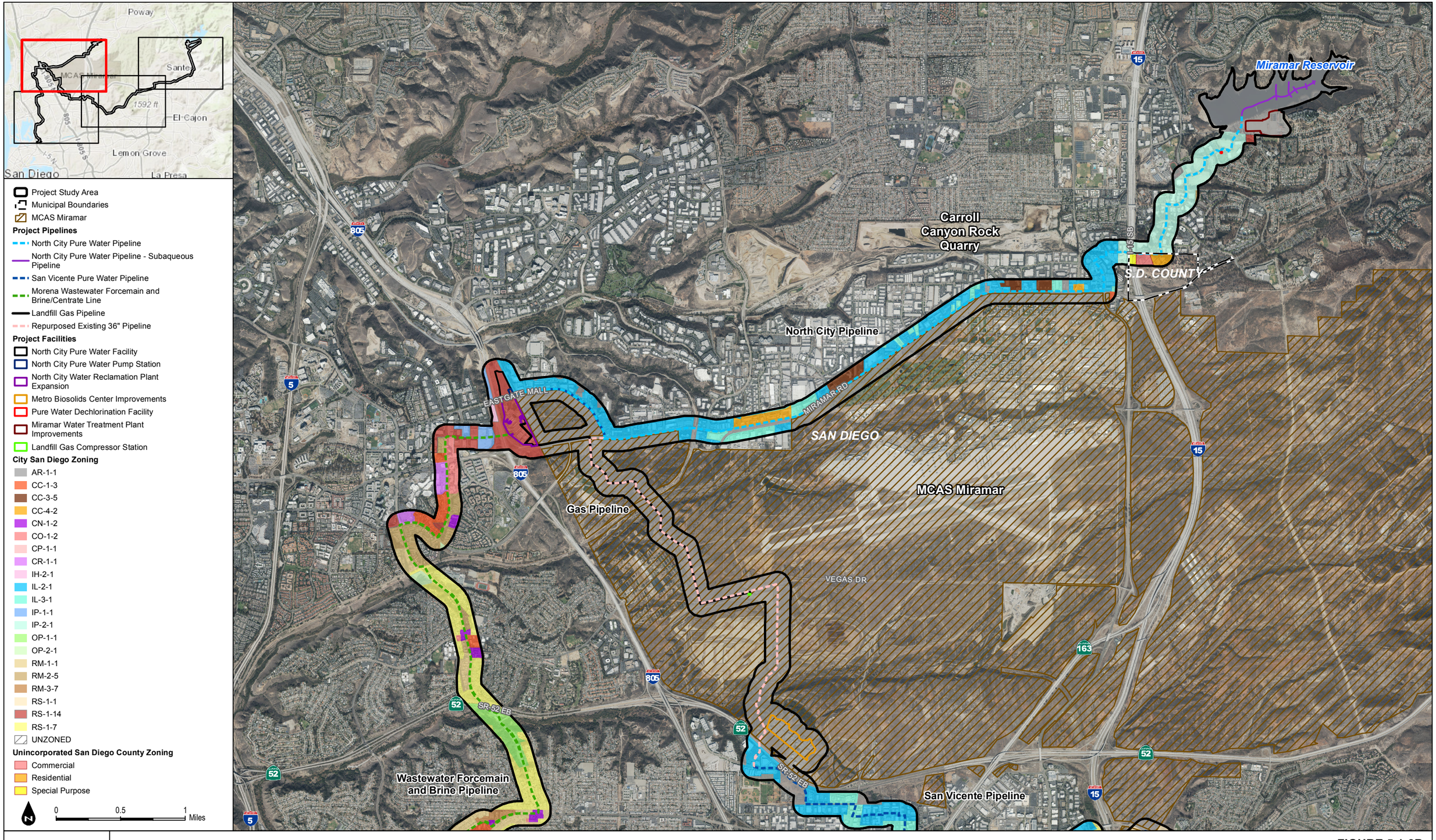
SOURCE: SanGIS 2016; SANDAG 2016; City of Santee

DUDEK

FIGURE 5.1-2A
Zoning Designations

Pure Water San Diego Program North City Project EIR/EIS

INTENTIONALLY LEFT BLANK



SOURCE: SanGIS 2016; SANDAG 2016; City of Santee

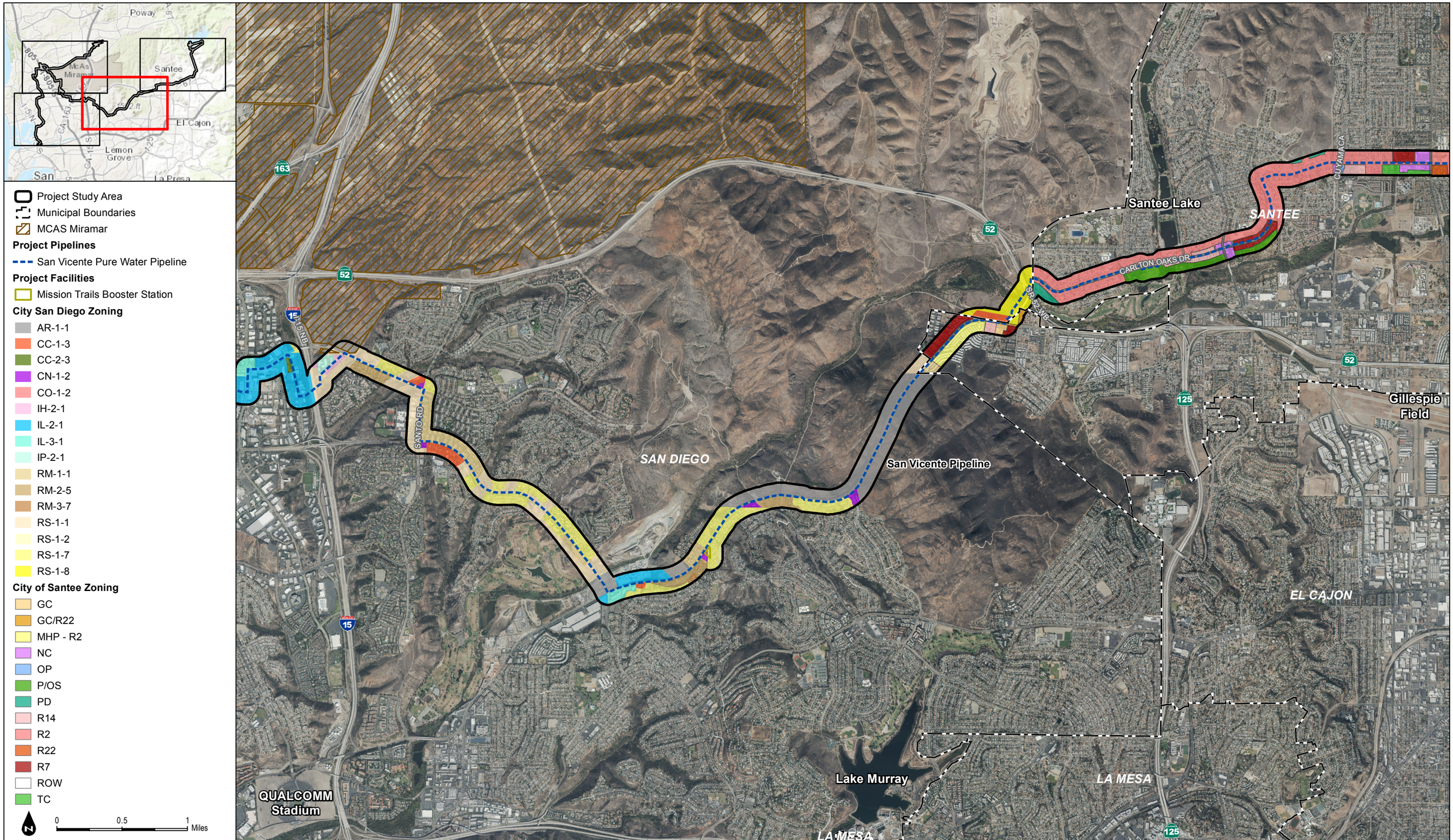
FIGURE 5.1-2B

Zoning Designations

DUDEK

Pure Water San Diego Program North City Project EIR/EIS

INTENTIONALLY LEFT BLANK



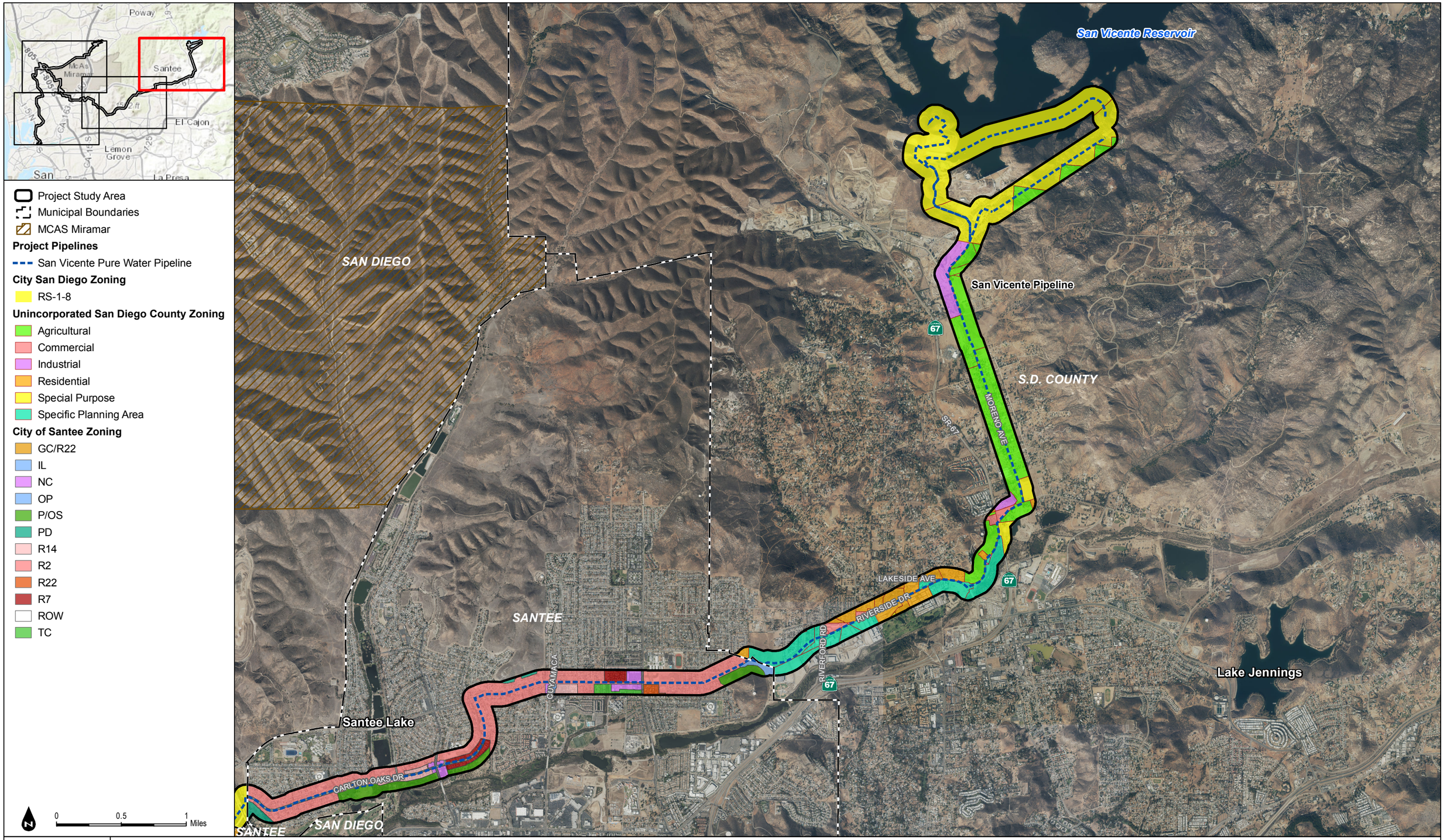
SOURCE: SanGIS 2016; SANDAG 2016; City of Santee

DUDEK

FIGURE 5.1-2C
Zoning Designations

Pure Water San Diego Program North City Project EIR/EIS

INTENTIONALLY LEFT BLANK



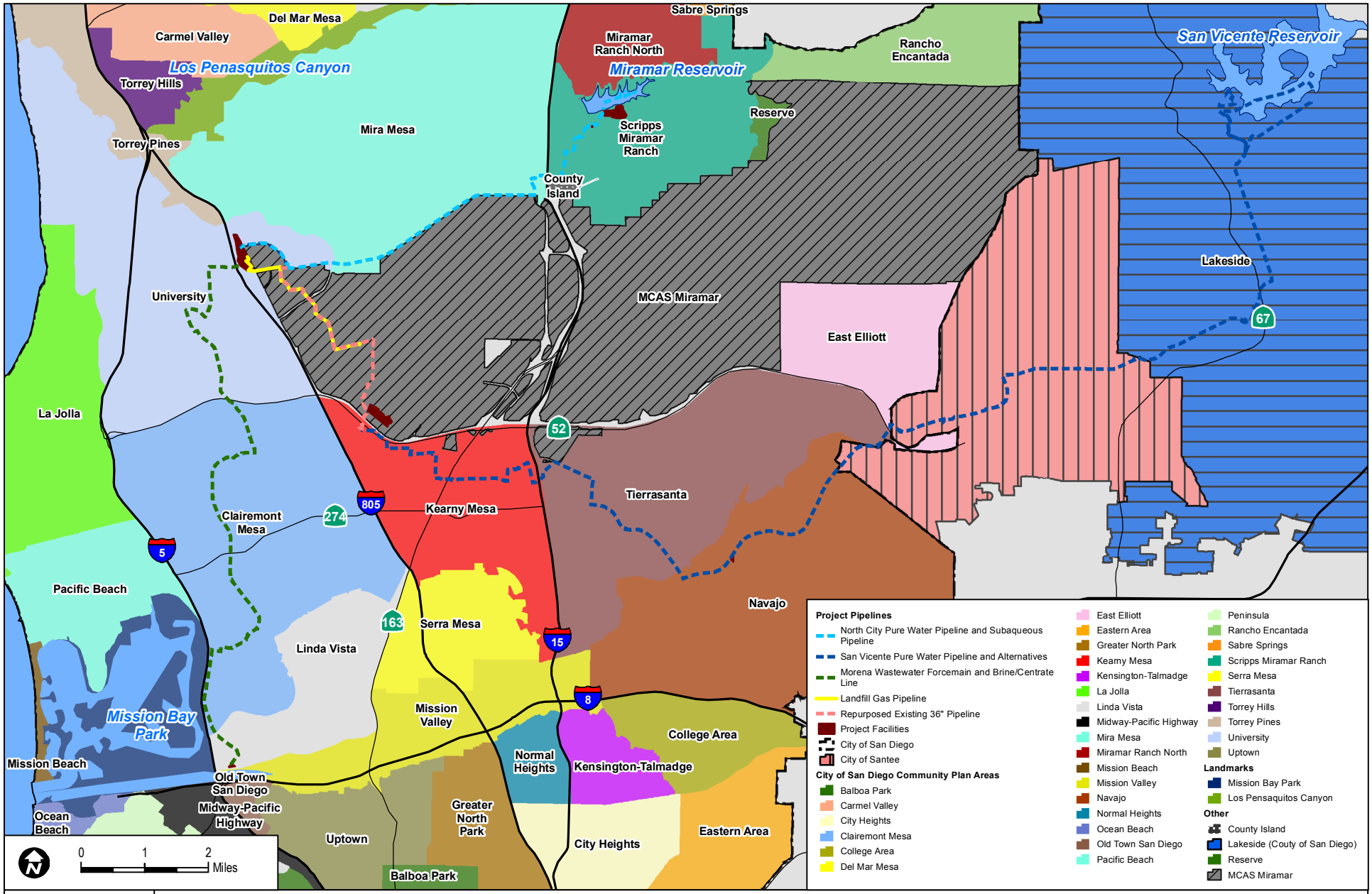
SOURCE: SanGIS 2016; SANDAG 2016; City of Santee

FIGURE 5.1-2D
Zoning Designations

DUDEK

Pure Water San Diego Program North City Project EIR/EIS

INTENTIONALLY LEFT BLANK



SOURCE: City of San Diego, 2015, 2016; SanGIS 2016

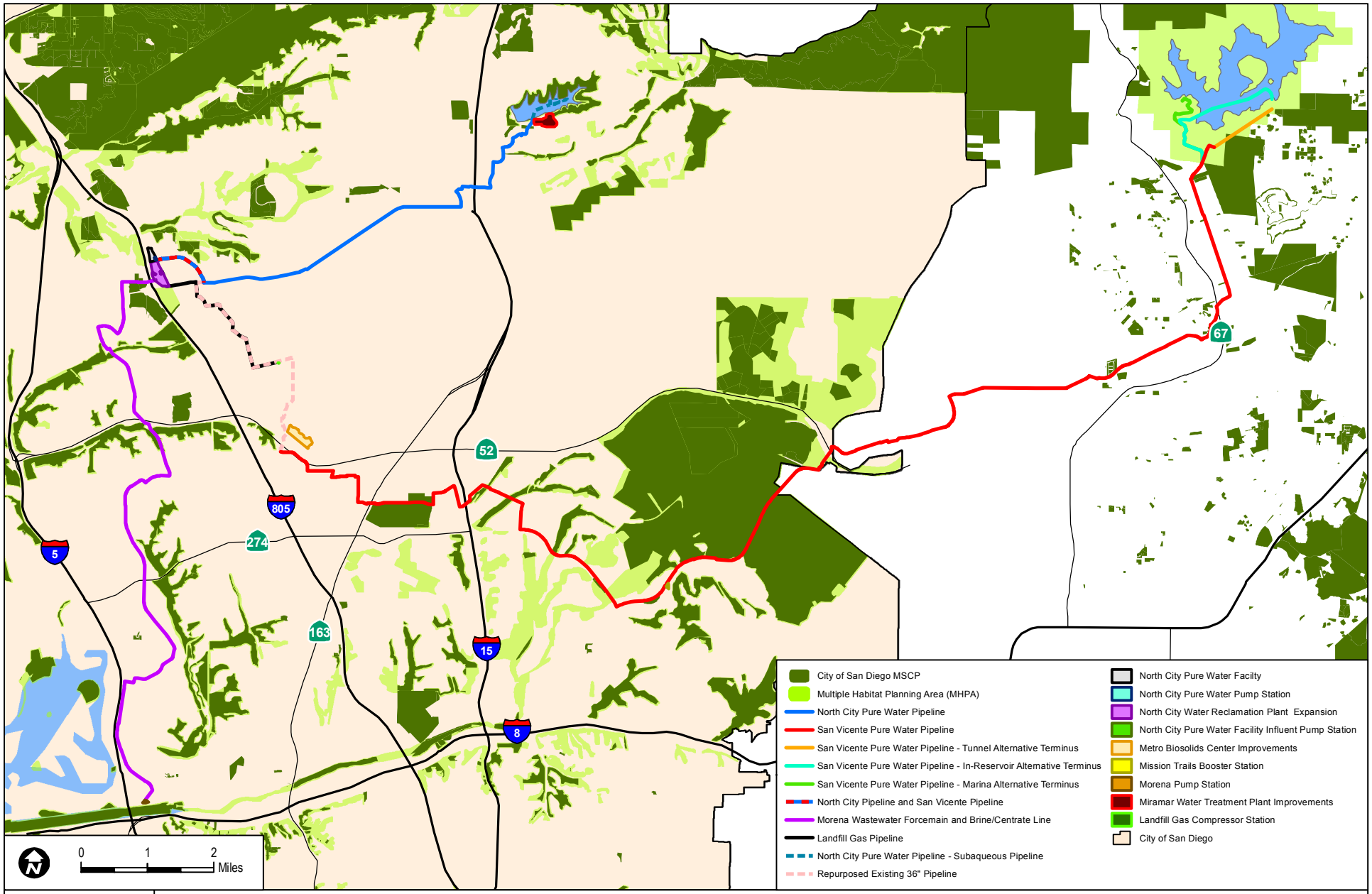
FIGURE 5.1-3

Community Plans

DUDEK

Pure Water San Diego Program North City Project EIR/EIS

INTENTIONALLY LEFT BLANK



SOURCE: City of San Diego, 2015, 2016; SanGIS 2016

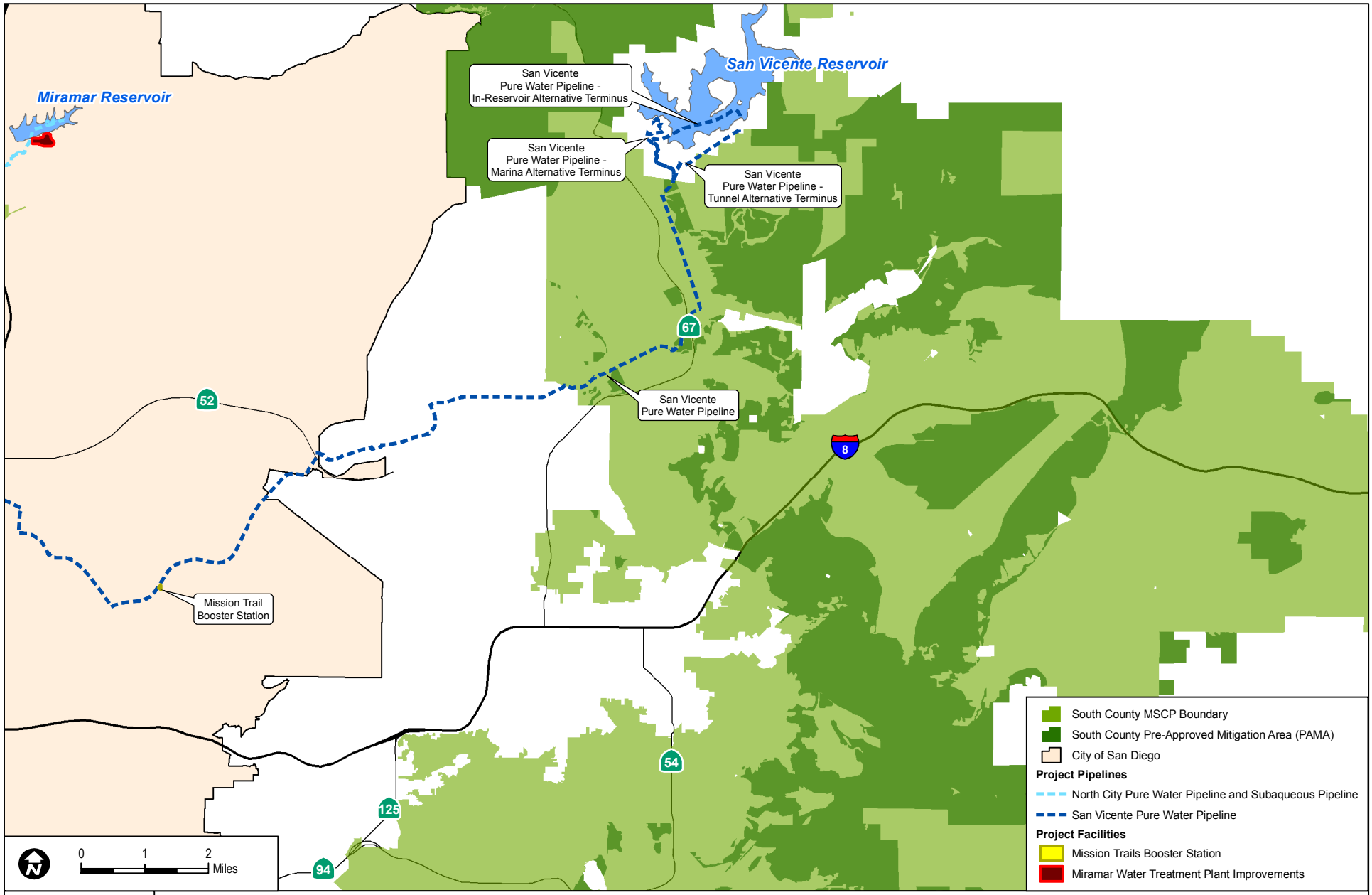
FIGURE 5.1-4A

City of San Diego MHPA

DUDEK

Pure Water San Diego Program North City Project EIR/EIS

INTENTIONALLY LEFT BLANK



DUDEK

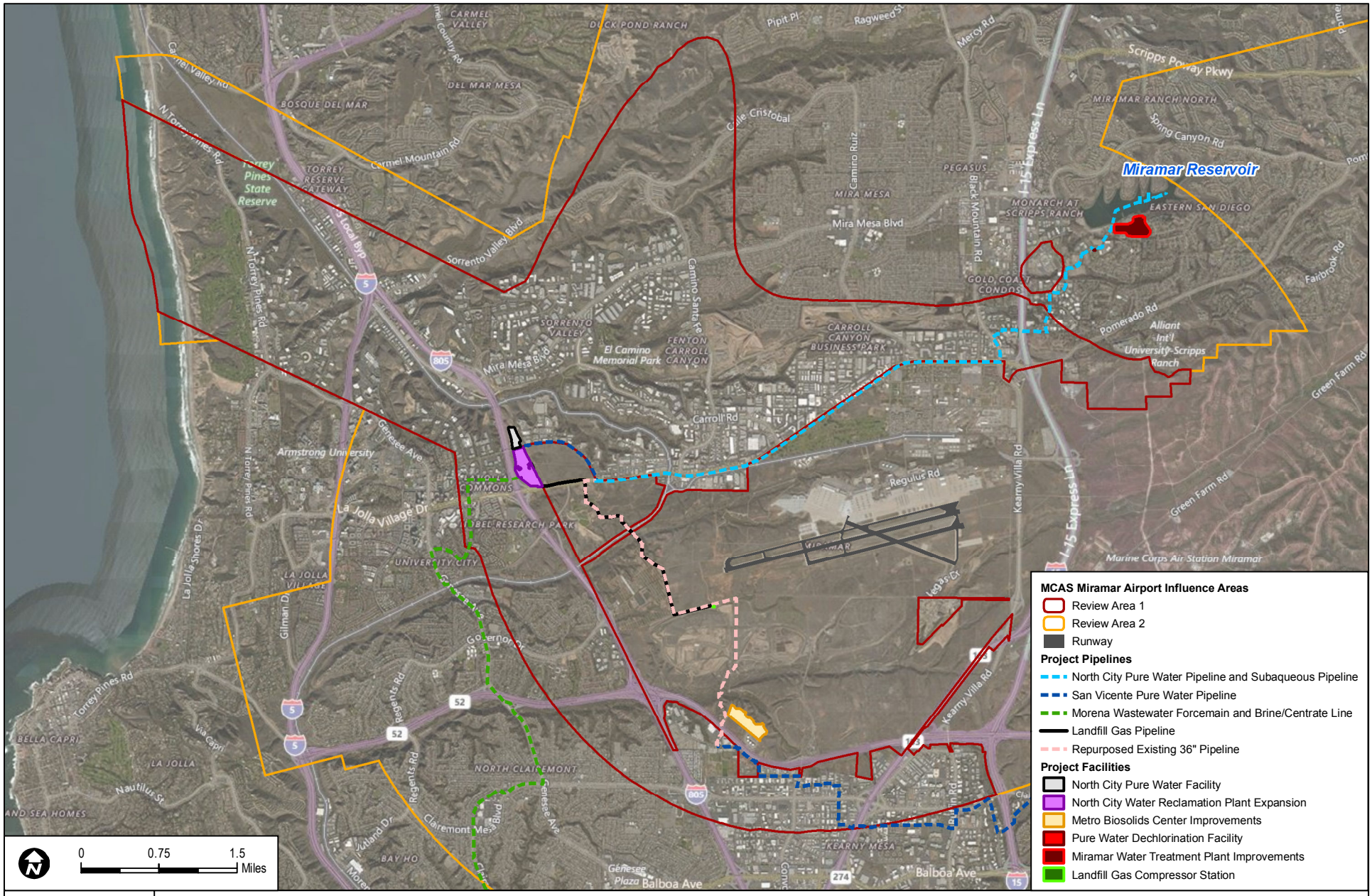
SOURCE: City of San Diego, 2015, 2016; SanGIS 2016

FIGURE 5.1-4B

County of San Diego MSCP

Pure Water San Diego Program North City Project EIR/EIS

INTENTIONALLY LEFT BLANK



SOURCE: City of San Diego, 2015, 2016; SanGIS 2016; Bing Maps 2016

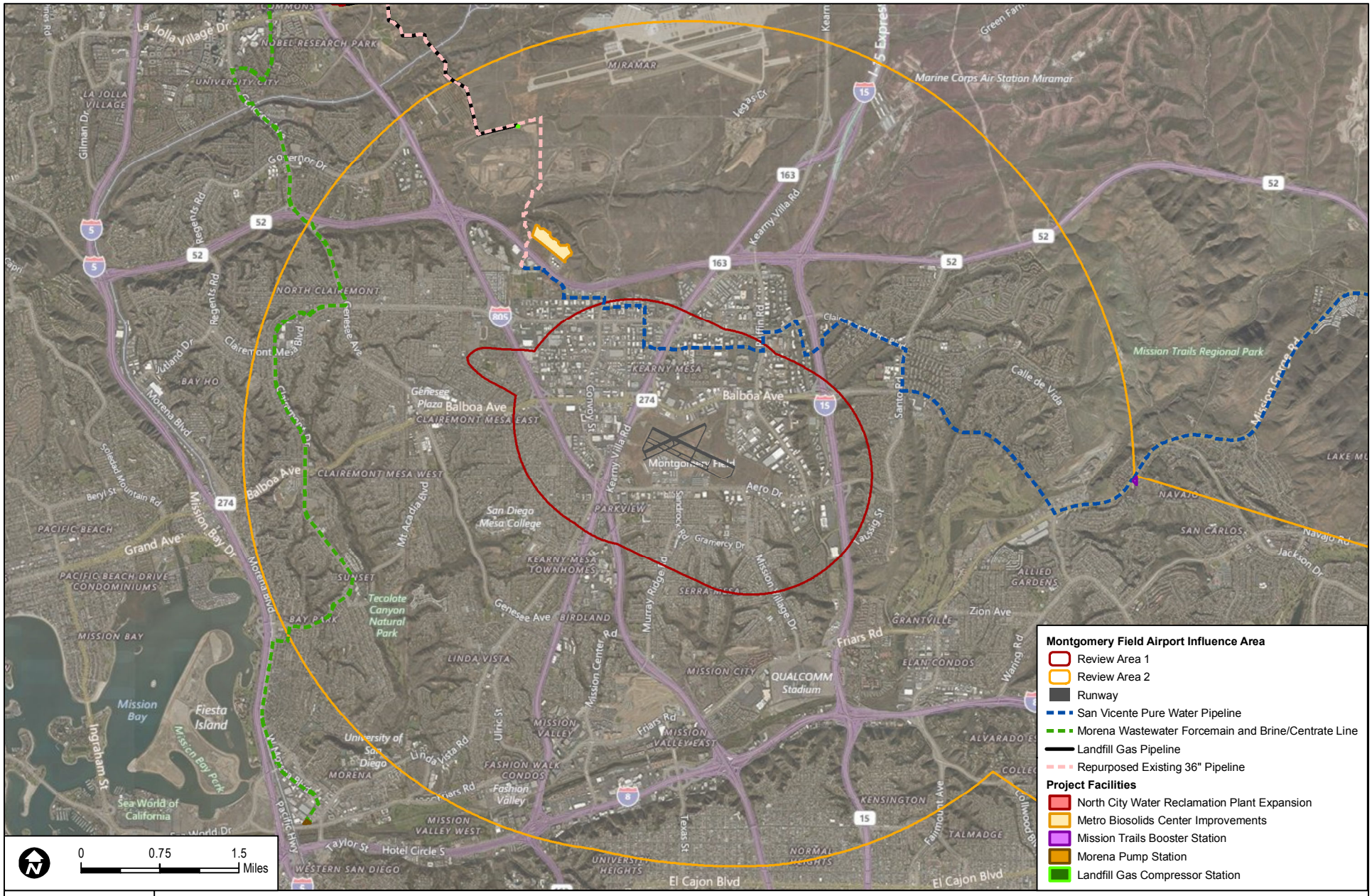
FIGURE 5.1-5A

Airport Land Use Compatibility Plan - MCAS Miramar Airport Review Areas

DUDEK

Pure Water San Diego Program North City Project EIR/EIS

INTENTIONALLY LEFT BLANK



SOURCE: City of San Diego, 2015, 2016; SanGIS 2016; Bing Maps 2016

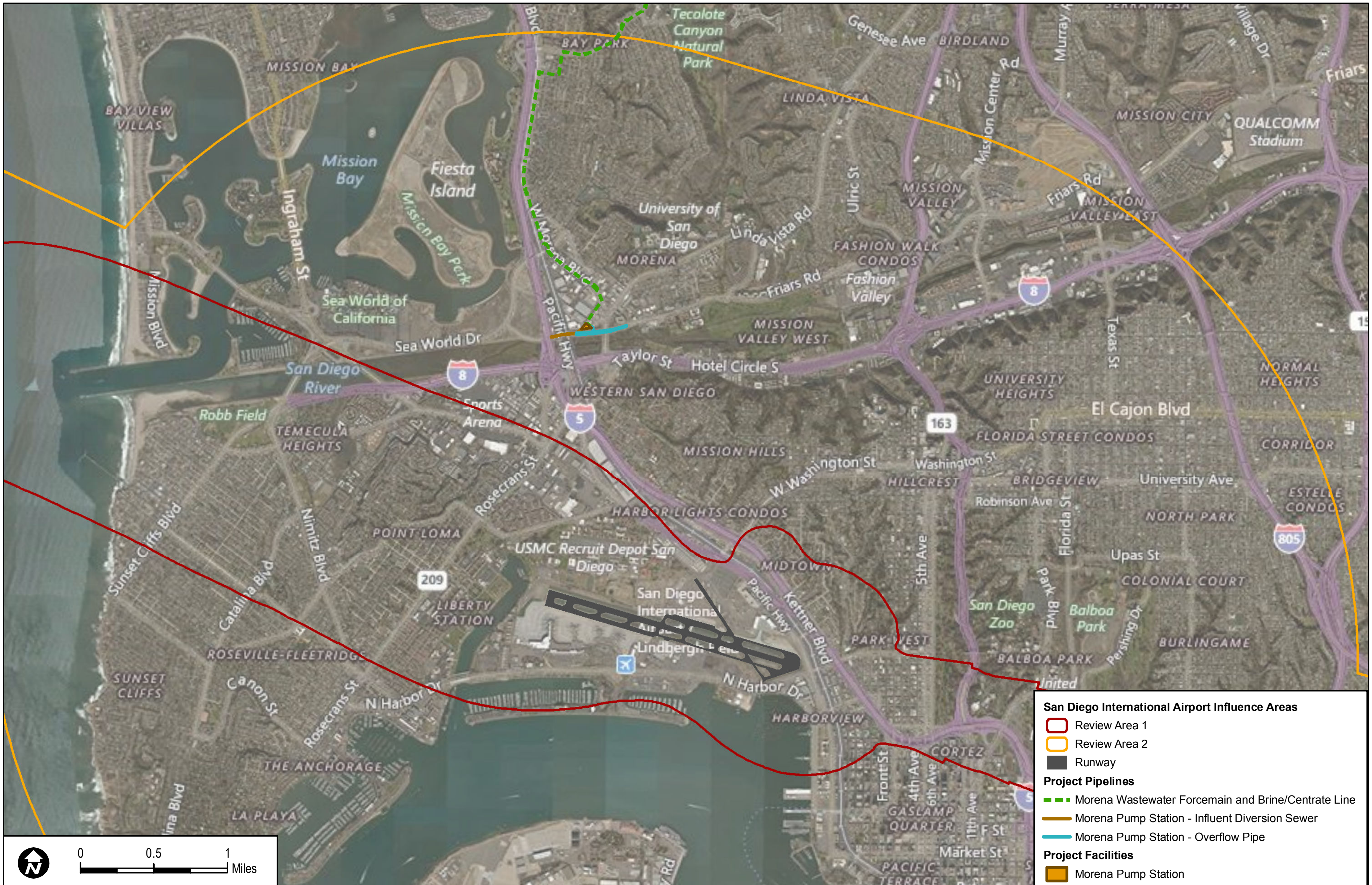
FIGURE 5.1-5B

Airport Land Use Compatibility Plan - Montgomery Field Airport Review Areas

DUDEK

Pure Water San Diego Program North City Project EIR/EIS

INTENTIONALLY LEFT BLANK



DUDEK

SOURCE: City of San Diego, 2015, 2016; ALUCP 2014; Bing Maps 2016

FIGURE 5.1-5C

Airport Land Use Compatibility Plan - San Diego International Airport Review Areas

Pure Water San Diego Program North City Project EIR/EIS

INTENTIONALLY LEFT BLANK

5.2 AESTHETICS/VISUAL EFFECTS AND NEIGHBORHOOD CHARACTER

5.2.1 INTRODUCTION

This section describes the existing environmental and regulatory setting of the North City Project area as it relates to aesthetics/visual effects and neighborhood character.

5.2.2 ENVIRONMENTAL SETTING

The following discussion describes the general existing conditions from an aesthetics/visual effects and neighborhood character viewpoint. Refer to Section 5.1, Land Use, for detailed on- and off-site land uses and zoning designation discussion for all North City Project components (project components).

5.2.2.1 Components Common to Project Alternatives

Morena Pump Station

As proposed, the Morena Pump Station would be located on a developed, triangular-shaped area situated east of Pacific Highway, west of Morena Boulevard, and north of the San Diego River, Metropolitan Transit System trolley tracks, and Friars Road. More specifically, the Morena Pump Station site is bound by Sherman Street to the north and west and Custer Street to the north and east. Currently home to San Diego Humane Society**,** the Society for the Prevention of Cruelty to Animals, and Project Wildlife facilities, the site is developed with several lightly colored stucco exterior structures (primarily one-story but also including two two-story buildings), two single-story portable buildings, synthetic-turf-covered surfaces, and paved surface parking areas. The Morena Pump Station site is designated for Industrial Employment and Park, Open Space, and Recreation use by the City's General Plan and is zoned for Industrial-Light (IL-3-1) use. See Section 5.1, Land Use, for information regarding General Plan and zoning designations.

Characterized by light industrial and large commercial/warehouse land uses, the site is located within the industrial Morena area of the Linda Vista Community Plan. City of San Diego Community Plan area boundaries are depicted on Figure 5.1-3, Community Plans. Several large and long one- and two-story public storage warehouses and distribution centers dominate the visual environment however, the area is also marked by smaller, siding covered showrooms and a blocky, three-story concrete and glass office development. The area generally lacks consistency in building materiality or form and features minimal vegetation, which largely consists

of small pockets of shrubs and street trees along the frontages of the public storage buildings and office development.

Due to the presence of existing one- and two-story development in the industrial Morena area, vegetation along the southern boundary of the Morena Pump Station site, and bermed land between the southern boundary of the neighborhood and Friars Road, significant visual landmarks such as the San Diego River, Mission Bay, or the ocean or scenic vistas are not visible from the Morena Pump Station site and immediate surrounding area.

Morena Wastewater Forcemain and Brine/Centrate Line

The alignment of the Morena Wastewater Forcemain and Brine/Centrate Line (Morena Pipelines) would follow the same alignment as depicted in Figure 3-1, Miramar Reservoir Alternative. The vast majority of the Morena Pipelines would be located within existing paved roadways. The alignment would begin in an open cut section near the north corner of the Morena Pump Station site, entering the public street right-of-way on Custer Street. The alignment would generally head north along Sherman Street, Morena Boulevard, and West Morena Boulevard through an industrial and commercial area of southwest Linda Vista. The alignment would cross under Tecolote Road bridge and Tecolote Creek (entering the community of Clairemont Mesa) and then continue generally heading north and east along ~~Ingulf~~ Jellett Street, Denver Street, Clairemont Drive, Clairemont Mesa Boulevard, and Genesee Avenue. With the exception of one- and two-story structures housing industrial/commercial businesses including City Lights, Bayside Paint Company, and Coronado Brewing Company, residential and commercial land uses generally abut the Morena Pipelines alignment through Clairemont Mesa.

At the northern boundary of the Clairemont Mesa community, the alignment would cross under San Clemente Canyon and beneath the elevated travel lanes of State Route 52 (SR-52) along Genesee Avenue and would enter the University Community Plan Area. North of SR-52, the alignment would continue along Genesee Avenue, traversing a landscape marked by single- and multi-family residential development and dotted with occasional neighborhood commercial shopping centers and a high school (i.e., University City High School). After crossing under railroad tracks within Rose Canyon, the alignment would continue north along Genesee Avenue and then head east on La Jolla Village Drive near the southern end of the Westfield University Town Center shopping mall. The alignment would then travel along La Jolla Village Drive and Towne Center Drive, traversing the residential and commercial office

area that surrounds the Westfield University Town Center. At Executive Drive, the alignment would head east through an office complex and towers neighborhood prior to crossing Miramar Canyon and beneath Interstate 805 (I-805). The alignment would end at the existing North City Water Reclamation Plant (NCWRP).

Due to the presence of tall landscaping along I-5, views to significant visual landmarks such a Mission Bay are not visible along the Morena Boulevard segment of the Morena Pipelines alignment. Scenic vistas are also not available along the Morena Boulevard segment of the alignment. The remaining portion of the alignment traverses the developed Clairemont Mesa and University communities. With the exception of views to Mount Soledad at the Rose Canyon crossing, significant visual landmarks are not visible along the alignment and scenic vistas are generally not available.

North City Water Reclamation Plant Expansion

As proposed, the existing approximately 35-acre NCWRP would be expanded from a capacity of 30 million gallons per day (MGD) to 52 MGD (AADF) and 90 MGD on a peak daily flow, and additional wastewater flows would be delivered from the Morena Pump Station and the Morena Pipelines. The NCWRP is located east of I-805, south of Eastgate Mall, and north of Miramar Road in the University Community Plan Area. The existing facility is zoned for Residential use (RS-1-14) but is designated by the City's General Plan for Institutional & Public and Semi-Public Facilities use. In addition to I-805, landscaped and undeveloped canyon slopes are located west of the NCWRP (large office complexes and towers are located west of I-805) and primarily undeveloped military lands traversed by electrical distribution poles and line but otherwise covered with chaparral vegetation portion are located immediately to the east. As described in more detail below, east of the NCWRP Eastgate Mall is abutted on the north and east by two-story industrial concrete tilt-up buildings; concrete, glass, and wood exterior business park development; a Mission-style office complex; and a large, concrete and dark glass office development. Equipment rental yards and auto repair service businesses are also present along Eastgate Mall and contribute to the overall industrial character of the corridor.

As eastbound La Jolla Village Drive motorists pass Judicial Drive and proceed towards the Miramar Road I-805 span, distant mountainous terrain is briefly visible past the NCWRP to the northeast. Dark and hazy silhouettes of mountainous terrain also becomes visible to the east along the Miramar Road corridor as eastbound Miramar Road motorists travel past the southern boundary of the NCWRP. No other significant visual landmarks are visible near the NCWRP. Long easterly views to

Sorrento Valley development and mountain ridgelines are available to eastbound Eastgate Mall motorists over the I-805 span. No other significant visual landmarks are visible or scenic vistas are available near the NCWRP.

North City Pure Water Facility—Miramar Reservoir

The North City Pure Water Facility—Miramar Reservoir (NCPWF-MR) site is an undeveloped, previously disturbed, approximately 8.7-acre triangular-shaped parcel located north of Eastgate Mall and the existing NCWRP. The site is relatively flat; however, the northernmost portion of the site gradually slopes downward toward an existing electrical substation. The southern portion of the NCPWF-MR site is designated for (1) Institutional and (2) Public and Semi-Public Facilities use, and the northern portion of the site is designated for Industrial Employment use by the City of San Diego (City) General Plan. The site is zoned RS-1-4.

The NCPWF-MR site (and the NCWRP to the south) is located within the boundaries of University Community Plan Area and more specifically, within the Miramar Subarea. This area is dominated by mixes of industrial uses, distribution centers, and strip commercial. The University Community Plan describes the visual character of the area surrounding the NCPWF-MR site as “a chaotic conglomeration of structures and signs” (City of San Diego 2016). The visual impact of industrial development is a key issue in this area and has marked the visual environment.

The area east of I-805 and along Eastgate Mall is heavily disjointed visual environment. Heading east on Eastgate Mall from I-805, the NCPWF-MR site lies to the north and appears as disturbed chaparral dotted land scarred by an east–west and a north–south dirt road. The southernmost portion of the site is adjacent to the wide, exposed soil right-of-way of Eastgate Mall and is lined by wooden poles supporting electrical line, a long jersey barrier, and several utility boxes. Thin metal poles with wooden cross arms and numerous climbing pegs line the eastern boundary of the site (a transmission corridor with multiple transmission lines is located adjacent to the site) and route electrical transmission lines past the electrical substation locate north of the site. In addition to large, concrete tilt-up industrial warehouses, a building materials quarry is located immediately east of the transmission corridor. The area south of Eastgate Mall (the land occupied by the NCWRP) is substantially more aesthetically pleasing due to the large amount of tall, mature trees installed on the northern portion of the NCWRP property. Due to the combination of extensive landscape screening and substantial setbacks from the roadway, the NCWRP is minimally visible from Eastgate Mall.

Continuing east along Eastgate Mall, the current one- to two-story warehouses and industrial land uses create a distinctive boxy architectural style along the roadway with similar bulk, scale, and massing of buildings. Existing development includes a mix of industrial concrete tilt up buildings, concrete, glass, and wood exterior business park development, a Mission-style office complex, a large, concrete and dark glass office development, equipment rental yards, and auto repair service businesses. As such, the area currently lacks consistency in use of building materials and design theme. For the majority of this segment of Eastgate Mall, the shoulder is unimproved; pedestrian sidewalks appear along the southern frontages of the existing warehouses. To the south of the existing warehouses and east of the NCWRP is a large area of open space between Eastgate Mall and Miramar Road. This area of open space is characterized by rolling hills with chaparral vegetation. Standard size utility poles, along with very large transmission lines, travel in a north to south direction, perpendicular to Eastgate Mall. These utility lines contribute to the disjointed existing visual environment surrounding the NCPWF-MR site.

When looking toward the NCPWF-MR site from eastbound Eastgate Mall near the I-805 bridge, relatively distant views to the north and northeast to hazy mountain ridgelines are afforded to passing motorists due to the relatively flat topography of the site and the elevated nature of the roadway. However, from westbound Eastgate Mall and from both west- and east-bound Eastgate Mall immediately south of the site, views towards the site tend to be of scattered office buildings, electrical transmission infrastructure, and other industrial land uses to the north that as opposed to scenic resources such as mountainous terrain or the ocean.

The majority of potential viewers of the NCPWF-MR site would be motorists traveling past the site on Eastgate Mall, with the remainder of viewers being workers in the surrounding industrial and office centers. When a viewer is located on Eastgate Mall, west of I-805, views of the NCPWF-MR site are direct and unobstructed. Views of the NCPWF-MR site from the warehouses to the east are likely direct and unobstructed, depending on the location of the viewer. As the NCPWF-MR site is located at a higher elevation than I-805 to the west, only views of the very western edge of the site are afforded to freeway motorists.

North City Pure Water Facility Influent Pump Station

As proposed, the NCPWF Influent Pump Station would be constructed at the NCWRP and would convey tertiary effluent from the NCWRP to the NCPWF. A pump station and associated pipes and appurtenances are currently located within the

site. These components would be removed prior to construction of the NCPWF Influent Pump Station. The site is relatively flat and in addition to concrete surfaces and facilities associated with the existing pump station, a portion of the proposed site consists of located within the boundaries of the site.

Because the NCPWF is located at a greater elevation than the I-805 travel lanes (the local terrain slopes upwards to the east and west of the interstate) and intervening slopes are landscaped with tall, mature pine, sycamore, and other indeterminate trees, passing motorists on I-805 are not afforded views to the site. Black wrought-iron fencing installed along the western perimeter of the facility and an existing facility building located immediately west of the NCPWF Influent Pump Station site also screens the site from view of passing interstate motorists. Lastly, existing views from I-805 near the NCPWF Influent Pump Station site are rather limited in extent due to sloping terrain to the east and west and mesa landforms to the north. Significant visual landmarks and scenic vistas are generally not available along I-805 near the proposed NCPWF Influent Pump Station site.

The NCPWF Influent Pump Station would be located primarily within the development footprint of the NCWRP Expansion site. Therefore, please refer to the North City Water Reclamation Plant Expansion section for a discussion of views to significant visual landmarks and scenic vistas available near the NCPWF Influent Pump Station.

North City Pure Water Pump Station

The North City Pure Water Pump Station (North City Pump Station) would be located on an approximate 0.75-acre site at the southeast corner of the NCPWF-MR site. Similar to the adjacent NCPWF-MR site, the existing terrain underlying the North City Pump Station is flat and is covered by disturbed land and disturbed chaparral vegetation. The site is located adjacent to an approximately 430-foot-wide electrical transmission corridor featuring tall tubular steel poles and geometric steel lattice structures that support high-voltage electrical lines. The transmission corridor is also traversed by several dirt and gravel access roads that provide access to the transmission line structures and the electrical substation located to the north of the NCPWF-MR. A tall and large, two-story concrete tilt-up industrial warehouse with a simple, unadorned south-facing façade is located immediately east of the transmission corridor and north of Eastgate Mall. Please refer to the North City Pure Water Facility—Miramar Reservoir discussion in regard to the existing character of development along Eastgate Mall near the North City Pump Station and availability of views across the site from Eastgate Mall and adjacent industrial land uses.

The North City Pump Station site is located immediately adjacent to the NCPWF-MR site. Therefore, please refer to the North City Pure Water Facility—Miramar Reservoir section for a discussion of views to significant visual landmarks and scenic vistas available near the North City Pump Station site.

Landfill Gas Pipeline

The proposed Landfill Gas (LFG) Pipeline would primarily be located on Marine Corps Air Station (MCAS) Miramar land and would generally follow the existing disturbed City utility easement (recycled water line, centrate line, sludge line, landfill gas line, and fiber optic cable) from the northern part of the Miramar Landfill to NCWRP. From the Miramar Landfill the LFG Pipeline would head west, paralleling a landfill road paralleling Johnson Road, and would then turn north and border the eastern boundary of a large public wholesale nursery. North of the nursery, the alignment would be following the corridor across Miramar Canyon and military lands traversed by dirt access roads and Metropolitan Transit System railroad track. The alignment would briefly enter the Miramar National Cemetery and would follow existing roadways (paved and dirt) towards the cemetery's service yard and eventually, Miramar Road. Lastly, the alignment would head west along Miramar Road for approximately 0.4 mile prior to interconnecting with the NCWRP.

Metro Biosolids Center Improvements

Located on 39 acres adjacent to the Miramar Landfill, the Metro Biosolids Center (MBC) is an existing wastewater biosolids treatment facility composed of multiple aboveground tanks; a large, two-story concrete and glass exterior operations building; rock landscaping; surface parking areas; and equipment laydown/storage yards. The developed site is relatively flat; however, the topography of lands to the north consists of a series of low hills separated by descending terrain that eventually falls into San Clemente Canyon. The MBC is designated for Military use by the City's General Plan and is zoned for agricultural-residential use (AR-1-1). The MBC is occasionally visible to passing SR-52 motorists; however, the presence of four large cylindrical tanks west of the MBC and rising and/or bermed chaparral-covered terrain east of the state route regularly interrupt available views to the facility.

The primary viewer groups afforded views to the MBC are north- and southbound motorists on SR-52. Views to the MBC from SR-52 are available along an approximate 0.4-mile segment of the state route beginning near the westbound SR-52 Convoy Street on-ramp. Although MBC facilities are visible along this

segment of SR-52, facilities are regularly obscured by vegetation, bermed lands, and four large cylindrical storage tanks located south of the MBC. Although views to mountainous terrain in Mission Trails Regional Park is visible to eastbound SR-52 motorists along this segment, significant visual landmarks are not visible to westbound motorists. Also, due to the presence of developed industrial land uses in Kearny Mesa to the south and existing facilities (i.e., the MBC and aboveground storage tanks), rising terrain, and mounded landforms to the north, scenic vistas are not available near the MBC.

5.2.2.2 Miramar Reservoir Alternative

North City Pure Water Pipeline

As proposed, the alignment of the North City Pure Water Pipeline (North City Pipeline) primarily follows existing roadways between the NCPWF-MR and the Miramar Reservoir. The North City Pipeline would exit the NCPWF-MR and run east along Eastgate Mall prior to turning east on Miramar Road and heading towards Camino Santa Fe. The approximate 1.7-mile-long segment of the North City Pipeline located in the University Community Plan area would traverse an industrial neighborhood marked with warehouses, office complexes, auto repair businesses, self-storage businesses and home improvement showrooms. East of Camino Santa Fe, the North City Pipeline would traverse the Mira Mesa Community Plan area through a largely industrial setting featuring occasional commercial shopping centers and base housing associated with Marine Corps Air Station Miramar. At Kearny Villa Road, the proposed alignment would head north and then east, continuing through an industrial neighborhood populated by self –storage units, and one- and two-story business park development. At the eastern terminus of Via Excelencia, the alignment would continue to the east, crossing beneath I-15, and would briefly traverse the wooded (eucalyptus) northwestern corner of a private equestrian center (Scripps Miramar Saddlebreds). The remaining portion of the alignment would be located in the Scripps Miramar Ranch Community Plan area.

At Business Park Avenue, the alignment would then turn and head north through an industrial business park area. One- to two-story glass and stucco exterior office complexes, one-story concrete tilt-up buildings, and surface parking lots separated by natural turf areas and groves of tall and mature eucalyptus trees dot the Business Park Avenue adjacent landscape. With the exception of several vacant but previously graded lots, the remaining portion of the alignment along Carrol Canyon Road, Hoyt Park Drive, and across Scripps Lake Drive is located in a landscape

marked by office development and an industrial facility (i.e., the Miramar Water Treatment Plant (WTP)). The alignment would cross the western end of the treatment facility and would terminate within the Miramar Reservoir.

Views to distant mountainous terrain along the Miramar Road corridor and views to Miramar Reservoir are available along the North City Pipeline alignment. No other significant visual landmarks are visible from public viewing locations along the North City Pipeline alignment. Also, due to the developed nature of the alignment corridors, scenic vistas are general not available along the North City Pipeline alignment.

Pure Water Dechlorination Facility

A Pure Water Dechlorination Facility (Dechlorination Facility) will be located at the end of Meanley Drive off the cul-de-sac on the City's property for the Miramar Recycled Water Storage Tank. The site encompasses Meanley Drive sidewalk and a low, yellow-bollard-lined slope that gradually rises to the south and is landscaped with low spreading shrubs and two maintained Brazilian pepper (*Schinus terebinthifolius*) trees. Surrounding land uses include the natural-turf-covered Miramar Recycled Water Storage Tank, which is surrounded by dense landscape trees and a paved perimeter roadway, a vacant yet disturbed lot surrounded by tall eucalyptus trees to the north, and lightly colored exterior concrete tilt-up office buildings to the northwest and east. Development within the surrounding area is generally setback from local roads (i.e., Meanley Drive and Hoyt Park Drive) that are lined with mature trees and low groundcover. Due to its proximity to Meanley Drive, views to the Dechlorination Facility site from passing motorists are unobstructed.

The area surrounding the Dechlorination Facility site includes two-story industrial office development, the City's property for the Miramar Recycled Water Storage Tank, the tree-lined Meanley Drive, and an undeveloped lot located south of the Scripps Miramar Ranch Library Center that is lined planted with tall eucalyptus trees along its western and southern boundary. Due to the presence of these elements, views to significant visual landmarks are not available and scenic vistas are not present.

Miramar Water Treatment Plant Improvements

The Miramar WTP is an existing industrial facility sited along the south shore of the Miramar Reservoir and north of Scripps Lake Drive. The cluster of visible facility buildings located in the southeastern corner of the site display grey concrete exterior walls that support slightly convex to arching, red metal roofs and overhangs. An approximate 600-foot-long portion of the site's frontage along

Scripps Lake Drive is lined with a black wrought iron fence that affords passing motorists views to facility buildings in the southeastern corner of the site. A vine covered concrete masonry unit wall is erected along the remaining portion of the Scripps Lake Drive frontage and helps to obscure portions of the facility from view. Scenic resources such as the Miramar Reservoir are not visible from Scripps Lake Drive due to the presence of WTP buildings and fencing and intervening terrain and vegetation. Further, vegetated slopes and landscaping help to screen portions of the Miramar WTP from view of residential neighborhoods located to the east of the facility.

With the exception of Miramar Reservoir and surrounding topography, significant visual landmarks are not visible from public viewing locations near Miramar WTP and in the immediate surrounding area. Due to its elevated position, views to the west from the walking/running path along the Miramar Reservoir dam are considered to be a publicly accessible scenic vista. No other public scenic vistas near Miramar WTP and in the immediate surrounding area are considered in this analysis. Further, because Miramar WTP improvements would be located east of the walking/running path along the Miramar Reservoir dam, improvements would not impact existing views. As such, views to the west from the walking/running path along the Miramar Reservoir dam are not further discussed in this Environmental Impact Report/Environmental Impact Statement (EIR/EIS).

5.2.2.3 San Vicente Reservoir Alternative

San Vicente Pure Water Pipeline

The majority of the San Vicente Pure Water Pipeline (San Vicente Pipeline) is proposed to be constructed using open cut construction methods. Trenchless construction is proposed at eight locations along the alignment: Clairemont Mesa Boulevard crossing, SR-163 crossing, I-15 crossing, Tierrasanta/San Diego River crossing, SR-52 crossing/San Diego River crossing, Carlton Oaks crossing, SR-67 crossing, and the Willow Ridge Bridge crossing.

As proposed, the San Vicente Pipeline alignment travels through the City of San Diego communities of Kearny Mesa and Tierrasanta, the City of Santee, the County of San Diego community of Lakeside, and unincorporated areas of the County of San Diego. While it would primarily be installed in roadways and existing utility right-of-way using open cut construction methods, trenchless construction methods would be used at select roadway, state route, interstate, river, and bridge

crossings. Between the NCPWF—San Vicente Reservoir (SVR) (proposed to be located on the same 8.7-acre City-owned lot located north of the existing NCWRP as the NCPWF-MR) and MBC, the San Vicente Pipeline would repurpose an existing 36-inch recycled water line. From just south of the MBC, the San Vicente Pipeline would tunnel beneath SR-52 and then follow roadways including Copley Drive, Convoy Court, and Industrial Park Driveway through a largely industrial area of Kearny Mesa marked by RV sales lots, boxy one- and two-story (and occasionally three-story) concrete and CMU exterior office buildings, industrial business parks featuring unadorned concrete tilt-up buildings, and large, busy auto dealerships. The San Vicente Pipeline would then tunnel beneath SR-163 and continue along Lightwave Avenue, Ruffin Court, and Clairemont Mesa Boulevard through an industrial setting that is briefly interrupted by multifamily apartment complexes east of SR-163. After tunneling beneath I-15 and the San Diego River, San Vicente Pipeline would proceed easterly along roadways through the single-family residential western portion of Tierrasanta. East of Tierrasanta, the alignment would follow Mission Gorge Road through the Navajo community, passing through single-family residential areas and a canyon through undeveloped mountainous terrain.

The remaining segments of the San Vicente Pipeline would primarily be aligned within existing paved roadways through the City of Santee and community of Lakeside. The alignment would be located in local, primarily residential access roadways including Carlton Oaks Drive in Santee and Moreno Avenue in Lakeside and major roads such as Mast Boulevard. In addition to residential lands located adjacent to the alignment, limited commercial shopping centers, school facilities, office/distribution center development, extraction operations, and undeveloped mountainous terrain near the San Vicente Reservoir comprise the alignment adjacent landscape.

Significant visual landmarks visible from public viewing locations along the San Vicente Pipeline alignment include mountainous terrain in Mission Trails Regional Park, the San Vicente Reservoir, and mountainous terrain located south of San Vicente Reservoir. Long and expansive views along the and near the alignment are available north of the San Diego River crossing on Colina Dorado Drive, on the Rancho Mission Canyon Trail (located on undeveloped lands east of Mission Gorge Road and the Mission Trails Booster Station (MTBS) site), and on Mission Gorge Road near West Hills Parkway in Santee. However, since the San Vicente Pipeline would be installed underground, the San Vicente Pipeline would not affect the long and expansive nature of existing views from these locations.

Mission Trails Booster Station

The MTBS would be located along Mission Gorge Road north of a small commercial center. The site abuts single-family residential land uses to the east and is located atop an elevated landform that severely slopes to the west towards Mission Gorge Road. The surrounding area is characterized by a mix of single-family and multi-family residential land uses. The roadway and surrounding land uses are lined with mature landscaping that provide for visual relief and screening.

Similar to the San Vicente Pipeline, near the MTBS mountainous terrain in Mission Trails Regional Park is visible from Mission Gorge Road. Due to the presence of existing residential development located west of Mission Gorge Road, the San Diego River is not visible from Mission Gorge Road near the MTBS or from other publicly accessible vantage points in the immediate area near the MTBS site. Long and expansive views near the MTBS are available from the Rancho Mission Canyon Trail; however, because the MTBS site is located downslope from the trail, is sited adjacent to Mission Gorge Road, and would not block or obstruct views from the trail, the MTBS would not affect the long and expansive nature of existing views from the trail. As such, these views are not further discussed in this EIR/EIS.

5.2.3 REGULATORY FRAMEWORK

Federal

Federal Highway Administration's Visual Impact Assessment for Highway Projects

Although the Federal Highway Administration is not a responsible agency for the North City Project and the North City Project does not involve highway construction, the Federal Highway Administration's Visual Impact Assessment for Highway Projects methodology was reviewed and considered during preparation of the EIR/EIS. The methodology employed in the preparation of this EIR/EIS as it relates to aesthetics/visual effects and neighborhood character was partly based on the Visual Impact Assessment for Highway Projects process of establishment, inventory, analysis, and mitigation (FHWA 2016). The primary purpose of the establishment phase is to define/establish the study area of the analysis. The purpose of the inventory phase is to examine visual quality and character by describing the form, line, color, and texture of terrain, vegetation, and manmade development/structures. During the analysis phase project impacts are evaluated and lastly, mitigation and enhancement efforts to be included in the project design are addressed in the mitigation phase (FHWA 2016).

State

Caltrans Scenic Highway Program

The California Scenic Highway Program was created in 1963 with the intent "to protect and enhance the natural scenic beauty of California highways and adjacent corridors, through special conservation treatment." The state laws that govern the Scenic Highway Program are Sections 260 through 263 of the Streets and Highways Code. Highways that are eligible for state scenic designation consist of those listed in Section 263 of the Streets and Highways Code. If a highway is not listed in Section 263 of the Streets and Highway Code, it is the responsibility of local jurisdictions to apply for scenic highway eligibility and additions to Section 263 can only be made through legislative action (Caltrans 2008). The Scenic Highway Program includes both officially designated scenic highways and highways that are eligible for designation. A highway may be designated as scenic based upon aesthetic quality of viewable landscape, extent of views upon the natural landscape, and the degree to which development impedes these views.

Once a state route is in Streets and Highways Code Section 263, it may be nominated for official designation by the local governing body with jurisdiction over the lands adjacent to the proposed scenic highway. Preparation of a visual assessment and Scenic Highway Proposal (a proposal must include a letter of intent from the local governing body, topographic and zoning maps, and a narrative description of the scenic elements in the corridor that includes a discussion of any visual intrusions on scenic views) is required and must be submitted with the application to nominate eligible scenic highways for official designation (Caltrans 2008).

There are five officially designated state scenic highways in San Diego County and with the exception of the San Vicente Pipeline tunneling beneath SR-52, state scenic highways would not be crossed by Project components. SR-52 is a designated state scenic highway from near Santo Road to near Mast Boulevard (Caltrans 2016). In addition, due to proximity and the presence of intervening terrain, vegetation, and development, North City Project facilities would not be visible from officially designated state scenic highways.

Local

City of San Diego General Plan

The City's General Plan was unanimously adopted by the City Council on March 10, 2008, and was subsequently amended in 2010, 2012, and 2016. The General Plan

builds upon many of the goals and strategies of the previously adopted 1979 General Plan, in addition to offering new policy direction in the areas of urban form, neighborhood character, and conservation. It recognizes and explains the critical role of the community planning program as the vehicle to tailor the "City of Villages" strategy for each neighborhood.

Urban Design Element. The purpose of this element is the guide physical development toward a desired scale and character that is consistent with the social, economic and aesthetic values of the City. According to the Urban Design Element, "San Diego's distinctive character results from its unparalleled natural setting, including beaches, bays, hills, canyons and mesas that allow the evolution of geographically distinct neighborhoods." (City of San Diego 2015a) The policies of the Urban Design Element listed below relate to grading, proximity to natural features, building materials, and architecture and as such, are particularly relevant to aboveground facilities/structures proposed by the North City Project:

- **Policy UD-A.3:** Design development adjacent to natural features in a sensitive manner to highlight and complement the natural environment in areas designated for development.
    - Integrate development on hillside parcels with the natural environment to preserve and enhance views, and protect areas of unique topography.
    - Minimize grading to maintain the natural topography, while contouring any landform alterations to blend into the natural terrain.
    - Provide increased setbacks from canyon rims or open space areas to ensure that the visibility of new development is minimized.
    - Screen development adjacent to natural features as appropriate so that development does not appear visually intrusive, or interfere with the experience within the open space system. The provision of enhanced landscaping adjacent to natural features could be used to soften the appearance of or buffer development from the natural features.
    - Use building and landscape materials that blend with and do not create visual or other conflicts with the natural environment in instances where new buildings abut natural areas. This guideline

must be balanced with a need to clear natural vegetation for fire protection to ensure public safety in some areas.

- Ensure that the visibility of new development from natural features and open space areas is minimized to preserve the landforms and ridgelines that provide a natural backdrop to the open space systems. For example, development should not be visible from canyon trails at the point the trail is located nearest to proposed development. Lines-of-sight from trails or the open space system could be used to determine compliance with this policy.
- Protect views from public roadways and parklands to natural canyons, resource areas, and scenic vistas.

- **Policy UD-A-5:** Design buildings that contribute to a positive neighborhood character and relate to neighborhood and community context.
  - Encourage designs that are sensitive to the scale, form, rhythm, proportions, and materials in proximity to commercial areas and residential neighborhoods that have a well-established, distinctive character.
  - Provide architectural features that establish and define a building's appeal and enhance the neighborhood character.
  - Encourage the use of materials and finishes that reinforce a sense of quality and permanence.
  - Provide architectural interest to discourage the appearance of blank walls for development. This would include not only building walls, but fencing bordering the pedestrian network, where some form of architectural variation should be provided to add interest to the streetscape and enhance the pedestrian experience. For example, walls could protrude, recess, or change in color, height or texture to provide visual interest (City of San Diego 2008a).

Land Use and Community Planning Element. The purpose of this element is to guide future growth and development into a sustainable citywide development pattern, while maintaining or enhancing quality of life in the City's communities. The Land Use and Community Planning Element addresses land use issues that apply to the City as a whole. The community planning program is the mechanism to

refine citywide policies, designate land uses, and make additional site-specific recommendations as needed (City of San Diego 2015a). The Land Use and Community Planning Element establishes the structure to respect the diversity of each community and includes policy direction to govern the preparation of community plans.

Table LU-4, General Plan and Community Plan Land Use Categories, provides a description of each General Plan Land Use designation. The General Plan land use designation of lands underlying proposed aboveground structures (i.e., NCPWF, Pump Stations, etc.) is listed below:

- Morena Pump Station: Industrial Employment
- NCWRP: Institutional & Public/Semi-Public Facilities
- NCPWF and NCPWF Influent Pump Station: Industrial Employment and Institutional & Public/Semi-Public Facilities
- MBC: Military Use
- Dechlorination Facility: Industrial Employment
- MTBS: Commercial Employment, Retail & Services, and Open Space, Parks & Preserves

Proposed pipelines and the electrical transmission line are primarily proposed to be located in existing roadways and/or would follow existing access roads and utility corridors. Land use designation and zoning underlying lands associated with project components is discussed in greater detail in Section 5.1, Land Use.

University Community Plan

According to the University Community Plan, the dominant existing land uses include University of California–San Diego; University Towne Center; and research, corporate headquarters, and medical centers in the northern portion of the planning area. Further, and in regard to the Miramar Subarea of the community plan (the NCPWF, North City Pump Station, and NCPWF Influent Pump Station are proposed to be located in the Miramar Subarea; the NCWRP is an existing facility in the community plan boundaries), the community plan states that "visual character [of the area] will be dominated by open spaces with restricted industrial development" (City of San Diego 2016). Per the community plan, the subarea is developed with industrial uses, including warehouses,

distribution centers, storage facilities, and automotive-related commercial uses in a typical strip commercial pattern. Speaking to the busy clustering of development, the community plan describes the industrial portion on the north side of Miramar Road as a "chaotic conglomeration of structures and signs." In regard to planning issues, the community plan states that "the uses and activities which may be provided in this subarea are very limited and must not concentrate large numbers of people." Lastly, to improve the visual image of the industrially developed portion of Miramar Road, the community plan makes the following recommendations:

- Screen mechanical equipment and appurtenances and outdoor storage and design the utilitarian aspects of development as integral parts of the overall design of the building. Fences, walls, grill work, etc. should be of a similar material and color as the main building.
- Painting buildings in the spectrum of earth tones which blend with the natural open space character of Subarea 3.
- Landscaping as required by the Citywide Landscape Ordinance.

In addition to the NCPWF and NCPWF Influent Pump Station, the NCWRP and segments of the Morena Pipelines, LFG Pipeline, and North City Pipeline are located within the University Community Plan area.

Mira Mesa Community Plan

The Mira Mesa community is located in the north-central portion of the City of San Diego (City of San Diego 2011a). As proposed, the North City Pipeline alignment would traverse the southern boundary of the community plan area (i.e., Miramar Road) which is characterized by industrial land uses (including warehouses and home improvement showrooms) occasionally separated by pockets of small, neighborhood commercial centers. Through the community, the North City Pipeline alignment is proposed entirely in existing paved roadways.

Relevant goals of the Mira Mesa Community Plan include:

- Industrial Land Use Goal: Improvement in the visual quality of industrial development in the community.
- Industrial Land Use Goal: Compliance with the Airport Land Use Compatibility Plan for MCAS Miramar (City of San Diego 2011a).

Clairemont Mesa Community Plan

Clairemont Mesa is an urbanized residential community with several shopping centers, parks and recreational facilities and educational opportunities (City of San Diego 2015b). The majority of the Morena Pipelines alignment is located in the Clairemont Mesa Community Plan area and because the Morena Pipelines would be installed in existing roadways through the community, the development standards and regulations of the community plan related to aesthetics/visual effects and neighborhood character are not particularly relevant to the North City Project.

Linda Vista Community Plan

Linda Vista is a primarily residential community with distinct neighborhoods including the Morena industrial area which encompasses the proposed Morena Pump Station site and surrounding industrial warehouses and offices in the southwestern corner of the Linda Vista Community Plan area. In regards to the existing uses in the Morena industrial area, the community plan states that these uses should be maintained as they "do not negatively affect surrounding neighborhoods" (City of San Diego 2011b). Relevant goals and policies of the Linda Vista Community Plan are listed below and are particularly applicable to the Morena Pump Station because it would entail the construction and operation of an aboveground facility:

- **Goal 2:** Retain the existing industrial area west of Morena Boulevard as a diverse employment base for the community and the City. Encourage more utilization of existing rail facilities.
- **Goal 3:** Ensure that development in the Morena area presents a positive visual image to viewers from Interstate 5, Pacific Highway, Interstate 8, and Mission Bay Park.

In addition to the Morena Pump Station, an approximately 0.75-mile-long segment of the Morena Pipelines is proposed primarily within existing roadways through the Linda Vista Community Plan area.

Mission Valley Community Plan

There are five functional categories which will require special design considerations and guidelines: 1) Design Protection Areas (San Diego river, hillsides, and landmarks; 2) Transportation corridors (freeways, major roads, local streets,

parking areas, light rail transit and pedestrian areas); 3) Energy and Conservation (solar access, water and noise); 4) Street Graphics; and 5) Water Reclamation Plant (City of San Diego 2013). Piping associated with the Morena Pump Station located within Friars Road is located within this community plan area.

Kearny Mesa Community Plan

The community of Kearny Mesa is a major industrial and commercial center occupying a central location in the City of San Diego (City of San Diego 2011c). Approximately 4 miles of the San Vicente Pipeline alignment are proposed in the Kearny Mesa Community Plan area. Because the San Vicente Pipeline would be installed underground and in existing roadways through the community, the development standards and regulations of the community plan related to aesthetics/visual effects and neighborhood character are not particularly relevant to the North City Project.

Scripps Miramar Ranch Community Plan

Scripps Miramar Ranch is located in the north-central part of metropolitan San Diego (City of San Diego 2011d). The predominant land use in the planning area is residential although business park uses are concentrated in a southwestern portion of the community. Relevant overall community goals and industrial elements objectives include the following:

- Preserve and enhance the valued natural resources of the Scripps Miramar Ranch community: hills, trees, water resources, Miramar Reservoir, Carroll Canyon and subsidiary canyons; maximize public benefit through public ownership and/or access, both visual and physical, to these resources.
- Encourage development of open space buffers, which will effectively screen disparate elements of the community.
- Preserve the existing sense of neighborhood identity, which unifies residents and promotes social interaction and civic cooperation.
- Protect areas designated for industrial use from encroachment by incompatible land uses.

Tierrasanta Community Plan

Tierrasanta is primarily a residential community bordered by the San Diego River on the south and the canyon and mountainous terrain of Mission Trails Regional Park in the eastern plan area (City of San Diego 2011e). An approximately 3.3-mile-long segment of the San Vicente Pipeline alignment would primarily follow existing

roadways through the Tierrasanta Community Plan area. Because the San Vicente Pipeline would be installed underground and in existing roadways through the community, the development standards and regulations of the community plan related to aesthetics/visual effects and neighborhood character are not particularly relevant to the North City Project.

Navajo Community Plan

Similar to Tierrasanta, Navajo is primarily a residential community that contains canyon and mountainous terrain in its eastern planning area and industrial businesses including extraction activities along the San Diego River (City of San Diego 2015c). The MTBS site is located atop elevated terrain along the mission Gorge Road corridor, adjacent to the single-family residential uses to the east and a single-story strip commercial center to the south. The following building proposals/policies of the Navajo Community Plan are pertinent to landform alteration and aesthetics and are thus, relevant to the North City Project:

- Encourage an overall quality of design by using materials, color and texture to give identity and focus to groups of structures within the urban landscape.
- Develop points of visual relief in the urban landscape through the use of open spaces and landscaping, building setbacks, building materials, location of public facilities, and street and right-of-way design and maintenance.
- Protect distinct areas and communities from intrusion and encroachment of incompatible uses.
- Minimize nuisances to adjacent uses through the control of noise, odor, pollution, vibration and glare, and the screening of unaesthetic land uses.

In addition to the MTBS, an approximately 3.5-mile-long segment of the San Vicente Pipeline alignment would be located within existing roadways through the Navajo Community Plan area.

City of San Diego Municipal Code

Chapter 13, Zones, of the City's Municipal Code establishes base zones in the City. Base zones are intended to regulate uses; to minimize the adverse impacts of these uses; to regulate the zone density and intensity; to regulate the size of buildings; and to classify, regulate, and address the relationships of uses of land and buildings. The Municipal Plan also identifies permitted, limited, and conditionally permitted uses

within the base zones. The base zones of lands underlying aboveground structures/buildings associated with the North City Project are listed below:

- Morena Pump Station: Industrial-Light (IL-3-1; allows a mix of light industrial, office, and commercial uses)
- NCWRP: Residential-Single Unit (RS-1-14; Planned Urbanized Communities requiring minimum 5,000-square-foot lots)
- NCPWF and NCPWF Influent Pump Station: Residential-Single Unit (RS-1-14)
- MBC: Agricultural-Residential (AR-1-1; requires minimum 10-acre lots)
- Dechlorination Facility: Industrial Employment
- MTBS: Residential Single (RS-1-7; requiring minimum 5,000-square-foot lots) and Commercial Neighborhood (CN-1-2; allows development with an auto orientation and permits a maximum density of 1 dwelling unit for each 1,500 square feet of lot area

Refer to Section 5.1, Land Use, for detailed on- and off-site land uses and zoning designation discussion for all project components.

City of San Diego Council Policy 900-11: Inclusion of Public Art in Selected Capital Improvements Program and Redevelopment Agency Projects

The City Council is intended to promote the cultural heritage and artistic development of the City and to increase opportunities for City residents to experience and participate in the visual, performing, and literary arts by directing the inclusion of public art in Capital Improvements Program (CIP) projects initiated by the City (City of San Diego 2004). For eligible construction projects with eligible project funds in excess of $250,000 (costs for pre-design, design, construction, and contingency are included; land acquisition, furniture and fixtures are not included), 2% of the total amount appropriated for the construction project must fund the City's public art program. Further, when a CIP project is financed by an unrestricted funding source, the public art allocation authorized by the City Council may be transferred to the public art fund for public art at any location in the City. However, when a CIP project is financed in whole or in part by restricted funding sources such as enterprise funds, loans, or grants, the public art program allocation which is authorized by the City Council shall be expended only on works of public art placed at the project site.

The North City Project is subject to Council Policy 900-11, and yet-to-be defined or designed public art would be incorporated at the NCPWF.

City of Santee General Plan

As proposed, a segment of the San Vicente Pipeline would be located primarily within existing roadways including Carlton Oaks Drive, Mast Boulevard, and Riverside Drive through the City of Santee. Because the San Vicente Pipeline would be installed belowground and would not require aboveground structures or components, the aesthetic/visual effects and neighborhood character policies and regulations of the City of Santee General Plan are not particularly relevant to the North City Project.

County of San Diego General Plan Conservation Element

The County's General Plan Conservation Element establishes a County Scenic Highway System composed of freeways, highways, roads, or other vehicular rights-of-way along a corridor with considerable natural or otherwise scenic landscape (County of San Diego 2011). From the Santee city limits to SR-78 (excluding a segment in the City of Poway), SR-67 is a County-designated scenic highway. In addition, Willow and El Monte roads (from SR-67 to the southern end of the El Capitan Reservoir) is a County-designated scenic highway.

After tunneling beneath SR-67, an approximately 0.25-mile segment of the San Vicente Pipeline alignment would be located in or adjacent to Willows Road.

The following policies of the Conservation Element concern scenic resources and are applicable to components of the North City Project located in the County:

- **Policy COS-11.1: Protection of Scenic Resources.** Require the protection of scenic highways, corridors, regionally significant scenic vistas, and natural features, including prominent ridgelines, dominant landforms, reservoirs, and scenic landscapes.
- **Policy COS-11.7: Underground Utilities.** Require new development to place utilities underground and encourage "undergrounding" in existing development to maintain viewsheds, reduce hazards associated with hanging lines and utility poles, and to keep pace with current and future technologies.

Lakeside Community Plan

Lakeside is essentially a rural residential community that has experienced pressure to urbanize and accommodate suburban residential developments. The segment of the San Vicente Pipeline alignment through Lakeside is located within a rural residential neighborhood comprised of larger lots featuring modest residences, equestrian facilities, and landscaping. An overhead electrical distribution line supported by tall wood poles is aligned along Morena Avenue and parallels the San Vicente Pipeline alignment to the San Vicente Reservoir.

Although a segment of the San Vicente Pipeline alignment is sited in the County of San Diego community of Lakeside, the San Vicente Reservoir is owned and operated by the City of San Diego.

INTENTIONALLY LEFT BLANK

5.3 AIR QUALITY AND ODOR

5.3.1 INTRODUCTION

The purpose of this section is to estimate and evaluate the potential air quality impacts associated with implementation of the North City Project relative to the City of San Diego's California Environmental Quality Act Significance Determination Thresholds (City of San Diego 2016). The following information is based on the Air Quality Technical Report for the North City Project, City of San Diego, California prepared by Dudek, dated ~~July 2017~~February 2018 (provided as Appendix B).

5.3.2 ENVIRONMENTAL SETTING

Climate and Topography

The weather of the San Diego region, as in most of Southern California, is influenced by the Pacific Ocean and its semi-permanent high-pressure systems that result in dry, warm summers and mild, occasionally wet winters. The average temperature ranges (in degrees Fahrenheit (°F)) from the mid-40s to the high 90s. Most of the region's precipitation falls from November to April, with infrequent (approximately 10%) precipitation during the summer. The average seasonal precipitation along the coast is approximately 10 inches; the amount increases with elevation as moist air is lifted over the mountains (WRCC 2016).

The topography in the San Diego region varies greatly, from beaches on the west to mountains and desert on the east; along with local meteorology, it influences the dispersal and movement of pollutants in the basin. The mountains to the east prohibit dispersal of pollutants in that direction and help trap them in inversion layers.

The interaction of ocean, land, and the Pacific High Pressure Zone maintains clear skies for much of the year and influences the direction of prevailing winds (westerly to northwesterly). Local terrain is often the dominant factor inland, and winds in inland mountainous areas tend to blow through the valleys during the day and down the hills and valleys at night.

San Diego Air Basin Climatology

The North City Project area is located within the San Diego Air Basin (SDAB) and is subject to the San Diego Air Pollution Control District (SDAPCD) guidelines and regulations. The SDAB is one of 15 air basins that geographically divides the State of

California. The SDAB is currently classified as a federal nonattainment area for ozone (O_3) and a state nonattainment area for particulate matter less than 10 microns (PM_{10}), particulate matter less than 2.5 microns ($PM_{2.5}$), and ozone (O_3).

The SDAB lies in the southwest corner of California and comprises the entire San Diego region, covering 4,260 square miles, and is an area of high air pollution potential. The basin experiences warm summers, mild winters, infrequent rainfalls, light winds, and moderate humidity. This usually mild climatological pattern is interrupted infrequently by periods of extremely hot weather, winter storms, or Santa Ana winds.

The climate also drives the pollutant levels. The climate of San Diego is classified as Mediterranean, but it is incredibly diverse due to the topography. The climate is dominated by the Pacific High pressure system that results in mild, dry summers and mild, wet winters. The Pacific High drives the prevailing winds in the SDAB. The winds tend to blow onshore during the daytime and offshore at night. In the fall months, the SDAB is often impacted by Santa Ana winds. These winds are the result of a high pressure system over the Nevada–Utah region that overcomes the westerly wind pattern and forces hot, dry winds from the east to the Pacific Ocean (SDAPCD 2015a). The winds blow the SDAB's pollutants out to sea. However, a weak Santa Ana can transport air pollution from the SDAB and greatly increase the San Diego O_3 concentrations. A strong Santa Ana also primes the vegetation for firestorm conditions.

The SDAB experiences frequent temperature inversions. Subsidence inversions occur during the warmer months as descending air associated with the Pacific High Pressure Zone meets cool marine air. The boundary between the two layers of air creates a temperature inversion that traps pollutants. The other type of inversion, a radiation inversion, develops on winter nights when air near the ground cools by heat radiation and air aloft remains warm. The shallow inversion layer formed between these two air masses also can trap pollutants. As the pollutants become more concentrated in the atmosphere, photochemical reactions occur that produce O_3, which contributes to the formation of smog. Smog is a combination of smoke and other particulates, O_3, hydrocarbons, oxides of nitrogen (NO_x), and other chemically reactive compounds, which, under certain conditions of weather and sunlight, may result in a murky brown haze that causes adverse health effects (CARB 2014).

Light daytime winds, predominately from the west, further aggravate the condition by driving air pollutants inland, toward the mountains. During the fall and winter, air quality problems are created due to carbon monoxide (CO) and NO_x emissions. CO concentrations are generally higher in the morning and late evening. In the morning, CO levels are elevated due to cold temperatures and the large number of motor vehicles traveling. Higher CO levels during the late evenings are a result of stagnant atmospheric conditions trapping CO in the area. Since CO is produced almost entirely from automobiles, the highest CO concentrations in the basin are associated with heavy traffic. Nitrogen dioxide (NO_2) levels are also generally higher during fall and winter days.

~~Under certain conditions, atmospheric oscillation results in the offshore transport of air from the Los Angeles region to San Diego County. This often produces high O_3 concentrations, as measured at air pollutant monitoring stations within the County. The transport of air pollutants from Los Angeles to San Diego has also occurred within the stable layer of the elevated subsidence inversion, where high levels of O_3 are transported.~~

Sensitive Receptors

Air quality varies as a direct function of the amount of pollutants emitted into the atmosphere, the size and topography of the air basin, and the prevailing meteorological conditions. Air quality problems arise when the rate of pollutant emissions exceeds the rate of dispersion. Reduced visibility, eye irritation, and adverse health impacts upon those persons termed sensitive receptors are the most serious hazards of existing air quality conditions in the area.

Some land uses are considered more sensitive to changes in air quality than others, depending on the population groups and the activities involved. People most likely to be affected by air pollution include children, the elderly, athletes, and people with cardiovascular and chronic respiratory diseases. Facilities and structures where these air pollution-sensitive people live or spend considerable amounts of time are known as sensitive receptors. Land uses where air pollution-sensitive individuals are most likely to spend time include schools and schoolyards, parks and playgrounds, daycare centers, nursing homes, hospitals, and residential communities (sensitive sites or sensitive land uses) (CARB 2005). In regards to the analysis of potential impacts to sensitive receptors, the City specifically recommends consideration of sensitive receptors in locations such as day care centers, schools, retirement homes,

and hospitals, or medical patients in residential homes close to major roadways or stationary sources, which could be impacted by air pollutants.

The North City Project's proposed pipelines would have segments that would be located within 1,000 feet of sensitive receptors such as those previously listed (see Figures 5.3-1A through 5.3-1D). However, the treatment facilities and would not be located within 1,000 feet of any sensitive land uses.

5.3.3 POLLUTANTS AND EFFECTS

5.3.3.1 Criteria Air Pollutants

Criteria air pollutants are defined as pollutants for which the federal and state governments have established ambient air quality standards, or criteria, for outdoor concentrations to protect public health. The federal and state standards have been set, with an adequate margin of safety, at levels above which concentrations could be harmful to human health and welfare. These standards are designed to protect the most sensitive persons from illness or discomfort. Pollutants of concern include: O_3, NO_2, CO, sulfur dioxide (SO_2), PM_{10}, $PM_{2.5}$, and lead (Pb). These pollutants are discussed in the following paragraphs.[1] In California, sulfates, vinyl chloride, hydrogen sulfide, and visibility-reducing particles are also regulated as criteria air pollutants.

Ozone. O_3 is a colorless gas that is formed in the atmosphere when volatile organic compounds (VOCs), sometimes referred to as reactive organic gases, and NO_x react in the presence of ultraviolet sunlight. O_3 is not a primary pollutant; it is a secondary pollutant formed by complex interactions of two pollutants directly emitted into the atmosphere. The primary sources of VOCs and NO_x, the precursors of O_3, are automobile exhaust and industrial sources. Meteorology and terrain play major roles in O_3 formation and ideal conditions occur during summer and early autumn, on days with low wind speeds or stagnant air, warm temperatures, and cloudless skies. Short-term exposures (lasting for a few hours) to O_3 at levels typically observed in Southern California can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes.

[1] The following descriptions of health effects for each of the criteria air pollutants associated with project construction and operations are based on the U.S. Environmental Protection Agency's "Criteria Air Pollutants" (EPA 2017) and the California Air Resources Board's "Glossary of Air Pollutant Terms" (CARB 2014) published information.

Nitrogen Dioxide. Most NO_2, like O_3, is not directly emitted into the atmosphere but is formed by an atmospheric chemical reaction between nitric oxide (NO) and atmospheric oxygen. NO and NO_2 are collectively referred to as NO_x and are major contributors to O_3 formation. High concentrations of NO_2 can cause breathing difficulties and result in a brownish-red cast to the atmosphere with reduced visibility. There is some indication of a relationship between NO_2 and chronic pulmonary fibrosis, and some increase in bronchitis in children (2 and 3 years old) has also been observed at concentrations below 0.3 parts per million by volume (ppm).

Carbon Monoxide. CO is a colorless and odorless gas formed by the incomplete combustion of fossil fuels. CO is emitted almost exclusively from motor vehicles, power plants, refineries, industrial boilers, ships, aircraft, and trains. In urban areas, such as the North City Project area, automobile exhaust accounts for the majority of CO emissions. CO is a non-reactive air pollutant that dissipates relatively quickly; therefore, ambient CO concentrations generally follow the spatial and temporal distributions of vehicular traffic. CO concentrations are influenced by local meteorological conditions, primarily wind speed, topography, and atmospheric stability. CO from motor vehicle exhaust can become locally concentrated when surface-based temperature inversions are combined with calm atmospheric conditions, a typical situation at dusk in urban areas between November and February. The highest levels of CO typically occur during the colder months of the year when inversion conditions are more frequent. In terms of health, CO competes with oxygen, often replacing it in the blood, thus reducing the blood's ability to transport oxygen to vital organs. The results of excess CO exposure can be dizziness, fatigue, and impairment of central nervous system functions.

Sulfur Dioxide. SO_2 is a colorless, pungent gas formed primarily by the combustion of sulfur-containing fossil fuels. Main sources of SO_2 are coal and oil used in power plants and industries; as such, the highest levels of SO_2 are generally found near large industrial complexes. In recent years, SO_2 concentrations have been reduced by the increasingly stringent controls placed on stationary source emissions of SO_2 and limits on the sulfur content of fuels. SO_2 is an irritant gas that attacks the throat and lungs and can cause acute respiratory symptoms and diminished ventilator function in children. SO_2 can also yellow plant leaves and erode iron and steel.

Particulate Matter. Particulate matter pollution consists of very small liquid and solid particles floating in the air, which can include smoke, soot, dust, salts, acids, and metals. Particulate matter can form when gases emitted from industries and motor vehicles undergo chemical reactions in the atmosphere. $PM_{2.5}$ and PM_{10} represent

fractions of particulate matter. Fine particulate matter, or $PM_{2.5}$, is roughly 1/28 the diameter of a human hair. $PM_{2.5}$ results from fuel combustion (e.g., motor vehicles, power generation, and industrial facilities), residential fireplaces, and wood stoves. In addition, $PM_{2.5}$ can be formed in the atmosphere from gases such as sulfur oxides (SO_x), NO_x, and VOC. Inhalable or coarse particulate matter, or PM_{10}, is about 1/7 the thickness of a human hair. Major sources of PM_{10} include crushing or grinding operations; dust stirred up by vehicles traveling on roads; wood burning stoves and fireplaces; dust from construction, landfills, and agriculture; wildfires and brush/waste burning; industrial sources; windblown dust from open lands; and atmospheric chemical and photochemical reactions.

$PM_{2.5}$ and PM_{10} pose a greater health risk than larger-size particles. When inhaled, these tiny particles can penetrate the human respiratory system's natural defenses and damage the respiratory tract. $PM_{2.5}$ and PM_{10} can increase the number and severity of asthma attacks, cause or aggravate bronchitis and other lung diseases, and reduce the body's ability to fight infections. Very small particles of substances, such as Pb, sulfates, and nitrates, can cause lung damage directly or be absorbed into the blood stream, causing damage elsewhere in the body. Additionally, these substances can transport absorbed gases, such as chlorides or ammonium, into the lungs, also causing injury. Whereas PM_{10} tends to collect in the upper portion of the respiratory system, $PM_{2.5}$ is so tiny that it can penetrate deeper into the lungs and damage lung tissues. Suspended particulates also damage and discolor surfaces on which they settle, as well as produce haze and reduce regional visibility.

Lead. Lead in the atmosphere occurs as particulate matter. Sources of lead include leaded gasoline, the manufacturing of batteries, paint, ink, ceramics, and ammunition and secondary lead smelters. Prior to 1978, mobile emissions were the primary source of atmospheric lead. Between 1978 and 1987, the phase-out of leaded gasoline reduced the overall inventory of airborne lead by nearly 95%. With the phase-out of leaded gasoline, secondary lead smelters, battery recycling, and manufacturing facilities are becoming lead-emission sources of greater concern.

Prolonged exposure to atmospheric lead poses a serious threat to human health. Health effects associated with exposure to lead include gastrointestinal disturbances, anemia, kidney disease, and in severe cases, neuromuscular and neurological dysfunction. Of particular concern are low-level lead exposures during infancy and childhood. Such exposures are associated with decrements in neurobehavioral performance including intelligence quotient performance, psychomotor performance, reaction time, and growth.

5.3.3.2 Non-criteria Pollutants

Toxic Air Contaminants. A substance is considered toxic if it has the potential to cause adverse health effects in humans, including increasing the risk of cancer upon exposure, or acute and/or chronic noncancer health effects. A toxic substance released into the air is considered a toxic air contaminant (TAC). Examples include certain aromatic and chlorinated hydrocarbons, formaldehyde, certain metals, and asbestos. TACs are generated by a number of sources, including stationary sources such as dry cleaners, gas stations, combustion sources, and laboratories; mobile sources such as automobiles; and area sources such as landfills. Adverse health effects associated with exposure to TACs may include carcinogenic (i.e., cancer-causing) and noncarcinogenic effects. Noncarcinogenic effects typically affect one or more target organ systems and may be experienced either on short-term (acute) or long-term (chronic) exposure to a given TAC.

Diesel Particulate Matter. Diesel particulate matter (DPM) is part of a complex mixture that makes up diesel exhaust. Diesel exhaust is composed of two phases, gas and particle, both of which contribute to health risks. CARB classified "particulate emissions from diesel-fueled engines" (DPM) as a TAC in August 1998 (17 CCR 93000). DPM is emitted from a broad range of diesel engines: on-road diesel engines of trucks, buses, and cars, and off-road diesel engines including locomotives, marine vessels, and heavy-duty construction equipment, among others. Approximately 70% of all airborne cancer risk in California is associated with DPM (CARB 2000). To reduce the cancer risk associated with DPM, CARB adopted a diesel risk reduction plan in 2000 (CARB 2000).

Odorous Compounds. Odors are generally regarded as an annoyance rather than a health hazard. Manifestations of a person's reaction to odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache). The ability to detect odors varies considerably among the population and overall is quite subjective. People may have different reactions to the same odor. An odor that is offensive to one person may be perfectly acceptable to another (e.g., coffee roaster). An unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. Known as odor fatigue, a person can become desensitized to almost any odor and recognition may only occur with an alteration in the intensity. The occurrence and severity of odor impacts depend on the nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of receptors.

Due to the subjective nature of odor impacts, the number of variables that can influence the potential for an odor impact, and the variety of odor sources, there are no quantitative or formulaic methodologies to determine if potential odors would have a significant impact. Examples of land uses and industrial operations that are commonly associated with odor complaints include agricultural uses, wastewater treatment plants, food processing facilities, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. In addition to the odor source, the distance between the sensitive receptor(s) and the odor source, as well as the local meteorological conditions, are considerations in the potential for a project to frequently expose the public to objectionable odors. Although localized air quality impacts are focused on potential impacts to sensitive receptors, such as residences and schools, other land uses where people may congregate (e.g., workplaces), or uses with the intent to attract people (e.g., restaurants and visitor-serving accommodations), should also be considered in the evaluation of potential odor nuisance impacts.

Valley Fever. Coccidioidomycosis, more commonly known as "Valley Fever," is an infection caused by inhalation of the spores of the *Coccidioides immitis* fungus, which grows in the soils of the southwestern United States. The fungus is very prevalent in the soils of California's San Joaquin Valley, particularly in Kern County. Kern County is considered a highly endemic county (i.e., more than 20 cases annually of Valley Fever per 100,000 people) based on the incidence rates reported through 2016 (California Department of Public Health 2017). The ecologic factors that appear to be most conducive to survival and replication of the spores are high summer temperatures, mild winters, sparse rainfall, and alkaline, sandy soils.

San Diego County is not considered a highly endemic region for Valley Fever as the latest report from the California Department of Public Health listed San Diego County as having 4.4 cases per 100,000 people (California Department of Public Health 2017). Similarly, among the total reported incidents of Valley Fever in San Diego County from 2007 through 2016, only 7% of the cases were in in the zip codes where the project is located (County of San Diego 2017).

Local Air Quality

SDAB Attainment Designation

An area is designated in attainment when it is in compliance with the National Ambient Air Quality Standards (NAAQS) and/or California Ambient Air Quality Standards (CAAQS). These standards are set by the U.S. Environmental Protection

Agency (EPA) or California Air Resources Board (CARB) for the maximum level of a given air pollutant that can exist in the outdoor air without unacceptable effects on human health or the public welfare. The criteria pollutants of primary concern that are considered in this analysis are O_3, NO_2, CO, SO_2, PM_{10}, and $PM_{2.5}$. Although there are no ambient standards for VOCs or NO_x, they are important as precursors to O_3.

The portion of the SDAB where the project site is located is designated by the EPA as an attainment area for the 1997 8-hour NAAQS for O_3 and as a marginal nonattainment area for the 2008 8-hour NAAQS for O_3.The SDAB is designated in attainment for all other criteria pollutants under the NAAQS with the exception of PM_{10}, which was determined to be unclassifiable. The SDAB is currently designated nonattainment for O_3 and particulate matter, PM_{10} and $PM_{2.5}$, under the CAAQS. It is designated attainment for the CAAQS for CO, NO_2, SO_2, lead, and sulfates.

Table 5.3-1, SDAB Attainment Classification, summarizes the SDAB's federal and state attainment designations for each of the criteria pollutants.

Table 5.3-1
SDAB Attainment Classification

Pollutant	Federal Designation[a]	State Designation[b]
O_3 (1 hour)	Attainment (Maintenance)[c]	Nonattainment
O_3 (8 hours – 1997) (8 hours – 2008)	Attainment (Maintenance) Nonattainment (Moderate)	Nonattainment
CO	Unclassifiable/Attainment[d]	Attainment
PM_{10}	Unclassifiable/Attainment	Nonattainment
$PM_{2.5}$	Unclassifiable/Attainment	Nonattainment
NO_2	Unclassifiable/Attainment	Attainment
SO_2	Attainment	Attainment
Pb	Attainment	Attainment
Sulfates	(no federal standard)	Attainment
Hydrogen sulfide	(no federal standard)	Unclassified
Visibility-reducing particles	(no federal standard)	Unclassified

Notes:

[a] EPA 2014

[b] CARB 2016a

[c] The federal 1-hour standard of 0.12 was in effect from 1979 through June 15, 2005. The revoked standard is referenced here because it was employed for such a long period and because this benchmark is addressed in State Implementation Plans.

[d] The western and central portions of the SDAB are designated attainment, while the eastern portion is designated unclassifiable/attainment.

Air Quality Monitoring Data

The SDAPCD operates a network of ambient air monitoring stations throughout San Diego County, which measure ambient concentrations of pollutants and determine whether the ambient air quality meets the CAAQS and the NAAQS. The SDAPCD monitors air quality conditions at 10 locations throughout the basin. The Overland Avenue monitoring station represents the closest monitoring station to the project for concentrations for all pollutants, except CO and SO_2. The downtown San Diego monitoring station at Beardsley Street is the most representative location where CO concentrations are monitored and the Redwood Avenue monitoring station is most representative for SO_2. Ambient concentrations of pollutants from 2013 through 2015 are presented in Table 5.3-2, Ambient Air Quality Data. The number of days exceeding the ozone ambient air quality standards is shown in Table 5.3-3, Frequency of Air Quality Standard Violations; no ambient air quality standards for other pollutants were reported during the monitoring period. The state 8-hour O_3 standard was exceeded in 2013 and 2014, and the state 1-hour O_3 standard was exceeded in 2014, while the federal 8-hour O_3 standard was exceeded in 2014. Air quality within the project region was in compliance with both CAAQS and NAAQS for NO_2, CO, PM_{10}, $PM_{2.5}$, and SO_2 during this monitoring period.

Table 5.3-2
Ambient Air Quality Data

Pollutant	Averaging Time	2013	2014	2015	Most Stringent Ambient Air Quality Standard	Monitoring Station
O_3	8 hours	0.071 ppm	0.082 ppm	0.070 ppm	0.070 ppm	Kearny Villa Road
	1 hour	0.081 ppm	0.099 ppm	0.077 ppm	0.090 ppm	
NO_2	Annual	0.011 ppm	0.010 ppm	0.090 ppm	0.030 ppm	Kearny Villa Road
	1 hour	0.067 ppm	0.051 ppm	0.051 ppm	0.180 ppm	
CO	8 hours*	2.10 ppm	1.90 ppm	1.90 ppm	9.0 ppm	Beardsley Street
	1 hour*	3.0 ppm	2.7 ppm	2.6 ppm	20 ppm	
SO_2	Annual*	0.00014 ppm	0.00014 ppm	0.00011 ppm	0.030 ppm	Redwood Avenue
	24 hours*	0.0006 ppm	0.0003 ppm	0.0004 ppm	0.040 ppm	
PM_{10}	Annual	20.0 µg/m^3	19.5 µg/m^3	16.7 µg/m^3	20 µg/m^3	Kearny Villa Road
	24 hours	39.0 µg/m^3	39.0 µg/m^3	39.0 µg/m^3	50 µg/m^3	
$PM_{2.5}$	Annual	8.3 µg/m^3	8.1 µg/m^3	7.2 µg/m^3	12 µg/m^3	Kearny Villa Road
	24 hours	22.0 µg/m^3	20.2 µg/m^3	25.7 µg/m^3	35 µg/m^3	

Sources: CARB 2016b, EPA 2016a.

Notes:
ppm = parts per million; $\mu g/m^3$ = micrograms per cubic meter
Data represent maximum values.
* Data were taken from EPA 2016a.

Table 5.3-3
Frequency of Air Quality Standard Violations

Monitoring Site	Year	Number of Days Exceeding Standard		
		State 1-Hour O_3	*State 8-Hour O_3*	*National 8-Hour O_3*
Overland Avenue	2013	0	1	0
	2014	1	4	1
	2015	0	0	0

Source: CARB 2016b.

5.3.4 REGULATORY FRAMEWORK

Federal

Clean Air Act

The federal Clean Air Act (CAA), passed in 1970 and last amended in 1990, forms the basis for the national air pollution control effort. The EPA is responsible for implementing most aspects of the CAA, including the setting of NAAQS for major air pollutants, hazardous air pollutant standards, approval of state attainment plans, motor vehicle emission standards, stationary source emission standards and permits, acid rain control measures, stratospheric O_3 protection, and enforcement provisions.

NAAQS are established by the EPA for "criteria pollutants" under the CAA, which are O_3, CO, NO_2, SO_2, particulate matter (PM_{10} and $PM_{2.5}$), and Pb.

The NAAQS describe acceptable air quality conditions designed to protect the health and welfare of the citizens of the nation. The CAA requires the EPA to reassess the NAAQS at least every 5 years to determine whether adopted standards are adequate to protect public health based on current scientific evidence. States with areas that exceed the NAAQS must prepare a State Implementation Plan that demonstrates how those areas will attain the standards within mandated time frames.

Federal General Conformity Rule

Federal projects are subject to either the Transportation Conformity Rule (40 CFR, Part 51, Subpart T), which applies to federal highway and transit projects, or the General Conformity Rule (40 CFR, Part 51, Subpart W), which applies to all other federal projects. The General Conformity Rule implements Section 176(c) of the federal CAA, which requires that a federal agency ensure conformity with an approved State Implementation Plan for air emissions generated by an agency action. Conformity determinations for federal actions are required for each pollutant where the total of direct and indirect emissions in a nonattainment or maintenance area caused by a federal action equaling or exceeding 100 tons per year for affected pollutants. Because the North City Project area is located within the SDAB, which is in nonattainment for O_3 and a maintenance area for carbon monoxide, conformity determination requirements do apply. If a project's emissions would exceed the *de minimis* thresholds for CO, NO_X, or VOCs, the project would be considered to have a significant impact related to O_3.

Hazardous Air Pollutants

The 1977 federal CAA Amendments required the EPA to identify National Emission Standards for Hazardous Air Pollutants to protect public health and welfare. Hazardous air pollutants (HAPs) include certain VOCs, pesticides, herbicides, and radionuclides that present a tangible hazard, based on scientific studies of exposure to humans and other mammals. Under the 1990 federal CAA Amendments, which expanded the control program for HAPs, 189 substances and chemical families were identified as HAPs.

State

California Clean Air Act

The California CAA was adopted in 1988 and establishes the state's air quality goals, planning mechanisms, regulatory strategies, and standards of progress. Under the California CAA, the task of air quality management and regulation has been legislatively granted to CARB, with subsidiary responsibilities assigned to air quality management districts and air pollution control districts at the regional and county levels. CARB is responsible for ensuring implementation of the California CAA, responding to the federal CAA, and regulating emissions from motor vehicles and consumer products. Pursuant to the authority granted to it, CARB has established CAAQS, which are generally more restrictive than the NAAQS.

The NAAQS and CAAQS are presented in Table 5.3-4, Ambient Air Quality Standards.

Table 5.3-4
Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards[a]	National Standards[b]	
		Concentration[c]	*Primary*[c,d]	*Secondary*[c,e]
O_3	1 hour	0.09 ppm (180 μg/m^3)	—	Same as Primary Standard[f]
	8 hours	0.070 ppm (137 μg/m^3)	0.070 ppm (137 μg/m^3)[f]	
NO_2[g]	1 hour	0.18 ppm (339 μg/m^3)	0.100 ppm (188 μg/m^3)	Same as Primary Standard
	Annual Arithmetic Mean	0.030 ppm (57 μg/m^3)	0.053 ppm (100 μg/m^3)	
CO	1 hour	20 ppm (23 mg/m^3)	35 ppm (40 mg/m^3)	None
	8 hours	9.0 ppm (10 mg/m^3)	9 ppm (10 mg/m^3)	
SO_2[h]	1 hour	0.25 ppm (655 μg/m^3)	0.075 ppm (196 μg/m^3)	—
	3 hours	—	—	0.5 ppm (1,300 μg/m^3)
	24 hours	0.04 ppm (105 μg/m^3)	0.14 ppm (for certain areas)[g]	—
	Annual	—	0.030 ppm (for certain areas)[g]	—
PM_{10}[i]	24 hours	50 μg/m^3	150 μg/m^3	Same as Primary Standard
	Annual Arithmetic Mean	20 μg/m^3	—	
$PM_{2.5}$[i]	24 hours	—	35 μg/m^3	Same as Primary Standard
	Annual Arithmetic Mean	12 μg/m^3	12.0 μg/m^3	15.0 μg/m^3
Lead[j,k]	30-day Average	1.5 μg/m^3	—	—
	Calendar Quarter	—	1.5 μg/m^3 (for certain areas)[k]	Same as Primary Standard
	Rolling 3-Month Average	—	0.15 μg/m^3	
Hydrogen sulfide	1 hour	0.03 ppm (42 μg/m^3)	—	—
Vinyl chloride[j]	24 hours	0.01 ppm (26 μg/m^3)	—	—
Sulfates	24- hours	25 μg/m^3	—	—

Table 5.3-4
Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards[a]	National Standards[b]	
		Concentration[c]	*Primary*[c,d]	*Secondary*[c,e]
Visibility-reducing particles	8 hour (10:00 a.m. to 6:00 p.m. PST)	Insufficient amount to produce an extinction coefficient of 0.23 per kilometer due to the number of particles when the relative humidity is less than 70%	—	—

Source: CARB 2016a.

Notes: μg/m^3 = micrograms per cubic meter; CO = carbon monoxide; mg/m^3= milligrams per cubic meter; NO_2 = nitrogen dioxide; O_3 = ozone; PM_{10} = particulate matter with an aerodynamic diameter less than or equal to 10 microns; $PM_{2.5}$ = particulate matter with an aerodynamic diameter less than or equal to 2.5 microns; ppm = parts per million by volume; SO_2 = sulfur dioxide

[a] California standards for O_3, CO, SO_2 (1-hour and 24-hour), NO_2, suspended particulate matter (PM_{10}, $PM_{2.5}$), and visibility-reducing particles are values that are not to be exceeded. All others are not to be equaled or exceeded. CAAQS are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

[b] National standards (other than O_3, NO_2, SO_2, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once per year. The O_3 standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over 3 years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 μg/m^3 is equal to or less than 1. For $PM_{2.5}$, the 24-hour standard is attained when 98% of the daily concentrations, averaged over 3 years, are equal to or less than the standard.

[c] Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based on a reference temperature of 25° Celsius (°C) and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

[d] National Primary Standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health.

[e] National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

[f] On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.

[g] To attain the national 1-hour standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 parts per billion (ppb). Note that the national 1-hour standard is in units of ppb. California standards are in units of ppm. To directly

compare the national 1-hour standard to the California standards, the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.

[h] On June 2, 2010, a new 1-hour SO_2 standard was established, and the existing 24-hour and annual primary standards were revoked. To attain the national 1-hour standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until 1 year after an area is designated for the 2010 standard, except that in areas designated nonattainment of the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

[i] On December 14, 2012, the national annual $PM_{2.5}$ primary standard was lowered from 15 $\mu g/m^3$ to 12.0 $\mu g/m^3$. The existing national 24-hour $PM_{2.5}$ standards (primary and secondary) were retained at 35 $\mu g/m^3$, as was the annual secondary standard of 15 $\mu g/m^3$. The existing 24-hour PM_{10} standards (primary and secondary) of 150 $\mu g/m^3$ were also retained. The form of the annual primary and secondary standards is the annual mean averaged over 3 years.

[j] CARB has identified lead and vinyl chloride as TACs with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

[k] The national standard for lead was revised on October 15, 2008, to a rolling 3-month average. The 1978 lead standard (1.5 $\mu g/m^3$ as a quarterly average) remains in effect until 1 year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

Toxic Air Contaminants

California regulates TACs primarily through the Tanner Air Toxics Act (Assembly Bill 1807) and the Air Toxics "Hot Spots" Information and Assessment Act of 1987 (Assembly Bill 2588). The Tanner Act sets forth a formal procedure for CARB to designate substances as TACs. This includes research, public participation, and scientific peer review before CARB can designate a substance as a TAC. To date, CARB has identified over 21 TACs and has adopted the EPA's list of HAPs as TACs. Once a TAC is identified, CARB then adopts an airborne toxics control measure for sources that emit that particular TAC. If there is a safe threshold for a substance at which there is no toxic effect, the control measure must reduce exposure below that threshold. If there is no safe threshold, the measure must incorporate best available control technology for toxics to minimize emissions. None of the TACs identified by CARB have a safe threshold.

Under the Air Toxics "Hot Spots" Act, existing facilities that emit air pollutants above specified levels were required to (1) prepare a TAC emission inventory plan and report, (2) prepare a risk assessment if TAC emissions were significant, (3)

notify the public of significant risk levels, and (4) if health impacts were above specified levels, prepare and implement risk reduction measures.

California Health and Safety Code Section 41700

Section 41700 of the Health and Safety Code states that a person shall not discharge from any source whatsoever quantities of air contaminants or other material that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or that endanger the comfort, repose, health, or safety of any of those persons or the public, or that cause, or have a natural tendency to cause, injury or damage to business or property. This section also applies to sources of objectionable odors.

Local

San Diego Air Pollution Control District

While CARB is responsible for the regulation of mobile emission sources within the state, local air quality management districts and air pollution control districts are responsible for enforcing standards and regulating stationary sources. The North City Project site is located within the SDAB and is subject to the guidelines and regulations of the SDAPCD.

In San Diego County, O_3 and particulate matter are the pollutants of main concern, since exceedances of CAAQS for those pollutants are experienced here in most years. For this reason, the SDAB has been designated as a nonattainment area for the state PM_{10}, $PM_{2.5}$, and O_3 standards. The SDAB is also a federal O_3 attainment (maintenance) area for 1997 8-hour O_3 standard, an O_3 nonattainment area for the 2008 8-hour O_3 standard, and a CO maintenance area (western and central part of the SDAB only). The North City Project area is in the CO maintenance area.

The SDAPCD and the San Diego Association of Governments (SANDAG) are responsible for developing and implementing the clean air plan for attainment and maintenance of the ambient air quality standards in the SDAB. The County Regional Air Quality Strategy (RAQS) was initially adopted in 1991 and is updated on a triennial basis, most recently in 2009 (SDAPCD 2009a). The RAQS outlines SDAPCD's plans and control measures designed to attain the state air quality standards for O_3. The RAQS relies on information from CARB and SANDAG, including mobile and area source emissions, and information regarding projected growth in the cities and San Diego County, to project future emissions and determine the strategies

necessary for the reduction of emissions through regulatory controls. CARB mobile source emission projections and SANDAG growth projections are based on population, vehicle trends, and land use plans developed by the cities and San Diego County as part of the development of their general plans.

In December 2016, SDAPCD revised the RAQS for San Diego County. Since 2007, the San Diego region reduced daily VOC emissions and NO_x emissions by 3.9% and 7.0% respectively; the SDAPCD expects to continue reductions through 2035. These reductions were achieved through implementation of six VOC control measures and three NO_x control measures adopted in the SDAPCD's 2009 RAQS; in addition, the SDAPCD is considering additional measures, including three VOC measures and four control measures to reduce 0.3 daily ton of VOC and 1.2 daily tons of NO_x, provided they are found to be feasible region-wide. In addition, the SDAPCD has implemented nine incentive-based programs, has worked with SANDAG to implement regional transportation control measures, and has reaffirmed the state emission offset repeal.

The Eight-Hour Ozone Attainment Plan for San Diego County indicates that local controls and state projects would allow the region to reach attainment of the federal 1997 8-hour O_3 standard by 2009 (SDAPCD 2007). In this plan, SDAPCD relies on the RAQS to demonstrate how the region will comply with the federal O_3 standard. The RAQS details how the region will manage and reduce O_3 precursors (oxides of nitrogen (NO_x) and VOCs) by identifying measures and regulations intended to reduce these contaminants. The control measures identified in the RAQS generally focus on stationary sources; however, the emissions inventories and projections in the RAQS address all potential sources, including those under the authority of CARB and the EPA. Incentive projects for reduction of emissions from heavy-duty diesel vehicles, off-road equipment, and school buses are also established in the RAQS. According to the Redesignation Request and Maintenance Plan for the 1997 National Ozone Standard for San Diego County, the SDAB did not reach attainment of the federal 1997 standard until 2011 (SDAPCD 2012). This plan, however, demonstrates the region's attainment of the 1997 O_3 NAAQS and outlines the plan for maintaining attainment status.

Also in December 2016, the SDAPCD released an updated 8-hour ozone attainment plan for San Diego County. Currently, the County is in moderate nonattainment for the 2008 NAAQS. As a nonattainment area, the County must establish a State Implementation Plan that outlines how the County will reach an attainment status. As documented in the 2016 8-hour ozone attainment plan, the County has a likely

chance of obtaining attainment due to the transition to low emission cars, stricter new source review rules, and continuing the requirement of general conformity for military growth and the San Diego International Airport. The County will also continue emission control measures: ongoing implementation of existing regulations in ozone precursor reduction to stationary and area-wide sources, subsequent inspections of facilities and sources, and the adoption of laws requiring Best Available Retrofit Control Technology for control of emissions.

In December 2005, SDAPCD prepared a report titled Measures to Reduce Particulate Matter in San Diego County to address implementation of Senate Bill 656 in San Diego County (Senate Bill 656 required additional controls to reduce ambient concentrations of PM_{10} and $PM_{2.5}$) (SDAPCD 2005). In the report, SDAPCD evaluated the implementation of source-control measures that would reduce particulate matter emissions associated with residential wood combustion; various construction activities including earthmoving, demolition, and grading; bulk material storage and handling; carryout and trackout removal and cleanup methods; inactive disturbed land; disturbed open areas; unpaved parking lots/staging areas; unpaved roads; and windblown dust.

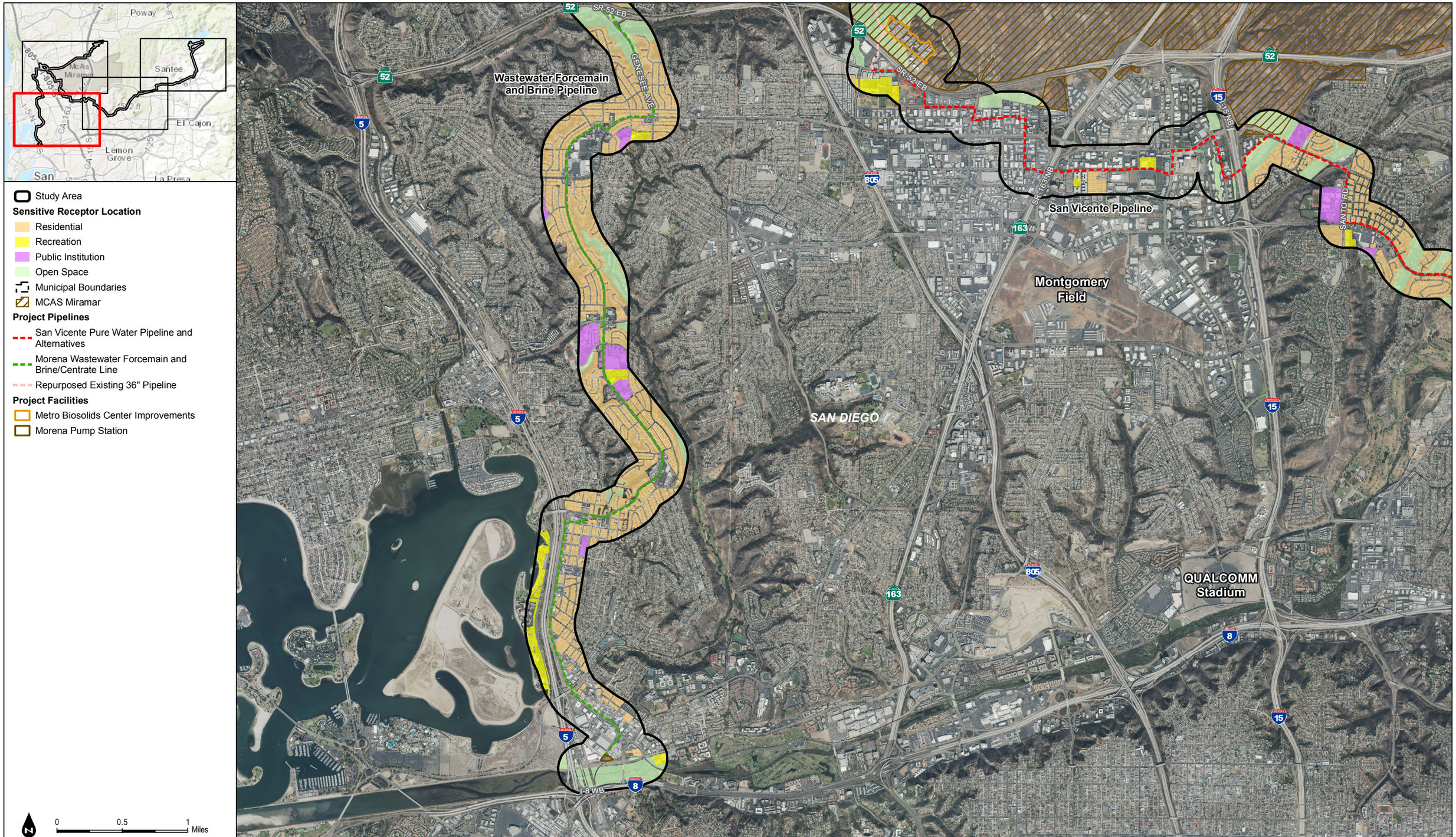
As stated earlier, the SDAPCD is responsible for planning, implementing, and enforcing federal and state ambient standards in the SDAB. The following rules and regulations apply to all sources in the jurisdiction of SDAPCD:

- **SDAPCD Regulation IV: Prohibitions; Rule 51: Nuisance.** Prohibits the discharge, from any source, of such quantities of air contaminants or other materials that cause or have a tendency to cause injury, detriment, nuisance, annoyance to people and/or the public, or damage to any business or property (SDAPCD 1976).
- **SDAPCD Regulation IV: Prohibitions; Rule 55: Fugitive Dust.** Regulates fugitive dust emissions from any commercial construction or demolition activity capable of generating fugitive dust emissions, including active operations, open storage piles, and inactive disturbed areas, as well as track-out and carry-out onto paved roads beyond a project site (SDAPCD 2009b).
- **SDAPCD Regulation IV: Prohibitions; Rule 67.0.1: Architectural Coatings.** Requires manufacturers, distributors, and end users of architectural and industrial maintenance coatings to reduce VOC emissions from the use of these coatings, primarily by placing limits on the VOC content of various coating categories (SDAPCD 2015b).

City of San Diego

The San Diego Municipal Code addresses air quality and odor impacts in Chapter 14, Article 2, Division 7 paragraph 142.0710, "Air Contaminant Regulations," which states: "Air contaminants including smoke, charred paper, dust, soot, grime, carbon, noxious acids, toxic fumes, gases, odors, and particulate matter, or any emissions that endanger human health, cause damage to vegetation or property, or cause soiling shall not be permitted to emanate beyond the boundaries of the premises upon which the use emitting the contaminants is located" (City of San Diego 2000).

INTENTIONALLY LEFT BLANK



SOURCE: SanGIS 2016; SANDAG 2016

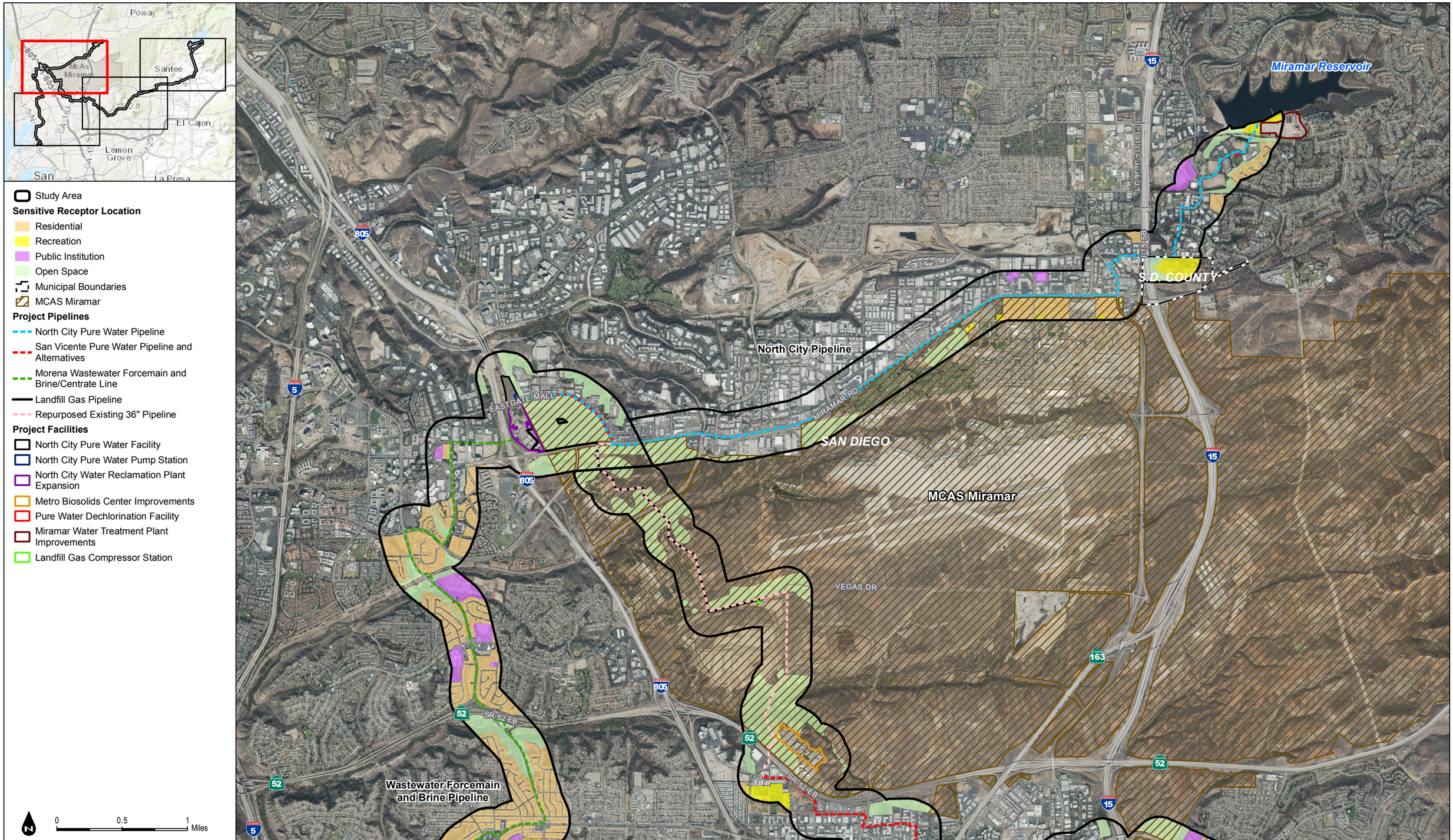
DUDEK

FIGURE 5.3-1A

Air Quality Sensitive Receptor Locations

Pure Water San Diego Program North City Project EIR/EIS

INTENTIONALLY LEFT BLANK



SOURCE: SanGIS 2016; SANDAG 2016

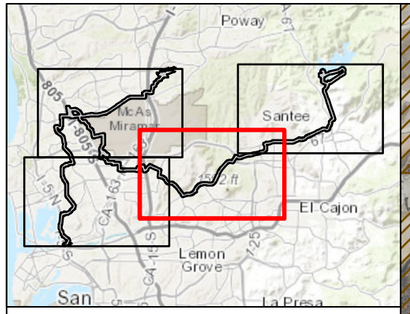
DUDEK

FIGURE 5.3-1B

Air Quality Sensitive Receptor Locations

Pure Water San Diego Program North City Project EIR/EIS

INTENTIONALLY LEFT BLANK



Study Area

Sensitive Receptor Location

- Residential
- Recreation
- Public Institution
- Open Space
- Municipal Boundaries
- MCAS Miramar

Project Pipelines

- San Vicente Pure Water Pipeline and Alternatives

Project Facilities

- Mission Trails Booster Station

0 0.5 1 Miles

Santee Lake
SANTEE
CUYAMACA
CARLTON OAKS DR
SR-52 WB
SANTO RD
SAN DIEGO
San Vicente Pure Water Pipeline (SVPWPL)
Gillespie Field
EL CAJON
Lake Murray
LA MESA
QUALCOMM Stadium
LA MESA
I-15 NB
163
52
15
125

SOURCE: SanGIS 2016; SANDAG 2016

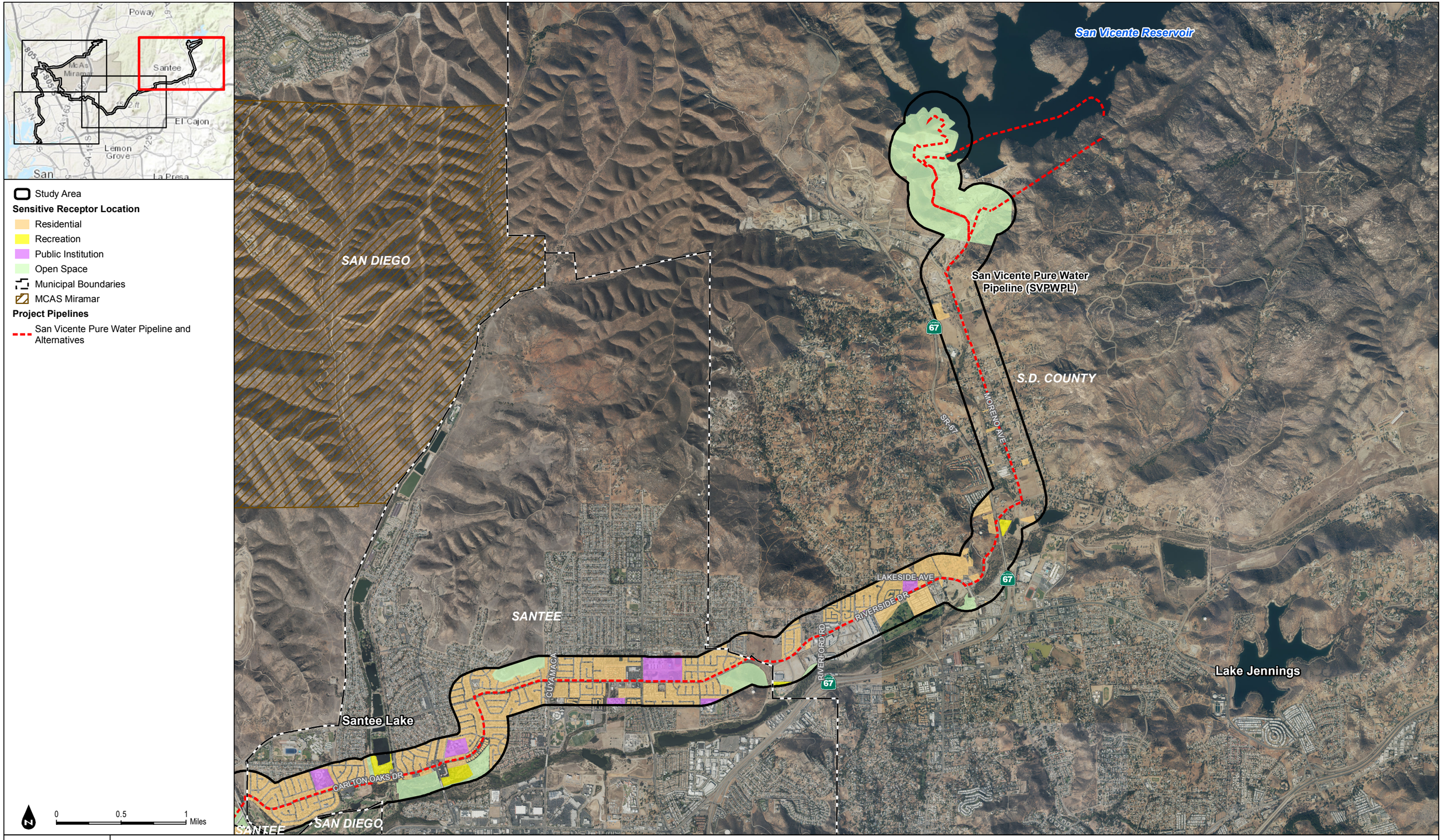
DUDEK

FIGURE 5.3-1C

Air Quality Sensitive Receptor Locations

Pure Water San Diego Program North City Project EIR/EIS

INTENTIONALLY LEFT BLANK



SOURCE: SanGIS 2016; SANDAG 2016

DUDEK

FIGURE 5.3-1D

Air Quality Sensitive Receptor Locations

Pure Water San Diego Program North City Project EIR/EIS

INTENTIONALLY LEFT BLANK

5.4 BIOLOGICAL RESOURCES

5.4.1 INTRODUCTION

The following section describes the environmental setting and regulatory framework related to biological resources for the North City Project.

The information provided in this section is based on the Biological Resources Report for the North City Project, City of San Diego, California prepared by Dudek, dated ~~September 2017~~February 2018 (provided as Appendix C). Data regarding biological resources present in the Project Area were obtained through a review of pertinent literature and through field reconnaissance.

Each Project Alternative study area is comprised of survey areas and corresponding appropriate survey buffers. Survey areas were determined based on suitable habitat for the resource for which the survey was conducted. For vegetation mapping (except for areas surrounding the Miramar Reservoir), focused surveys for coastal California gnatcatcher (*Polioptila californica californica*), southwestern willow flycatcher (*Empidonax traillii extimus*), least Bell's vireo (*Vireo bellii pusillus*), burrowing owl (*Athene cunicularia*), and vernal pool branchiopods, the survey area is defined as the Project Alternatives alignment and facilities footprint, including a 500-foot surrounding study buffer. For vegetation mapping surrounding the Miramar Reservoir, and focused surveys for sensitive plants, Quino checkerspot butterfly (*Euphydryas editha quino*) and larval host plants (except 500-foot buffer within MCAS Miramar), and Hermes copper butterfly (*Lycaena hermes*) and larval host plants, the survey area was limited to a 100-foot buffer surrounding the Project Alternatives alignment and facilities footprint. The jurisdictional delineation survey area was limited to a 50-foot buffer surrounding the Project Alternatives alignments and facilities footprint.

5.4.2 ENVIRONMENTAL SETTING

This section describes the existing biological conditions within the Project Area.

Additionally, sensitive biological resources are defined as follows: (1) species that have been given special recognition by federal, state, or local agencies and organizations due to limited, declining, or threatened population sizes; (2) habitat types recognized by local and regional agencies as sensitive; (3) habitat areas or plant communities that are unique, are of relatively limited distribution, or are of particular value to wildlife; and (4) wildlife corridors and habitat linkages. Sources used for determination of sensitive biological resources are as follows: plants–USFWS (2016a), CDFW (2016), and

CNPS (2017~~6~~); wildlife–USFWS (2016a) and CDFW (2016a); plant communities–City of San Diego MSCP Subarea Plan (City of San Diego 1997), and City of San Diego Municipal Code, Land Development Code—Biology Guidelines (City of San Diego 2012).

5.4.2.1 Survey Methods

Literature Review

The following data sources were reviewed to assist with the biological resources analysis:

- U.S. Department of Agriculture Web Soil Survey (USDA 2016a)
- California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CDFW 2016)
- California Native Plant Society Inventory of Rare and Endangered Plants (CNPS 2017~~5, CNPS 2016~~)
- San Diego Multiple Species Conservation Program (MSCP) Subarea Plan (City of San Diego 1997)
- San Diego Municipal Code, Land Development Code—Biology Guidelines (City of San Diego 2012)
- U.S. Fish and Wildlife Service (USFWS) Species Occurrence Data (USFWS 2016a)
- San Diego Geographic Information Source (SanGIS) database (SanGIS 2013)
- Existing Conditions Letter Report for the Pure Water San Diego Program North City Water Purifications Project (Appendix B, of Appendix C)
- Pure Water San Diego Program North City Water Purification Project, Dry Season Fairy Shrimp Survey and Hatching Report (Appendix C, of Appendix C)
- Surveys for Coastal California Gnatcatcher at Marine Corps Air Station Miramar, California. Draft. (SDNHM 2016)
- USFWS National Wetlands Inventory (USFWS 2016b)
- U.S. Geological Survey National Hydrography Dataset (USGS 2016)
- Overview of San Diego Watershed Management Areas (SDRWQCB 2002)
- Aerial maps from the San Diego Association of Governments (SANDAG 2014) and Bing (Microsoft 2016)
- Topographic maps (Google Earth 2016)

- Historical Aerials online (Historical Aerials 2016a–d)
- Miramar Reservoir limnological data (City of San Diego 2012–2014)
- Fundamentals of Aquatic Systems (Barnes and Mann 1991)
- A Trophic State Index for Lakes (Carlson 1977)
- Lake Miramar General Fish Survey Fall 2014 (CDFW 2014)
- Zebra mussels in North America: The invasion and its implications (Snyder et al. 1997)
- Water Quality Modeling of Miramar Reservoir in Support of Assessment of Nutrients and Productivity (Appendix G of this EIR/EIS)

Field Reconnaissance

Biological field surveys for the North City Project were conducted in 2015–2017 by Dudek and HELIX, and their respective subconsultants, Balk Biological Inc. and Rocks Biological. Field surveys included vegetation and land cover mapping, jurisdictional delineation, Quino checkerspot butterfly habitat assessment and host plant mapping, Hermes copper butterfly habitat assessment and host plant mapping, burrowing owl habitat assessment, and vernal pool branchiopods habitat assessments. Focused surveys were conducted for coastal California gnatcatcher, southwestern willow flycatcher, least Bell's vireo, burrowing owl, Quino checkerspot butterfly, Hermes copper butterfly, San Diego fairy shrimp (*Branchinecta sandiegonensis*), Riverside fairy shrimp (*Streptocephalus woottoni*), and western pond turtle (*Actinemys marmorata*).

Vegetation mapping for the North City Project was conducted by Dudek in March, April, and May in 2016, and a formal jurisdictional delineation was conducted in September and October 2016. Focused botanical surveys were conducted for the North City Project by Dudek and HELIX subconsultants Balk Biological Inc. and Rocks Biological, respectively, in March, April, May, June, August, September and October 2016. Due to an unusually wet weather year, follow-up plant surveys were conducted for the 2017 season. The following focused surveys were conducted by Dudek in spring 2016: Quino checkerspot butterfly and host plant mapping, coastal California gnatcatcher, burrowing owl, southwestern willow flycatcher, least Bell's vireo, and Hermes copper butterfly and habitat assessment. Western pond turtle focused visual surveys were conducted by Dudek in September and October 2016 and trapping surveys were conducted by U.S. Geological Survey in August and September 2017 (Appendix C).

Focused surveys for fairy shrimp were conducted by HELIX and Rocks Biological from 2015 through 2016. For areas of the Project not surveyed by HELIX, Dudek conducted GIS modelling to identify potential vernal pools by using parameters (i.e., less than 10% slope and clay soils) that are suitable for vernal pools. These areas were surveyed during the 2016/2017 wet season and the 2017 dry season. Additionally, due to record rainfall in the region, additional previously undescribed features were documented on the North City Pure Water Facility (NCPWF) site. Dudek verified and mapped all depression features that held water for 24 hours and contained vernal pool indicator species (i.e., those listed in Appendix A of the ~~Draft~~ Final Vernal Pool Habitat Conservation Plan (VPHCP)) as vernal pools. These same events increased the known surface area of previously documented pools. It is likely that many of these features will not meet these criteria or express the same surface area in future years, unless similar record-breaking rainfall events occur.

Various survey efforts for vernal pool branchiopods have been conducted on the NCPWF, including a wet season survey in 2001 (Merkel & Associates Inc. 2001), a dry season survey in 2006 (URS 2006), a visual mapping effort between 2002 and 2003 (City of San Diego 2003), and genetic testing conducted in support of the 2002/2003 Vernal Pool Inventory (Bohonak 2004). Neither the 2001 or the 2006 survey efforts meet the requirements for a complete survey according to USFWS survey protocol (i.e., sampling did not take place across an entire wet season, and two surveys were not conducted within a 3-year period). Additionally, the 2002/2003 Vernal Pool Inventory (City of San Diego 2003) did not conduct a protocol-level survey on the NCPWF site but was used instead as a collection site for genetic testing of versatile fairy shrimp (*Branchinecta lindahli*) (Bohonak 2004; Appendix H of the 2002/2003 Vernal Pool Inventory). Other data taken into account by the City regarding the vernal pools on the NCPWF site includes precipitation during each survey year and vernal pool indicator species based on Appendix A of the VPHCP (City of San Diego 2017). Average annual rainfall for San Diego between 2000 and 2017 is approximately 9.40 inches (NOAA 2017). Wet season surveys were conducted in 2001 and 2015/2016; dry season surveys were conducted in 2006, 2016, and 2017; and a visual inspection for fairy shrimp was conducted during the 2002/2003 Vernal Pool Inventory. The rainfall totals for each survey effort year on the NCPWF include the following: 6.69 inches from November 2000 through June 2001, 11.30 inches from November 2002 through June 2003, 7.31 inches from November 2005 through June 2006, 10.64 inches from November 2015 through June 2016, and 15.80 inches from November 2016 through June 2017. Vernal pool indicator species were mapped within all 13 vernal pools identified in 2001. Vernal pool indicator species

were not mapped during the 2006 survey effort; however, pool 33 overlaps two pools mapped during more recent surveys, which did have indicator species present. Vernal pool indicator species were mapped within all features recorded during the 2015/2016 and 2017 surveys on the NCPWF.

Additional detail regarding the schedule of surveys; protocols followed; and survey techniques, conditions and limitations can be found in Appendix C.

5.4.2.2 Physical and Biological Characteristics

The physical and biological characteristics of the individual project components that make up the North City Project are presented in the following sections and included in Figures 5.4-1A through 5.4-1AD, Biological Resources – Miramar Reservoir and San Vicente Reservoir Alternatives. Table 5.4-1 identifies each project component and to which Project Alternative it is applicable.

Table 5.4-1
Project Components for Each Alternative

Component	Component Acronym/Abbreviation	Miramar Reservoir Alternative	San Vicente Reservoir Alternative
Morena Pump Station	N/A	X	X
Morena Pipelines (Morena Wastewater Forcemain and Brine/Centrate Line)	Morena Pipelines	X	X
North City Water Reclamation Plant Expansion	NCWRP	X	X
North City Pure Water Facility - Influent Pump Station	NCPWF Influent Pump Station	X	X
North City Pure Water Facility	NCPWF	X	X
North City Pure Water Pump Station	North City Pump Station	X	X
North City Pure Water Pipeline	North City Pipeline	X	—
San Vicente Pipeline – Repurposed 36-inch Recycled Water Line[1]	N/A	—	X
San Vicente Pure Water Pipeline[2]	San Vicente Pipeline	—	X
San Vicente Pipeline – Tunnel Alternative Terminus	San Vicente Pipeline – TAT	—	X
San Vicente Pipeline – In-Reservoir Alternative Terminus	San Vicente Pipeline – IRAT	—	X
San Vicente Pipeline – Marina Alternative Terminus	San Vicente Pipeline – MAT	—	X

Table 5.4-1
Project Components for Each Alternative

Component	Component Acronym/Abbreviation	Miramar Reservoir Alternative	San Vicente Reservoir Alternative
Mission Trails Booster Station	MTBS	—	X
Renewable Energy Facility	N/A	X	X
Landfill Gas Pipeline	LFG Pipeline	X	X
Metro Biosolids Center Improvements[1]	MBC	X	X
Miramar Water Treatment Plant Improvements[1]	Miramar WTP	X	—
Pure Water Dechlorination Facility	Dechlorination Facility	X	—

Note:

[1] Approximately 21,295 linear feet of the San Vicente Pipeline would include a repurposed 36-inch-diameter recycled water line; along this section disturbance would occur at the location of air and blow-off valves.

[2] A dechlorination facility would be located along the pipeline prior to discharge at San Vicente Reservoir; however, the exact location and design details of this facility are unknown.

Section 3.1 and 3.2 of Appendix C contain detailed descriptions of the physical characteristics of each project component as well as a list of soil types found within the component's' study area. Sections 3.3.1 and 3.5.1 of Appendix C contain detailed descriptions of each vegetation community. Section 3.3.3 and 3.5.3 of Appendix C contain general descriptions and locations for sensitive plant species. Section 3.3.4 and 3.5.4 of Appendix C contain general descriptions and locations for sensitive wildlife species.

It should be noted that because some of the components are connected or within close proximity to one another, there may be overlapping survey buffers. The biological resource found in these overlapping areas is included within all components affected by the overlap area, therefore the sum of resources for all components' study areas will not match the overall sum within the Miramar Reservoir Alternative study area.

Morena Pump Station

The Morena Pump Station is located at the intersection of Sherman Street and Custer Street. Within the Morena Pump Station, the topography is generally flat. The site ranges in elevation from approximately 14 feet to 18 feet above mean sea level (AMSL). According to the U.S. Department of Agriculture Natural Resources Conservation Service Web Soil Survey, one soil type, Urban land, is mapped within the Morena Pump Station

(USDA 2016a). Existing land use at the Morena Pump Station is developed land. Adjacent land uses include existing commercial development immediately surrounding the site to the west and north, Morena Boulevard to the east, and Friars Road to the south. The San Diego River lies within the vicinity, approximately 260 feet south of the Morena Pump Station, on the other side of Friars Road. The San Diego River is within the Multi-Habitat Planning Area (MHPA) of the City's MSCP Subarea Plan. Additionally, the portion of the San Diego River floodplain within Coastal Overlay Zone would be considered City-regulated wetlands.

Vegetation Communities/Land Cover Types

The Morena Pump Station study area includes the Morena Pump Station footprint and a 500-foot buffer that supports 13 vegetation communities and/or land cover types (Table 5.4-2). Urban/developed land cover type is not considered a sensitive community by the City's MSCP.

Table 5.4-2
Vegetation Communities and Land Cover Types Within the Morena Pump Station Study Area

General Vegetation Community/Land Cover Category	General Vegetation Type (Holland/Oberbauer Code)	Tier/ Wetland[1]	Morena Pump Station Footprint, Overflow Pipes, and Influent Sewers Acres	Total Acres in Study Area
Disturbed and Developed Areas (10000)	Non-native Vegetation (11000)	IV	—0.93	3.773.57
	Disturbed Wetland (11200)	Wetland	—	0.75
	Disturbed Habitat (11300)	IV	—	0.81
	Urban/Developed (12000)	IV	6.121.73	22.05 19.61
	Disturbed and Developed Areas Total[2]		*7.05 1.73*	*27.38 24.74*
Bog and Marsh (50000)	Cismontane Alkali Marsh (52310)	Wetland	—	2.32
	Coastal and Valley Freshwater Marsh (52410)	Wetland	—	0.43
	Herbaceous Wetland (52510)	Wetland	—	0.76
	Bog and Marsh Total[2]		—	*3.52*

Table 5.4-2
Vegetation Communities and Land Cover Types Within the Morena Pump Station Study Area

General Vegetation Community/Land Cover Category	General Vegetation Type (Holland/Oberbauer Code)	Tier/ Wetland[1]	Morena Pump Station Footprint, Overflow Pipes, and Influent Sewers Acres	Total Acres in Study Area
Riparian and Bottomland Habitat (60000)	Mulefat Scrub (63310)	Wetland	—	0.71
	Southern Willow Scrub (63320)	Wetland	—	5.98
	Southern Willow Scrub (disturbed) (63320)	Wetland	—	1.05
	Open Water – Freshwater (64140)	Wetland	—	0.18
	Non-vegetated Channel or Floodway (64200)	Wetland	—	0.93
	Arundo-Dominated Riparian (65100)	Wetland	—	0.03
Riparian and Bottomland Habitat Total[2]			—	*8.88*
Total[2]			**7.05** ~~**1.73**~~	**39.78** ~~**37.14**~~

Notes:
1 City Subarea Plan tiers and wetland identification are from San Diego Municipal Code, Land Development Code—Biology Guidelines (City of San Diego 2012).
2 Totals may not sum due to rounding.

Sensitive Plant Species

Southwestern spiny rush (*Juncus acutus* ssp*. leopoldii*) (396 individuals) is the only sensitive plant species observed in the Morena Pump Station survey area. No other sensitive plant species ~~were observed or~~ have a moderate to high potential to occur in the Morena Pump Station survey area. No USFWS Critical Habitat occurs on within or immediately adjacent to the Morena Pump Station.

Sensitive Wildlife Species

No sensitive wildlife species were observed in the Morena Pump Station survey area. Five sensitive wildlife species have moderate potential to occur—Yuma myotis (*Myotis yumanensis*), yellow warbler (*Setophaga petechia*), least Bell's vireo,

southwestern willow flycatcher, and yellow-breasted chat (*Icteria virens*)—and no other sensitive wildlife species has a high potential to occur in the Morena Pump Station study area (see Appendix N, Special Status Wildlife Species Potential to Occur within the Miramar Reservoir Alternative, of Appendix C). No USFWS Critical Habitat occurs within or immediately adjacent to the Morena Pump Station.

Jurisdictional Aquatic Resources

U.S. Army Corps of Engineers (ACOE)-, Regional Water Quality Control Board (RWQCB)-, and CDFW-jurisdictional areas within the Morena Pump Station study area total 0.22 acre of jurisdictional wetlands/riparian habitat. All of the jurisdictional aquatic resources are considered wetlands by the City of San Diego. There is one overflow pipe at the Morena Pump Station that is within 100 feet of the of the San Diego River floodplain. The San Diego River floodplain is within designated MHPA lands. Although the overflow pipe is part of the Morena Pump Station and located within Friars Road, it is described in this resource section because of the proximity (less than 100 feet) to the San Diego River. The portion of the study area that extends into the Coastal Overlay Zone is considered a City-regulated wetlands; therefore, adherence to the City wetland buffer regulations is required (City of San Diego 2012). However, because there is a functional barrier (i.e., concrete berm) that would prevent any indirect impacts to the San Diego River, the buffer may be reduced in consultation with the agencies. Additionally, the impacts within Friars Road may be subject to ACOE jurisdiction if they affect the San Diego River Levee system. Table 5.4-3 shows the riparian habitats part of the San Diego River floodplain that are within the 50-foot jurisdictional delineation study area.

Table 5.4-3
Jurisdictional Aquatic Resources in the
Morena Pump Station Study Area (Acres)

Jurisdictional Aquatic Resource	ACOE/RWQCB[1]	CDFW[1]	City of San Diego Wetlands[1]
Wetland or Riparian Areas			
Cismontane Alkali Marsh	0.02	0.02	0.02
Coastal and Valley Freshwater Marsh	0.01	0.01	0.01
Mulefat Scrub	0.01	0.01	0.01
Southern Willow Scrub	0.18	0.18	0.18
Total jurisdictional area[2]	**0.22**	**0.22**	**0.22**

Notes:

[1] The acreages listed in the ACOE/RWQCB, CDFW, CCC Wetlands, and City of San Diego Wetlands columns overlap and should not be summed together.

[2] Acreage may not total due to rounding.

Morena Pipelines

The proposed Morena Pipelines would begin in an open cut section near the north corner of the Morena Pump Station site and end at the North City Water Reclamation Plant (NCWRP) and run north for approximately 11 miles.

The topography is generally sloped from north to south. The site ranges in elevation from approximately 40 feet AMSL at the southern end along Morena Boulevard to 400 feet AMSL at the northern end along La Jolla Village Drive. The majority of the proposed Morena Pipelines would occur within existing developed roads and only occasionally cross native habitat communities. Adjacent land uses include existing commercial development, residential, and open space areas associated with MHPA. The proposed Morena Pipelines would cross over two segments of MHPAs lands.

See Appendix C for a list of soil types mapped within the Morena Pipelines.

Vegetation Communities/Land Cover Types

The Morena Pipelines study area includes the Morena Pipelines footprint and a 500-foot buffer. Twenty-two vegetation communities and/or land cover types were documented (Table 5.4-4).

Table 5.4-4
Vegetation Communities and Land Cover Types
Within the Morena Pipelines Study Area

General Vegetation Community/Land Cover Category	General Vegetation Type (Holland/Oberbauer Code)	Tier[1]	Morena Pipelines Footprint Acres	Total Acres in Study Area
Disturbed and Developed Areas (10000)	Non-native Vegetation (11000)	IV	<0.010.20	39.9440.14
	Disturbed Wetland (11200)	Wetland	—	0.81
	Disturbed Habitat (11300)	IV	0.911.06	32.83
	Urban/Developed (12000)	IV	42.7245.68	1,066.761,069.09
	Developed – Concrete Channel (12000)	IV	0.03	0.60
	Disturbed and Developed Areas Total[2]		*43.6647.97*	*1,140.941,143.47*
Scrub and Chaparral (30000)	Diegan Coastal Sage Scrub (32500)	II	0.18	44.70
	Diegan Coastal Sage Scrub (disturbed) (32500)	II	0.130.12	13.75
	Diegan Coastal Sage Scrub—Baccharis-dominated (32530)	II	—	0.32
	Scrub and Chaparral Total[2]		*0.310.30*	*58.77*

Table 5.4-4
Vegetation Communities and Land Cover Types Within the Morena Pipelines Study Area

General Vegetation Community/Land Cover Category	General Vegetation Type (Holland/Oberbauer Code)	Tier[1]	Morena Pipelines Footprint Acres	Total Acres in Study Area
Grasslands, Vernal Pools, Meadows, and Other Herb Communities (40000)	Non-native Grassland (42200)	IIIB	—	0.28
Grasslands, Vernal Pools, Meadows, and Other Herb Communities Total[2]			—	*0.28*
Bog and Marsh (50000)	Coastal and Valley Freshwater Marsh (52410)	Wetland	—	0.12
	Coastal and Valley Freshwater Marsh (disturbed) (52410)	Wetland	—	0.01
Bog and Marsh Total[2]			—	*0.13*
Riparian and Bottomland Habitat (60000)	Southern Riparian Forest (61300)	Wetland	—	5.15
	Southern Riparian Forest (disturbed) (61300)	Wetland	—	0.02
	Southern Coast Live Oak Riparian Forest (61310)	Wetland	—	3.57
	Southern Arroyo Willow Riparian Forest (61320)	Wetland	—	4.64
	Mulefat Scrub (63310)	Wetland	—	0.18
	Southern Willow Scrub (63320)	Wetland	—	3.00
	Southern Willow Scrub (disturbed) (63320)	Wetland	—	0.71
	Non-vegetated Channel or Floodway (64200)	Wetland	—	0.45
Riparian and Bottomland Habitat Total[2]			—	*17.71*
Woodland (70000)	Coast Live Oak Woodland (71160)	I	—	29.76
	Coast Live Oak Woodland (disturbed) (71160)	I	—	1.22
	Eucalyptus Woodland (79100)	IV	0.08	22.75
Woodland Total[2]			*0.08*	*53.73*
Total[2]			**44.05~~48.36~~**	**1,271.56~~1,274.08~~**

Notes:

[1] City Subarea Plan tiers from San Diego Municipal Code, Land Development Code—Biology Guidelines (City of San Diego 2012).

[2] Totals may not sum due to rounding.

Sensitive Plant Species

Four sensitive plant species, San Diego sagewort (*Artemisia palmeri*) (255 ~~39~~ individuals), Coulter's matilija poppy *Romneya coulteri*) (28 individuals), wart-stemmed ceanothus (*Ceanothus verrucosus*) (1 individual), and San Diego marsh elder (*Iva hayesiana*) (31 individuals), were ~~is the only sensitive plant species~~ observed in Morena Pipelines survey area. No other species have moderate or high potential to occur in the Morena Pipelines survey area (Appendix L, Sensitive Plant Species Potential to Occur within the Miramar Reservoir Alternative, of Appendix C). No USFWS Critical Habitat occurs within or immediately adjacent to the Morena Pipelines survey area.

Sensitive Wildlife Species

The following sensitive wildlife species were observed in Morena Pipelines survey area: Cooper's hawk (*Accipiter cooperii*), yellow warbler, and western pond turtle. Sensitive wildlife species that have a moderate to high potential to occur in the Morena Pipelines study area include: orangethroat whiptail (*Aspidoscelis hyperythra*), San Diegan tiger whiptail (*Aspidoscelis tigris stejnegeri*), San Diego ringneck snake (*Diadophis punctatus*), silvery legless lizard (*Anniella pulchra*), Blainville's horned lizard (*Phrynosoma blainvillii)*, red diamondback rattlesnake (*Crotalus ruber*), two-striped gartersnake (*Thamnophis hammondii)*, least Bell's vireo, white-tailed kite (*Elanus leucurus*), yellow-breasted chat, coastal California gnatcatcher, southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*), western bluebird (*Sialia mexicana*), pallid bat (*Antrozous pallidus*), Yuma myotis, monarch (*Danaus plexippus*), mule deer (*Odocoileus hemionus*), and western spadefoot (*Spea hammondii*) (Appendix N, Sensitive Wildlife Species Potential to Occur within the Miramar Reservoir Alternative, of Appendix C). No USFWS Critical Habitat occurs within or immediately adjacent to the Morena Pipelines.

Jurisdictional Aquatic Resources

ACOE- and RWQCB-jurisdictional areas within the Morena Pipelines study area total 0.56 acre of non-wetland stream channels. CDFW-jurisdictional areas within the Morena Pipelines study area total 0.67 acre, including 0.19 acre of riparian habitat and 0.48 acre of streambed. All of the jurisdictional aquatic resources, except for 0.03 acre of ephemeral stream channel (developed – concrete channel), are considered wetlands by the City of San Diego. Table 5.4-5 summarizes these features.

Table 5.4-5
Jurisdictional Aquatic Resources in the Morena Pipelines Study Area (Acres)

Jurisdictional Aquatic Resource	ACOE/RWQCB[1]	CDFW[1]	City of San Diego Wetlands[1]
Wetland or Riparian Areas			
Coast Live Oak Woodland	—	0.09	0.09
Disturbed Coast Live Oak Woodland	—	0.06	0.06
Disturbed Southern Riparian Forest	—	0.02	0.02
Southern Arroyo Willow Riparian Forest	—	0.02	0.02
Total Riparian/Wetlands	—	*0.19*	*0.19*
Non-wetland Waters/Streambed			
Ephemeral Stream Channel (Developed – Concrete Channel)	0.03	0.03	—
Ephemeral Stream Channel (Disturbed Wetland)	0.11	0.11	0.11
Ephemeral Stream Channel (Non-vegetated Channel)	0.42	0.37	0.37
Total Non-wetland Waters/Streambed	*0.56*	*0.52*	*0.48*
Total jurisdictional area[2]	**0.56**	**0.70**	**0.67**

Notes:

[1] The acreages listed in the ACOE/RWQCB, CDFW, and City of San Diego Wetlands columns overlap and should not be summed together.

[2] Acreage may not total due to rounding.

North City Water Reclamation Plant Expansion

The NCWRP Expansion is located immediately east of Interstate 805 (I-805). The site is bound by Eastgate Mall to the north and Miramar Road to the south. Within the NCWRP, the topography is generally flat. The site ranges in elevation from approximately 320 feet to 360 feet AMSL. Existing land use at the NCWRP is mostly developed land; however, there is a small area of native habitat immediately adjacent to the existing fence line. Adjacent land uses include existing commercial and residential development to the north and west, and open space to the south and east. There is designated MHPA land directly south of the site, south of Miramar Road. The NCPWF Influent Pump Station and North City Renewable Energy Facility are included within the NCWRP Expansion footprint.

Vegetation Communities/Land Cover Types

The NCWRP Expansion study area includes the NCWRP Expansion footprint and a 500-foot buffer that supports 7 vegetation communities and/or land cover types (Table 5.4-6).

Table 5.4-6
Vegetation Communities and Land Cover Types in the North City Water Reclamation Plant Expansion, Influent Pump Station, and North City Renewable Energy Facility Study Area

General Vegetation Community/ Land Cover Category	General Vegetation Type (Holland/ Oberbauer Code)	Tier[1]	Influent Pump Station Footprint Acres	North City Power Generation Facility Footprint Acres	NCWRP Expansion Footprint Acres	Total Acres in Study Area
Disturbed and Developed Areas (10000)	Disturbed Habitat (11300)	IV	—	—	0.81	3.03
	Non-native Vegetation (11000)	IV	—	—	0.56	8.19
	Urban/ Developed (12000)	IV	0.30	0.36	31.89~~32.55~~	45.99
Disturbed and Developed Areas Total[2]			*0.30*	*0.36*	*33.26~~33.92~~*	*57.20*
Grasslands, Vernal Pools, Meadows, and Other Herb Communities (40000)	Non-native Grassland (42200)	IIIB	—	—	0.99	4.92
Grasslands, Vernal Pools, Meadows, and Other Herb Communities Total[2]			—	—	*0.99*	*4.92*
Riparian and Bottomland Habitat (60000)	Mulefat Scrub (63310)	Wetland	—	—	—	0.39
Riparian and Bottomland Habitat Total[2]			—	—	—	*0.39*

Table 5.4-6
Vegetation Communities and Land Cover Types in the North City Water Reclamation Plant Expansion, Influent Pump Station, and North City Renewable Energy Facility Study Area

General Vegetation Community/ Land Cover Category	General Vegetation Type (Holland/ Oberbauer Code)	Tier[1]	Influent Pump Station Footprint Acres	North City Power Generation Facility Footprint Acres	NCWRP Expansion Footprint Acres	Total Acres in Study Area
Scrub and Chaparral (30000)	Diegan Coastal Sage Scrub (32500)	II	—	—	0.17	14.12
	Diegan Coastal Sage Scrub (disturbed) (32500)	II	—	—	—	4.76
Scrub and Chaparral Total[2]			—	—	*0.17*	*18.88*
Total[2]			**0.30**	**0.36**	**34.42~~35.08~~**	**81.40**

Notes:
1 City Subarea Plan tiers from San Diego Municipal Code, Land Development Code—Biology Guidelines (City of San Diego 2012).
2 Totals may not sum due to rounding.

Sensitive Plant Species

The following sensitive plant species were observed in the NCWRP Expansion survey area: graceful tarplant (*Holocarpha virgata* ssp. *elongata*) (11,043 ~~240~~ individuals), ashy spike-moss (*Selaginella cinerascens*) (63 ~~3~~ polygons[1]), Nuttall's scrub oak (*Quercus dumosa*) (32 ~~2~~ individuals), ~~decumbent goldenbush (*Isocoma menziesii* var. *decumbens*) (1 individual),~~ and San Diego County viguiera (*Viguiera laciniata*) (11840 ~~40~~ individuals). There are no other sensitive plant species that have a moderate to high potential to occur in the NCWRP Expansion portion of the survey area (Appendix L, Sensitive Plant Species Potential to Occur within the Miramar Reservoir Alternative, of Appendix C). No USFWS Critical Habitat occurs within or immediately adjacent to the NCWRP study area.

1 This number represents the number of polygons mapped. This species is a fern and grows as a continuous mat, which makes it difficult to provide accurate population counts.

Sensitive Wildlife Species

One sensitive wildlife species, the coastal California gnatcatcher, was observed in the NCWRP Expansion study area. One sensitive wildlife species, San Diegan tiger whiptail, has a moderate to high potential to occur in the NCWRP Expansion study area (Appendix N, Sensitive Wildlife Species Potential to Occur within the Miramar Reservoir Alternative, of Appendix C). No USFWS Critical Habitat occurs within or immediately adjacent to the NCWRP Expansion study area.

Jurisdictional Aquatic Resources

There are no ACOE- or RWQCB-jurisdictional areas within the NCWRP Expansion study area. CDFW-jurisdictional areas within the NCWRP Expansion study area total 0.03 acre of riparian habitat. All of the jurisdictional aquatic resources are considered wetlands by the City of San Diego. Table 5.4-7 summarizes these features.

Table 5.4-7
Jurisdictional Aquatic Resources in the North City Water Reclamation Plant Expansion Study Area (Acres)

Jurisdictional Aquatic Resource	ACOE/RWQCB[1]	CDFW/City[1]	City of San Diego Wetlands[1]
Wetland or Riparian Areas			
Mulefat Scrub	—	0.03	0.03
Total jurisdictional area	**—**	**0.03**	**0.03**

Note:
[1] The acreages listed in the ACOE/RWQCB, CDFW, and City of San Diego Wetlands columns overlap and should not be summed together.

North City Pure Water Facility Influent Pump Station

The NCPWF Influent Pump Station is located within the NCWRP footprint. As such, all physical and biological resources discussed above under the NCWRP Expansion are also applicable to the NCPWF Influent Pump Station. Table 5.4-6 above includes the land cover type (urban/developed) for the NCPWF Influent Pump Station within the footprint of the NCWRP Expansion.

North City Renewable Energy Facility

The North City Renewable Energy Facility is located within the footprint of the NCWRP Expansion. As such, all biological resource data for the North City Renewable Energy Facility is discussed above in the NCWRP Expansion. Table 5.4-6 above describes the land cover type (urban/developed) for the North City Renewable Energy Facility within the footprint of the NCWRP Expansion.

North City Pure Water Facility

The proposed NCPWF is located east of I-805 and north of the NCWRP, across Eastgate Mall. Within the proposed NCPWF, the topography is generally flat. The site is approximately 360 feet AMSL in elevation. The NCPWF is proposed at an undeveloped location which is not part of the MHPA; however, open space west of I-805 is part of the MHPA lands.

Vegetation Communities/Land Cover Types

The NCPWF study area includes the NCPWF footprint and a 500-foot buffer that supports 8 vegetation communities and/or land cover types (Table 5.4-8). The North City Pump Station is included within the NCPWF footprint.

Table 5.4-8
Vegetation Communities and Land Cover Types Within the North City Pure Water Facility and North City Pump Station Study Areas

General Vegetation Community/Land Cover Category	General Vegetation Type (Holland/Oberbauer Code)	Tier[1]	North City Pump Station Footprint Acres	NCPW Facility Footprint Acres	Total Acres in Study Area
Disturbed and Developed Areas (10000)	Non-native Vegetation (11000)	IV	–	<0.01	2.34
	Disturbed Habitat (11300)	IV	0.11	0.93	4.47
	Urban/Developed (12000)	IV	<0.1	0.52	15.11
Disturbed and Developed Areas Total[2]			*0.11*	*1.45*	*21.91*
Grasslands, Vernal Pools, Meadows, and Other Herb Communities (40000)	Native Grassland (42100)	I	0.04	1.30	1.31
	Non-native Grassland (42200)	I	0.56	5.10	8.22
	Vernal Pool (44000)	Wetland	–	0.38	0.38
Grasslands, Vernal Pools, Meadows, and Other Herb Communities Total[2]			*0.60*	*6.78*	*9.91*
Scrub and Chaparral (30000)	Diegan Coastal Sage Scrub(32500)	II	–	2.72	6.70
	Diegan Coastal Sage Scrub (disturbed) (32500)	II	–	0.03	9.74
Scrub and Chaparral Total[2]			–	*2.76*	*16.44*
Total[2]			**0.72**	**10.99**	**48.26**

Notes:

1 City Subarea Plan tiers from San Diego Municipal Code, Land Development Code—Biology Guidelines (City of San Diego 2012).

2 Totals may not sum due to rounding.

Sensitive Plant Species

~~One~~ Two sensitive plant species, graceful tarplant (992 ~~60~~ individuals) and ashy spike-moss (1 polygon), ~~was~~ were observed within the NCPWF survey area during ~~HELIX~~ the 2017 surveys. No other sensitive plant species have moderate to high potential to occur within the NCPWF survey area (Appendix L, Sensitive Plant Species Potential to Occur within the Miramar Reservoir Alternative, of Appendix C). No USFWS Critical Habitat occurs within or immediately adjacent to the NCPWF study area.

Sensitive Wildlife Species

The white-tailed kite is the only sensitive wildlife species observed in the NCPWF study area. Sensitive wildlife species that have a moderate to high potential to occur in the NCPWF study area include San Diegan tiger whiptail, western spadefoot, orangethroat whiptail, red diamond rattlesnake, southern California rufous-crowned sparrow, and pallid bat (Appendix N, Sensitive Wildlife Species Potential to Occur within the Miramar Reservoir Alternative, of Appendix C). Although there are vernal pools on the NCPWF, San Diego fairy shrimp protocol-level surveys in 2015/2016 and 2017 were negative. Survey reports from 2001 (Merkel & Associates Inc. 2001) and 2006 (URS 2006) state that San Diego fairy shrimp occurred in two pools (V2 and 33) on the NCPWF site. Pool V2 was found to be occupied by San Diego fairy shrimp in 2001. Pool V2 was not surveyed during the 2015/2016 wet season because it did not inundate nor was it recorded as a potential pool in 2017 even though both 2015/2016 and 2017 were larger rainfall years than in 2000/2001. Dudek biologist Paul Lemons (#TE-051248-5) conducted a site visit on December 7, 2017, to document the current conditions of pool V2. The pool is located within the northern part of the dirt road that runs through the site. It is not anticipated that this area will pond due to the slope of the road and existing cover of vegetation. It is likely that off-roading activity may have changed the site and damaged this pool so that it no longer exists. Pool 33 was considered occupied by San Diego fairy shrimp in 2006; this pool occurs within PW56, which was surveyed during 2015/2016. Only versatile fairy shrimp was observed in this pool during both the wet and dry season surveys conducted in 2015/2016. Additionally, a collection effort for the genetic testing of versatile fairy shrimp was completed within PW56 as summarized in *Conservation Genetics of the Endangered Fairy Shrimp Species Branchinecta Sandiegonensis* (Bohonak 2004; Appendix H of the 2002/2003 Vernal Pool Inventory). According to Andrew Bohonak, author of the genetic testing report, San Diego fairy shrimp does not occur within this pool

(Bohonak, pers. comm. 2017). Versatile fairy shrimp is known to occur in disturbed sites, and the continual disturbance of off-roading vehicles has increased the distribution of the species in San Diego County (USFWS 2008). Despite appropriate exclusion fencing, the NCPWF has been highly disturbed by off-roading activity. Hybridization or competition between species, depletion of the San Diego fairy shrimp cyst bank, replacement by versatile fairy shrimp, or sample contamination are all possible explanations for the apparent discrepancy or possible elimination of San Diego fairy shrimp within this pool (USFWS 2008). Based on the most current survey results, which were the only complete protocol-level surveys conducted on the NCPWF, there are no federally listed vernal pool branchiopod species occurring within the NCPWF site. No USFWS Critical Habitat occurs within or immediately adjacent to the NCPWF study area.

Jurisdictional Aquatic Resources

City-jurisdictional areas within the NCPWF study area total 0.38 acre of vernal pools (Table 5.4-9). HELIX mapped 6 vernal pools (0.04 acre) on the NCPWF in 2015/2016, and an additional 0.34 acre of vernal pools were mapped in 2017. The 2017 pools expanded the surface area of the 6 HELIX pools to 0.24 acre and created 11 new pools (0.14 acre). Given the expanded area of the HELIX vernal pools, protocol-level wet and dry season surveys conducted by HELIX in 2015/2016 determined that three pools (0.19 acre) were occupied by non-listed species, and seven pools (0.05 acre) were unoccupied. The new 2017 vernal pools (0.14 acre) were not surveyed because they did not stay inundated long enough (i.e., less than 7 days) during the 2015/2016 wet season for sampling to occur; therefore, no dry season sampling occurred. All pools mapped by HELIX on the NCPWF are described in their report as having vernal pool indicator plant species present (Appendix B), and therefore are considered City wetlands. The 11 new pools (0.14 acre) have indicator species present; therefore, all vernal pools on the NCPWF (0.38 acre) are considered City wetlands, with potential to be RWQCB jurisdictional. A protocol-level dry season survey was conducted for the 11 additional vernal pools (0.14 acre) in 2017 to confirm that these pools are not occupied by listed fairy shrimp species. Only two pools (VP8 and VP11; 0.05 acre) had fairy shrimp cysts, which were determined to be non-listed species, and the remaining 9 pools (0.09 acre) were unoccupied. The record rainfall in 2017 led to possibly non-repeatable conditions and increased surface area for all pools, and it may not be possible to perform wet season surveys on some or all of the new pools.

The vernal pools mapped on the NCPWF site are considered isolated from navigable waters with no federal nexus that would allow these pools to be considered jurisdictional wetlands by the ACOE under the federal Clean Water Act (Appendix B). The RWQCB may assert jurisdiction over the vernal pools as wetland waters of the state under the Porter–Cologne Act; however, these pools are small, isolated, and based on 2015/2016 and 2017 protocol-level surveys, contain limited biological value given that they do not support listed species (Appendix B). The vernal pools would be considered City wetlands in accordance with the City's Biology Guidelines (City of San Diego 2012). Table 5.4-9 summarizes these features.

Table 5.4-9
Jurisdictional Aquatic Resources in the North City Pure Water Facility Study Area (Acres)

Jurisdictional Aquatic Resource	ACOE/RWQCB[1]	CDFW[1]	City of San Diego Wetlands[1]
Wetland or Riparian Areas			
Vernal Pool	—	—	0.38[2]
Total jurisdictional area	**—**	**—**	**0.38**

Note:
[1] The acreages listed in the ACOE/RWQCB, CDFW, and City of San Diego Wetlands columns overlap and should not be summed together.
[2] This 0.38 acre of vernal pool is also potentially regulated by the RWQCB.

North City Pure Water Pump Station

The proposed North City Pump Station is located within the southeastern portion of the proposed NCPWF. As such, all physical and biological resources descriptions provided for the NCPWF are also applicable to the North City Pump Station. Table 5.4-8 above describes the four vegetation communities and land covers for the North City Pump Station within the footprint of the NCPWF.

North City Pure Water Pipeline

The proposed North City Pure Water Pipeline (North City Pipeline) would begin at the NCPWF and head northeast until it ends at the Miramar Reservoir. The proposed pipeline runs for approximately 39,500 linear feet, mainly along the following streets: Meanley Drive, Scripps Ranch, Carroll Canyon Boulevard, Businesspark Avenue, Kearny Villa Road, Miramar Road, La Jolla Village Drive, and Eastgate Mall.

The topography is generally sloped from east to west. The extent of the roads range in elevation from approximately 360 feet AMSL at the western end along Eastgate Mall to 720 feet AMSL at the northeastern end at the Miramar Reservoir.

The majority of the proposed pipeline would occur within existing developed roads and only occasionally within vegetated communities. Adjacent land uses include existing commercial development, residential, and the Miramar Reservoir contained within the MHPA.

Owned, operated, and maintained by the City of San Diego, Miramar Reservoir is used for various recreational opportunities including fishing, cycling, running, rollerblading, and picnicking. A paved, approximately 4.9-mile long service road encircles the reservoir and is popular for walking, running, and cycling. While the majority of use is from runners, cyclists, and other forms of recreation besides fishing, Miramar Reservoir is also available for sport fishing. Miramar Reservoir includes a concessions building from which recreationists can rent boats (private boats, kayaks, and float tubes are also permitted on Miramar Reservoir) and purchase bait. Miramar Reservoir is open to fishing and private boats, kayaks and float tubes seven days a week from one-half hour before sunrise to sunset. Further, the gates are open from 5:30 a.m. to 8:00 p.m. during Daylight Savings Time and 5:30 a.m. to 6:30 p.m. when Daylight Savings Time is not in effect.

See Appendix C for a list of soil types mapped within the North City Pipeline.

Vegetation Communities/Land Cover Types

The North City Pipeline study area includes the North City Pipeline footprint and a 500-foot buffer that supports 22 vegetation communities and/or land cover types (Table 5.4-10).

Table 5.4-10
Vegetation Communities and Land Cover Types within the North City Pipeline Study Area

General Vegetation Community/Land Cover Category	General Vegetation Type (Holland/Oberbauer Code)	Tier[1]	North City Pipeline Footprint Acres	Total Acres in Study Area
Disturbed and Developed Areas (10000)	Non-native Vegetation (11000)	IV	—	2.10
	Disturbed Wetland (11200)	Wetland	—	0.07
	Disturbed Habitat (11300)	IV	1.77	15.49
	Urban/Developed (12000)	IV	33.35~~34.43~~	651.50
	Developed – Concrete Channel (12000)	IV	—	0.70
Disturbed and Developed Areas Total[2]			*35.12~~36.20~~*	*669.86*

Table 5.4-10
Vegetation Communities and Land Cover Types within the North City Pipeline Study Area

General Vegetation Community/Land Cover Category	General Vegetation Type (Holland/Oberbauer Code)	Tier[1]	North City Pipeline Footprint Acres	Total Acres in Study Area
Scrub and Chaparral (30000)	Diegan Coastal Sage Scrub (32500)	II	—	16.32
	Diegan Coastal Sage Scrub (disturbed) (32500)	II	—	36.20
	Diegan Coastal Sage Scrub—Baccharis-dominated (32530)	II	—	2.50
	Diegan Coastal Sage Scrub—Baccharis-dominated (disturbed) (32530)	II	—	0.21
	Southern Mixed Chaparral (37120)	IIIA	—	10.32
	Southern Mixed Chaparral (disturbed) (37120)	IIIA	—	0.42
	Chamise Chaparral (37200)	IIIA	—	18.92
	Coastal Sage—Chaparral Transition (37G00)	II	—	0.53
	Scrub and Chaparral Total[2]		—	*85.42*
Grasslands, Vernal Pools, Meadows, and Other Herb Communities (40000)	Non-native Grassland (42200)	IIIB	0.13~~0.10~~	57.78
	Vernal Pool (44000)	Wetland	—	0.39
	Grasslands, Vernal Pools, Meadows, and Other Herb Communities Total[2]		*0.13~~0.10~~*	*58.17*
Bog and Marsh (50000)	Coastal and Valley Freshwater Marsh (52410)	Wetland	—	25.06
	Bog and Marsh Total[2]		—	*25.06*
Riparian and Bottomland Habitat (60000)	Mulefat Scrub (63310)	Wetland	—	0.51
	Southern Willow Scrub (63320)	Wetland	—	0.45
	Open Water – Freshwater (64140)	Wetland	—	121.46[3]
	Arundo-Dominated Riparian (65100)	Wetland	—	0.52
	Riparian and Bottomland Habitat Total[2]		—	*122.94*

Table 5.4-10
Vegetation Communities and Land Cover Types within the North City Pipeline Study Area

General Vegetation Community/Land Cover Category	General Vegetation Type (Holland/Oberbauer Code)	Tier[1]	North City Pipeline Footprint Acres	Total Acres in Study Area
Woodland (70000)	Non-native Woodland (79000)	IV	—	0.29
	Eucalyptus Woodland (79100)	IV	1.95	70.06
		Woodland Total[2]	*1.95*	*70.34*
		Total[2]	**37.21~~38.25~~**	**1,031.79**

Notes:
1 City Subarea Plan tiers from San Diego Municipal Code, Land Development Code—Biology Guidelines (City of San Diego 2012).
2 Totals may not sum due to rounding.
3 The total acreage of open water-freshwater habitat includes the Miramar Reservoir (120.26 acres).

Sensitive Plant Species

Eight sensitive plant species, California adolphia (*Adolphia californica*) (1,038 individuals), ashy spike-moss (4 polygons), San Diego barrel cactus (*Ferocactus viridescens*) (1 individual), San Diego marsh-elder (18 individuals), Nuttall's scrub oak (1 individual), golden-rayed pentachaeta (*Pentachaeta aurea* ssp*. aurea*) (3,150 individuals), graceful tarplant (1,295 individuals), and San Diego County viguiera (three individuals), ~~is~~were ~~the only sensitive plant species~~ observed within the North City Pipeline survey area. The majority of these 2017 observations were made around the Miramar Reservoir, which was not included in the 2016 survey area. There are no other sensitive plant species that have a moderate to high potential to occur in North City Pipeline survey area (Appendix L, Sensitive Plant Species Potential to Occur within the Miramar Reservoir Alternative, of Appendix C). No USFWS Critical Habitat occurs within or immediately adjacent to the North City Pipeline study area.

Sensitive Wildlife Species

The following sensitive wildlife species were observed or have been previously documented within the North City Pipeline study area: San Diego fairy shrimp and western pond turtle. Sensitive wildlife species that have a moderate to high potential to occur in the North City Pipeline study area include coastal California gnatcatcher, orangethroat whiptail, Southern California rufous-crowed sparrow, red

diamondback rattlesnake, San Diegan tiger whiptail, two-striped gartersnake, Cooper's hawk, osprey (*Pandion haliaetus*), pallid bat, Yuma myotis, monarch, and mule deer (Appendix N, Sensitive Wildlife Species Potential to Occur within the Miramar Reservoir Alternative, of Appendix C). No USFWS Critical Habitat occurs within or immediately adjacent to the North City Pipeline study area.

Jurisdictional Aquatic Resources

ACOE- and RWQCB-jurisdictional areas within the North City Pipeline study area total 0.95 acre, including 0.44 acre of wetlands/riparian habitat and 0.51 acre of non-wetland stream channels and reservoir features. CDFW-jurisdictional areas total 0.85 acre. All of the jurisdictional aquatic resources are considered wetlands by the City of San Diego, as well as a total of 0.12 acre of vernal pool (a portion of the pools are occupied by San Diego fairy shrimp) occurring south of Miramar Road within MCAS Miramar (0.10 acre of ACOE/RWQCB/City jurisdiction) and one vernal pool along Eastgate Mall (0.02 acre of City jurisdiction only). The vernal pool along Eastgate Mall, PW1, was surveyed by Dudek during the 2016/2017 wet season and determined unoccupied by fairy shrimp but contains one vernal pool plant indicator species: pale spike rush (*Eleocharis macrostachya*). Therefore, this pool meets the criteria outlined in the ~~Draft~~ Final ~~Vernal Pool~~ VPHCP (City of San Diego ~~2016~~2017) to be designated as a vernal pool under City jurisdiction. Table 5.4-11 summarizes these features.

Table 5.4-11
Jurisdictional Aquatic Resources in the
North City Pipeline Study Area (Acres)

Jurisdictional Aquatic Resource	ACOE/RWQCB[1]	CDFW[1]	City of San Diego Wetlands[1]
Wetland or Riparian Areas			
Coastal and Valley Freshwater Marsh	0.34	0.34	0.34
Vernal Pool	0.10	—	0.12
Total Riparian/Wetlands	*0.44*	*0.34*	*0.46*
Non-wetland Waters/Streambed			
Perennial Stream Channel/Open Water[2]	0.51	0.51	0.51
Total Non-wetland Waters/Streambed	*0.51*	*0.51*	*0.51*
Total jurisdictional area[3]	**0.95**	**0.85**	**0.97**

Notes:

[1] The acreages listed in the ACOE/RWQCB, CDFW, and City of San Diego Wetlands columns overlap and should not be summed together.

[2] Impacts are not expected within the Miramar Reservoir; therefore, the jurisdictional resources within the Miramar Reservoir are not included in the study area.
[3] Acreage may not total due to rounding.

Landfill Gas Pipeline

The proposed Landfill Gas (LFG) Pipeline would run from the existing Miramar Landfill north along the western portion of the MCAS Miramar property to the NCWRP Expansion site. The LFG Pipeline would primarily be located on MCAS Miramar land and would generally follow the existing City utility easement. The proposed LFG Pipeline is approximately 3 miles; approximately 2.6 miles passes through the open space of MCAS Miramar. Adjacent land uses include existing commercial development, residential to the west and north, and open space areas contained within the MHPA to the west.

The topography is generally sloped down from the center of the LFG Pipeline towards the north and south ends. The LFG Pipeline ranges in elevation, from approximately 272 feet AMSL at the northern and southern ends, to 412 feet AMSL at the center within MCAS Miramar.

The LFG Pipeline study area includes the LFG Pipeline footprint and a 500-foot buffer that supports 20 vegetation communities and/or land cover types (Table 5.4-12).

Table 5.4-12
Vegetation Communities and Land Cover Types Within the Landfill Gas Pipeline Study Area

General Vegetation Community/Land Cover Category	General Vegetation Type (Holland/Oberbauer Code)	Tier[1]	LFG Pipeline Footprint Acres	Total Acres in Study Area
Disturbed and Developed Areas (10000)	Non-native Vegetation (11000)	IV	0.04	6.21
	Disturbed Habitat (11300)	IV	4.904.96	22.4722.33
	Urban/Developed (12000)	IV	3.63	27.62
	Extensive Agriculture – Field/Pasture, Row Crops (18300)	IV	0.330.45	33.2033.32
Disturbed and Developed Areas Total[2]			*8.899.07*	*89.5089.48*
Scrub and Chaparral (30000)	Diegan Coastal Sage Scrub (32500)	II	3.883.97	77.2877.30
	Diegan Coastal Sage Scrub (disturbed) (32500)	II	0.68	26.01
	Diegan Coastal Sage Scrub (restored) (32500)	II	—	0.46

Table 5.4-12
Vegetation Communities and Land Cover Types Within the Landfill Gas Pipeline Study Area

General Vegetation Community/Land Cover Category	General Vegetation Type (Holland/Oberbauer Code)	Tier[1]	LFG Pipeline Footprint Acres	Total Acres in Study Area
	Diegan Coastal Sage Scrub—Baccharis-dominated (32530)	II	0.03	14.51
	Diegan Coastal Sage Scrub—Baccharis-dominated (disturbed) (32530)	II	—	1.30
	Flat-Topped Buckwheat (32800)	II	<0.01	2.40
	Flat-Topped Buckwheat (disturbed) (32800)	II	0.01	1.74
	Southern Mixed Chaparral (37120)	IIIA	<0.01	13.36
	Chamise Chaparral (37200)	IIIA	0.50	42.32
	Coastal Sage—Chaparral Transition (37G00)	II	0.14	2.19
Scrub and Chaparral Total[2]			*5.23~~5.32~~*	*181.57~~181.59~~*
Grasslands, Vernal Pools, Meadows, and Other Herb Communities (40000)	Non-native Grassland (42200)	IIIB	0.03	31.45
	Vernal Pool (44000)	Wetland	—	1.63
Grasslands, Vernal Pools, Meadows, and Other Herb Communities Total[2]			*0.03*	*33.09*
Bog and Marsh (50000)	Coastal and Valley Freshwater Marsh (52410)	Wetland	—	1.46
Bog and Marsh Total[2]			—	*1.46*
Riparian and Bottomland Habitat (60000)	Mulefat Scrub (63310)	Wetland	—	0.43
	Southern Willow Scrub (63320)	Wetland	—	0.51
	Non-vegetated Channel or Floodway (64200)	Wetland	—	0.91
Riparian and Bottomland Habitat Total[2]			—	*1.84*
Total[2]			**14.15~~14.42~~**	**307.46**

Notes:

1 City Subarea Plan tiers from San Diego Municipal Code, Land Development Code—Biology Guidelines (City of San Diego 2012).

2 Totals may not sum due to rounding.

Sensitive Plant Species

The following sensitive plant species were observed in the LFG Pipeline survey area: Orcutt's brodiaea (*Brodiaea orcuttii*) (430 ~~2,209~~ individuals), wart-stemmed ceanothus

(~~*Ceanothus verrucosus*~~) (353~~34~~ individuals), long-spined spineflower (*Chorizanthe polygonoides* var. *longispina*) (300~~326~~ individuals), graceful tarplant (716,191~~659~~ individuals), small-flowered microseris (*Microseris douglasii* ssp. *platycarpha*) (100 individuals), Robinson's pepper-grass (*Lepidium virginicum* var. *robinsonii*) (151 individuals), golden-rayed pentachaeta (~~*Pentachaeta aurea* ssp. *aurea*~~) (2,989~~167~~ individual), ashy spike-moss (43~~17~~ polygons[2]), Nuttall's scrub oak (4 individuals), and San Diego County viguiera (13~~56~~ individuals)~~, and San Diego sagewort (11 individuals)~~. There are no other sensitive plant species that have a moderate to high potential to occur in the LFG Pipeline survey area (Appendix L, Sensitive Plant Species Potential to Occur within the Miramar Reservoir Alternative, of Appendix C). No USFWS Critical Habitat occurs within or immediately adjacent to the LFG Pipeline study area.

Sensitive Wildlife Species

The following sensitive wildlife species were observed or previously documented within the LFG Pipeline study area: San Diego fairy shrimp and coastal California gnatcatcher. Sensitive wildlife species that have a moderate to high potential to occur in the LFG Pipeline study area include yellow warbler, yellow-breasted chat, Blainville's horned lizard, red diamondback rattlesnake, San Diegan tiger whiptail, grasshopper sparrow (*Ammodramus savannarum*), Cooper's hawk, white-tailed kite, California horned lark (*Eremophila alpestris actia*), western bluebird, southern California rufous-crowned sparrow, pallid bat, San Diego black-tailed jackrabbit (*Lepus californicus bennettii*), mule deer, western spadefoot, and orangethroat whiptail (Appendix M, Sensitive Wildlife Species Potential to Occur within the Miramar Reservoir Alternative, of Appendix C). No USFWS Critical Habitat occurs within or immediately adjacent to the LFG Pipeline study area.

Jurisdictional Aquatic Resources

ACOE- and RWQCB-jurisdictional areas within the LFG Pipeline study area total 0.66 acre, including 0.57 acre of wetlands (including 0.45 acre of vernal pool) and 0.09 acre of non-wetland stream channels. CDFW-jurisdictional areas within the LFG Pipeline study area total 0.21 acre, including 0.12 acre of riparian habitat and 0.09 acre of streambed. All of the jurisdictional aquatic resources are considered wetlands by the City of San Diego, as well as 0.45 acre of vernal pool occurring within MCAS Miramar (PW36, VP653, VP656, and VP654) and with the Miramar National Cemetery (basins were unoccupied and not assigned identifiers). Table 5.4-13 summarizes these features.

[2] This number represents the number of polygons mapped. This species is a fern and grows as a continuous mat, which makes it difficult to provide accurate population counts.

Table 5.4-13
Jurisdictional Aquatic Resources in the Landfill Gas Pipeline Study Area (Acres)

Jurisdictional Aquatic Resource	ACOE/RWQCB[1]	CDFW[1]	City of San Diego Wetlands[1]
Wetland or Riparian Areas			
Coastal and Valley Freshwater Marsh	0.02	0.02	0.02
Mulefat Scrub	0.03	0.03	0.03
Southern Willow Scrub	0.07	0.07	0.07
Vernal Pool	0.45	—	0.45
Total Riparian/Wetlands	*0.57*	*0.12*	*0.57*
Non-wetland Waters/Streambed			
Ephemeral Stream Channel (Non-vegetated Channel)	0.09	0.09	0.09
Total Non-wetland Waters/Streambed	*0.09*	*0.09*	*0.09*
Total jurisdictional area[2]	**0.66**	**0.21**	**0.66**

Notes:
1 The acreages listed in the ACOE/RWQCB, CDFW, and City of San Diego Wetlands columns overlap and should not be summed together.
2 Acreage may not total due to rounding.

Metro Biosolids Center Improvements

The Metro Biosolids Center (MBC) is located north of State Route 52 (SR-52), adjacent to the Miramar Landfill. Upgrades at the MBC are required to handle the additional brine and sludge produced by the NCWRP and advanced water purification process. Adjacent land uses include existing commercial development, residential to the west and north, and MHPA lands to the west. The topography of the MBC is generally flat with ranges in elevation from approximately 400 to 440 feet AMSL.

Vegetation Communities/Land Cover Types

The MBC study area includes the MBC footprint and a 500-foot buffer that supports 9 vegetation communities and/or land cover types (Table 5.4-14).

Table 5.4-14
Vegetation Communities and Land Cover Types within the Metro Biosolids Center Study Area

General Vegetation Community/Land Cover Category	General Vegetation Type (Holland/Oberbauer Code)	Tier[1]	MBC Footprint Acres	Total Acres in Study Area
Disturbed and Developed Areas (10000)	Non-native Vegetation (11000)	IV	—	0.06
	Disturbed Habitat (11300)	IV	0.09	4.57
	Urban/Developed (12000)	IV	29.22	40.61
Disturbed and Developed Areas Total[2]			*29.32*	*45.24*
Grasslands, Vernal Pools, Meadows, and Other Herb Communities (40000)	Non-native Grassland (42200)	IIIB	—	2.62
	Vernal Pool (44000)	Wetland	—	0.03
Grasslands, Vernal Pools, Meadows, and Other Herb Communities Total[2]			—	*2.65*
Scrub and Chaparral (30000)	Diegan Coastal Sage Scrub (32500)	II	0.60	23.68
	Southern Mixed Chaparral (37120)	IIIA	—	28.95
	Coastal Sage—Chaparral Transition (37G00)	II	0.30	14.73
Scrub and Chaparral Total[2]			*0.91*	*67.37*
Riparian and Bottomland Habitat (60000)	Southern Willow Scrub (63320)	Wetland	—	0.65
Riparian and Bottomland Habitat Total[2]			—	*0.65*
Total[2]			**30.22**	**115.91**

Notes:
[1] City Subarea Plan tiers from San Diego Municipal Code, Land Development Code—Biology Guidelines (City of San Diego 2012).
[2] Totals may not sum due to rounding.

Sensitive Plant Species

The following sensitive plant species were observed in MBC survey area: wart-stemmed ceanothus (647~~21~~ individuals), long-spined spineflower (707~~724~~ individuals), graceful tarplant (390~~105~~ individuals), decumbent goldenbush (193~~399~~ individuals), Robinson's pepper-grass (206 individuals), Nuttall's scrub oak (13~~29~~ individuals), and ashy spike-moss (4~~7~~ polygons[3]). There are no other sensitive plant species that have a moderate to high potential to occur in the MBC survey area (Appendix L, Sensitive Plant Species Potential to Occur within the Miramar Reservoir

[3] This number represents the number of polygons mapped. This species is a fern and grows as a continuous mat, which makes it difficult to provide accurate population counts.

Alternative, of Appendix C). No USFWS Critical Habitat occurs within or immediately adjacent to the MBC study area.

Sensitive Wildlife Species

One sensitive wildlife species, coastal California gnatcatcher, was observed in the MBC study area. Sensitive wildlife species that have a moderate to high potential to occur in the MBC study area include orangethroat whiptail, San Diegan tiger whiptail, white-tailed kite, yellow-breasted chat, southern California rufous-crowned sparrow, and mule deer (Appendix N, Sensitive Wildlife Species Potential to Occur within the Miramar Reservoir Alternative, of Appendix C). No USFWS Critical Habitat occurs within or immediately adjacent to the MBC study area.

Jurisdictional Aquatic Resources

City-jurisdictional areas within the MBC study area total 0.03 acre of vernal pools (Table 5.4-15). One pool, PW8, was surveyed by Dudek during the 2016/2017 wet season and was determined to be occupied by non-listed fairy shrimp and the vernal pool plant indicator species pale spike rush. Therefore, this pool meets the criteria outlined in the ~~Draft~~ Final ~~Vernal Pool~~VPHCP (City of San Diego ~~2016~~2017) to be designated as a vernal pool under City jurisdiction.

Table 5.4-15
Jurisdictional Aquatic Resources in the
Metro Biosolids Center Study Area (Acres)

Jurisdictional Aquatic Resource	ACOE/RWQCB[1]	CDFW[1]	City of San Diego Wetlands[1]
Wetland or Riparian Areas			
Vernal Pool	—	—	0.03[2]
Total jurisdictional area	**—**	**—**	**0.03**

Note:

[1] The acreages listed in the ACOE/RWQCB, CDFW, and City of San Diego Wetlands columns overlap and should not be summed together.

[2] This 0.03 acre of vernal pool is also potentially regulated by the RWQCB.

Miramar Water Treatment Plant Improvements

The Miramar Water Treatment Plant (WTP) and Miramar Reservoir Pump Station are located directly south of the Miramar Reservoir. Adjacent land uses include existing commercial and residential development, and open space areas of the reservoir and

within canyons considered MHPA lands. The topography of the Miramar WTP is generally flat with ranges in elevation, from approximately 720 to 780 feet AMSL.

Vegetation Communities/Land Cover Types

The Miramar WTP footprint supports four vegetation communities and/or land cover types (Table 5.4-16). Resources were only evaluated within the Miramar WTP footprint.

Table 5.4-16
Vegetation Communities and Land Cover Types Within the Miramar Water Treatment Plant Study Area

General Vegetation Community/Land Cover Category	General Vegetation Type (Holland/ Oberbauer Code)	Tier[1]	Miramar WTP Pump Station Footprint Acres	Miramar Water Treatment Plant Footprint Acres	Total Acres
Disturbed and Developed Areas (10000)	Disturbed Habitat (11300)	IV	0.39	0.01	0.39
	Urban/Developed (12000)	IV	0.66	26.49	27.15
Disturbed and Developed Areas Total[2]			*1.04*	*26.50*	*27.54*
Scrub and Chaparral (30000)	Diegan Coastal Sage Scrub (disturbed) (32500)	II	—	1.32	1.32
Scrub and Chaparral Total[2]			—	*1.32*	*1.32*
Woodland (70000)	Eucalyptus Woodland (79100)	IV	0.27	—	0.27
Woodland Total[2]			*0.27*	—	*0.27*
Total[2]			**1.31**	**27.82**	**29.13**

Notes:
1 City Subarea Plan tiers from San Diego Municipal Code, Land Development Code—Biology Guidelines (City of San Diego 2012).
2 Totals may not sum due to rounding.

Sensitive Plant Species

No sensitive plant species were observed in Miramar WTP footprint. Further, no sensitive plant species have a moderate to high potential to occur in the Miramar WTP footprint (Appendix L, Sensitive Plant Species Potential to Occur within the Miramar Reservoir Alternative, of Appendix C). No USFWS Critical Habitat occurs within or immediately adjacent to the Miramar WTP.

Sensitive Wildlife Species

There were no sensitive wildlife species observed in the Miramar WTP footprint. Sensitive wildlife species that have moderate to high potential to occur in Miramar WTP footprint include osprey and Canada goose (*Branta canadensis*). Appendix N, Sensitive Wildlife Species Potential to Occur within the Miramar Reservoir Alternative, of Appendix C). No USFWS Critical Habitat occurs within or immediately adjacent to the Miramar WTP.

Jurisdictional Aquatic Resources

There are no jurisdictional aquatic resources within the Miramar WTP footprint.

Pure Water Dechlorination Facility

The Dechlorination Facility is located at the end of Meanly Drive, south of Miramar Reservoir, and east of Scripps Ranch Boulevard. Within the Dechlorination Facility, the topography is generally flat. The site ranges in elevation from approximately 625 feet to 630 feet AMSL. Existing land use at the Dechlorination Facility is developed and eucalyptus woodland. Adjacent land uses include a mixture of existing commercial and residential development, and Miramar Reservoir, which is located within the MHPA boundary.

Vegetation Communities/Land Cover Types

The Dechlorination Facility study area includes the Dechlorination Facility footprint and a 500-foot buffer that supports 3 vegetation communities and/or land cover types (Table 5.4-17).

Table 5.4-17
Vegetation Communities and Land Cover Types
Within the Pure Water Dechlorination Facility Study Area

General Vegetation Community/Land Cover Category	General Vegetation Type (Holland/Oberbauer Code)	Tier[1]	Dechlorination Facility Footprint Acres	Total Acres in Study Area
Disturbed and Developed Areas (10000)	Urban/Developed (12000)	IV	0.01	7.75~~7.76~~
Disturbed and Developed Areas Total[2]			*0.01*	*7.75~~7.76~~*

Table 5.4-17
Vegetation Communities and Land Cover Types
Within the Pure Water Dechlorination Facility Study Area

General Vegetation Community/Land Cover Category	General Vegetation Type (Holland/Oberbauer Code)	Tier[1]	Dechlorination Facility Footprint Acres	Total Acres in Study Area
Grasslands, Vernal Pools, Meadows, and Other Herb Communities (40000)	Non-native Grassland (42200)	IIIB	—	2.61
	Grasslands, Vernal Pools, Meadows, and Other Herb Communities Total[2]		—	*2.61*
Woodland (70000)	Eucalyptus Woodland (79100)	IV	0.06	3.11~~3.17~~
	Woodland Total[2]		*0.06*	*3.11~~3.17~~*
	Total[2]		0.07	**13.57~~13.54~~**

Notes:
[1] City Subarea Plan tiers from San Diego Municipal Code, Land Development Code—Biology Guidelines (City of San Diego 2012).
[2] Totals may not sum due to rounding.

Sensitive Plant Species

No sensitive plant species were observed or have moderate to high potential to occur in the Dechlorination Facility survey area (Appendix L, Sensitive Plant Species Potential to Occur within the Miramar Reservoir Alternative, of Appendix C). No USFWS Critical Habitat occurs within or immediately adjacent to the Dechlorination Facility study area.

Sensitive Wildlife Species

No sensitive wildlife species were observed or have moderate to high potential to occur in Dechlorination Facility study area (Appendix N, Sensitive Wildlife Species Potential to Occur within the Miramar Reservoir Alternative, of Appendix C). No USFWS Critical Habitat occurs within or immediately adjacent to the Dechlorination Facility study area.

Jurisdictional Aquatic Resources

There are no jurisdictional aquatic resources within the Dechlorination Facility study area.

San Vicente Pure Water Pipeline

The proposed San Vicente Pure Water Pipeline (San Vicente Pipeline) would begin at the NCPWF and head southeast until it ends at the San Vicente Reservoir. The proposed pipeline runs for approximately 28 miles or 147,000 linear feet, mainly along the following streets: Eastgate Mall, Copley Drive, Copley Park Place, Lightwave Avenue, Claremont Mesa Boulevard, Santo Road, Tierrasanta Boulevard, Mission Gorge Road, Carlton Oaks Drive, Mast Boulevard, Riverside Drive, Lakeside Avenue, Willow Road, and Morena Avenue. The pipeline spans the cities of San Diego, Santee, and Lakeside. Topography within the pipeline's vicinity includes canyons separating mesas and the San Diego River, which a portion of the pipeline parallels. The pipeline ranges in elevation from approximately 120 feet AMSL, where the pipeline crosses over the San Diego River, to 1,080 feet AMSL at the San Vicente Reservoir. The majority of the proposed pipeline would occur within existing developed roads and would only occasionally cross into native habitat communities within the San Diego River and around the San Vicente Reservoir.

Adjacent land uses include existing commercial development, residential, and open space areas contained within the MHPA of the City's MSCP Subarea Plan. The proposed pipeline would intersect the MHPA seven times, including areas associated with the San Vicente Reservoir and Mission Trails Regional Park. However, areas that are excluded from the MHPA in order to provide for current and future requirements of the Public Utilities Department include the existing San Vicente Reservoir and dam, and all lands within 300 feet horizontally from the ultimate high water level (MSCP Subarea Plan 1997).

Vegetation Communities and Land Cover Types

The San Vicente Pipeline study area includes the San Vicente Pipeline footprint and a 500-foot buffer that supports 35 vegetation communities and/or land cover types (Table 5.4-18). The urban/developed land cover type is not considered a sensitive community by the City's MSCP.

Table 5.4-18
Vegetation Communities and Land Cover Types Within the San Vicente Pipeline Study Area

General Vegetation Community/Land Cover Category	General Vegetation Type (Holland/Oberbauer Code)	Tier[1]	San Vicente Pipeline Footprint Acres	Total Acres in Study Area
Disturbed and Developed Areas (10000)	Non-native Vegetation (11000)	IV	0.01	22.64
	Disturbed Wetland (11200)	Wetland	—	1.36
	Disturbed Habitat (11300)	IV	0.77	88.08
	Urban/Developed (12000)	IV	96.27	1,849.09
	Developed – Concrete Channel (12000)	IV	—	0.46
	General Agriculture (18000)	IV	—	9.68
	Intensive Agriculture – Dairies, Nurseries, Chicken Ranches (18200)	IV	0.05	12.74
Disturbed and Developed Areas Total[2]			*97.10*	*1,984.06*
Scrub and Chaparral (30000)	Diegan Coastal Sage Scrub (32500)	II	0.63	329.10
	Diegan Coastal Sage Scrub (disturbed) (32500)	II	1.58	52.14
	Diegan Coastal Sage Scrub (restored) (32500)	II	0.07	4.65
	Diegan Coastal Sage Scrub—Baccharis-dominated (32530)	II	—	10.72
	Diegan Coastal Sage Scrub—Baccharis-dominated (disturbed) (32530)	II	—	2.99
	Southern Mixed Chaparral (37120)	IIIA	0.03	26.84
	Chamise Chaparral (37200)	IIIA	<0.01	<0.01
	Scrub Oak Chaparral (37900)	I	—	1.37
	Coastal Sage—Chaparral Transition (37G00)	II	—	6.89
Scrub and Chaparral Total[2]			*2.32*	*434.70*
Grasslands, Vernal Pools, Meadows, and Other Herb Communities (40000)	Native Grassland (42100)	I	—	6.64
	Non-native Grassland (42200)	IIIB	1.24	131.20
	Vernal Pool (44000)	Wetland	—	1.06
Grasslands, Vernal Pools, Meadows, and Other Herb Communities Total[2]			*1.24*	*138.90~~10~~ ~~5.51~~*

Table 5.4-18
Vegetation Communities and Land Cover Types Within the San Vicente Pipeline Study Area

General Vegetation Community/Land Cover Category	General Vegetation Type (Holland/Oberbauer Code)	Tier[1]	San Vicente Pipeline Footprint Acres	Total Acres in Study Area
Bog and Marsh (50000)	Coastal and Valley Freshwater Marsh (52410)	Wetland	—	2.00
		Bog and Marsh Total[2]	—	*2.00*
Riparian and Bottomland Habitat (60000)	Southern Riparian Forest (61300)	Wetland	—	1.42
	Southern Coast Live Oak Riparian Forest (61310)	Wetland	—	2.62
	Southern Arroyo Willow Riparian Forest (61320)	Wetland	0.11	24.33
	Southern Cottonwood–Willow Riparian Forest (61330)	Wetland	—	25.63
	Southern Sycamore—Alder Riparian Woodland (62400)	Wetland	—	7.70
	Mulefat Scrub (63310)	Wetland	—	4.66
	Mulefat Scrub (disturbed) (63310)	Wetland	—	1.89
	Southern Willow Scrub (63320)	Wetland	0.40	41.98
	Southern Willow Scrub (disturbed) (63320)	Wetland	—	2.31
	Open Water – Freshwater (64140)	Wetland	—	1.51
	Non-vegetated Channel or Floodway (64200)	Wetland	0.08	2.50
	Arundo-Dominated Riparian (65100)	Wetland	—	6.95
		Riparian and Bottomland Habitat Total[2]	*0.59*	*123.50*
Woodland (70000)	Coast Live Oak Woodland (71160)	I	0.01	7.79
	Eucalyptus Woodland (79100)	IV	0.09	43.65
	Non-native Woodland (79000)	IV	0.15	16.60
		Woodland Total[2]	*0.25*	*68.04*
		Total[2]	**101.51**[3]	**2,751.19**

Notes:

1 City Subarea Plan tiers from San Diego Municipal Code, Land Development Code—Biology Guidelines (City of San Diego 2012).

2 Totals may not sum due to rounding.

3 Total includes impacts from air and blow off-valves associated with the San Vicente Pipeline Repurposed 36-inch Recycled Water Line.

Sensitive Plant Species

The following sensitive plant species were observed in San Vicente Pipeline survey area: San Diego barrel cactus ~~*(Ferocactus viridescens)*~~ (23 individuals), Robinson's pepper-grass (approximately 7,680 individuals), ashy spike-moss (4 polygons[4]), Southern California black walnut (*Juglans californica*) (4 individuals), white rabbit-tobacco (*Pseudognaphalium leucocephalum*) (5 individuals), and San Diego County viguiera (approximately 4,320 individuals). There are no other sensitive plant species that have a moderate to high potential to occur in the San Vicente Pipeline survey area (Appendix M, Sensitive Plant Species Potential to Occur within the San Vicente Reservoir Alternative, of Appendix C). USFWS Critical Habitat for San Diego ambrosia (*Ambrosia pumila*) occurs within the San Diego River Watershed near SR-52 and would be intersected by the San Vicente Pipeline.

Sensitive Wildlife Species

The following sensitive wildlife species were observed in San Vicente Pipeline study area: orangethroat whiptail, two-striped gartersnake, coastal California gnatcatcher, Cooper's hawk, yellow warbler, southern California rufous-crowned sparrow, western bluebird, least Bell's vireo, yellow-breasted chat, and mule deer. Sensitive wildlife species that have a high to moderate potential to occur in the San Vicente Pipeline study area include San Diegan tiger whiptail, Blainville's horned lizard, red diamondback rattlesnake, rosy boa (*Lichanura trivirgata*), white-tailed kite, California horned lark, pallid bat, Yuma myotis, San Diego black-tailed jackrabbit, cougar (*Puma concolor*), and monarch (Appendix O, Sensitive Wildlife Species Potential to Occur within the San Vicente Reservoir Alternative, of Appendix C). USFWS Critical Habitat for coastal California gnatcatcher and least Bell's vireo occurs within the San Vicente Pipeline study area. The Critical Habitat for least Bell's vireo occurs within the San Diego River Watershed near SR-52 and would be intersected by the proposed pipeline footprint. There is a small area of Critical Habitat for coastal California gnatcatcher that is within the San Vicente Pipeline study area, north of Mast Boulevard, but the San Vicente Pipeline would not intersect this area.

[4] This number represents the number of polygons mapped. This species is a fern and grows as a continuous mat, which makes it difficult to provide accurate population counts.

Jurisdictional Aquatic Resources

ACOE- and RWQCB-jurisdictional areas within the San Vicente Pipeline study area total 4.27 acres, including 3.13 acres of wetlands and 1.13 acres of non-wetland stream channels/open water. CDFW-jurisdictional areas within the San Vicente Pipeline study area total 5.26 acres, including 4.81 acres of riparian habitat and 0.45 acre of streambed. All of the jurisdictional aquatic resources are considered wetlands by the City of San Diego, as well as 0.87 acre of vernal pools (PW36, VP697, and VP699) within the study area for the air and blow-off valves associated with the San Vicente Pipeline - Repurposed 36-inch Recycled Water Line. These three basins (PW36, VP697, and VP699) are all occupied by San Diego fairy shrimp. Table 5.4-19 summarizes these features.

Table 5.4-19
Jurisdictional Aquatic Resources in the
San Vicente Pure Water Pipeline Study Area (Acres)

Jurisdictional Aquatic Resource	ACOE/RWQCB[1]	CDFW[1]	City of San Diego Wetlands[1]
Wetland or Riparian Areas			
Arundo-Dominated Riparian	0.33	0.39	0.39
Coastal and Valley Freshwater Marsh	0.25	0.25	0.25
Disturbed Mulefat Scrub	—	0.17	0.17
Mulefat Scrub	—	0.16	0.16
Southern Arroyo Willow Riparian Forest	1.12	1.54	1.54
Southern Cottonwood–Willow Riparian Forest	—	0.08	0.08
Southern Sycamore-Alder Riparian Woodland	—	0.58	0.58
Southern Willow Scrub	0.55	1.63	1.63
Vernal Pool	0.87	—	0.87
Total Riparian/Wetlands	*3.13*	*4.81*	5.69
Non-wetland Waters/Streambed			
Ephemeral Stream Channel (Non-vegetated channel)	0.89	0.21	*0.20*
Intermittent Stream Channel	0.06	0.06	*0.06*
Perennial Stream Channel/Open Water	0.18	0.18	*0.18*
Total Non-wetland Waters/Streambed	*1.13*	*0.45*	*0.44*
Total jurisdictional area[2]	**4.27**	**5.26**	**6.13**

Notes:

[1] The acreages listed in the ACOE/RWQCB, CDFW, and City of San Diego Wetlands columns overlap and should not be summed together.

[2] Acreage may not total due to rounding.

San Vicente Pipeline - Tunnel Alternative Terminus

The San Vicente Pipeline - Tunnel Alternative Terminus (TAT) would be located on the south side of San Vicente Reservoir, east of Morena Avenue and would connect to the end of the San Vicente Pipeline. The San Vicente Pipeline - TAT area is sloped from the middle outwards with elevations ranging from approximately 520 feet to 1,080 feet AMSL. Adjacent land uses include a mixture of existing open space, low-density residential development, and the San Vicente Reservoir. The majority of the San Vicente Pipeline - TAT is within an MHPA area. This alternative also includes the installation of riprap below the outfall within the drainage to the immediate east. This would allow for the water to free flow into the reservoir.

Vegetation Communities and Land Cover Types

The San Vicente Pipeline - TAT study area supports 8 vegetation communities and/or land cover types (Table 5.4-20). The urban/developed land cover type is not considered a sensitive community by the City's MSCP.

Table 5.4-20
Vegetation Communities and Land Cover Types
Within the San Vicente Pipeline - TAT Study Area

General Vegetation Community/ Land Cover Category	General Vegetation Type (Holland/ Oberbauer Code)	Tier[1]	TAT Footprint Acres*	Total Acres in Study Area
Disturbed and Developed Areas (10000)	Disturbed Habitat (11300)	IV	0.11	1.94
	Urban/Developed (12000)	IV	0.07	5.91
	Disturbed and Developed Areas Total[2]		*0.18*	*7.85*
Scrub and Chaparral (30000)	Diegan Coastal Sage Scrub (32500)	II	—	44.67
	Diegan Coastal Sage Scrub (restored) (32500)	II	—	0.65
	Southern Mixed Chaparral (37120)	IIIA	0.26	79.59
	Scrub and Chaparral Total[2]		*0.26*	*124.91*
Riparian and Bottomland Habitat (60000)	Open Water – Freshwater (64140)	Wetland	0.02	1.16
	Non-vegetated Channel or Floodway (64200)	Wetland	<0.01	0.05
	Riparian and Bottomland Habitat Total[2]		*0.03*	*1.21*

Table 5.4-20
Vegetation Communities and Land Cover Types
Within the San Vicente Pipeline - TAT Study Area

General Vegetation Community/ Land Cover Category	General Vegetation Type (Holland/ Oberbauer Code)	Tier[1]	TAT Footprint Acres*	Total Acres in Study Area
Woodland (70000)	Coast Live Oak Woodland (71160)	I	0.07	0.57
		Woodland Total[2]	*0.07*	*0.57*
		Total[2]	**0.54**	**134.54**

Notes:
1 City Subarea Plan tiers from San Diego Municipal Code, Land Development Code—Biology Guidelines (City of San Diego 2012).
2 Totals may not sum due to rounding.
* The footprint acreage is based off the project alignment with a 30-foot buffer, for a total of a 60-foot corridor.

Sensitive Plants

One sensitive plant species, Robinson's pepper-grass (about 1,450 individuals) was observed in San Vicente Pipeline - TAT survey area. There are no other sensitive plant species that have a moderate to high potential to occur in the San Vicente Pipeline - TAT survey area (Appendix M, Sensitive Plant Species Potential to Occur within the San Vicente Reservoir Alternative, of Appendix C). No USFWS Critical Habitat occurs within or immediately adjacent to the San Vicente Pipeline - TAT study area.

Sensitive Wildlife Species

No sensitive wildlife species were observed in San Vicente Pipeline - TAT study area. Sensitive wildlife species that have moderate to high potential to occur within the San Vicente Pipeline - TAT study area include: rosy boa, San Diego ringneck snake, red diamondback snake, two-striped gartersnake, yellow warbler, coastal California gnatcatcher, white-tailed kite, cougar, monarch, Blainville's horned lizard, San Diegan tiger whiptail, Cooper's hawk, southern California rufous-crowned sparrow, mule deer, and orangethroat whiptail (Appendix O, Sensitive Wildlife Species Potential to Occur within the San Vicente Reservoir Alternative, of Appendix C). No USFWS Critical Habitat occurs within or immediately adjacent to the San Vicente Pipeline - TAT study area.

Jurisdictional Aquatic Resources

ACOE-, RWQCB-, and CDFW-jurisdictional areas within the San Vicente Pipeline - TAT study area total 0.40 acre of non-wetland stream channel/open water. The majority of the jurisdictional aquatic resources are considered wetlands by the City of San Diego. Table 5.4-21 summarizes these features.

Table 5.4-21
Jurisdictional Aquatic Resources in the San Vicente Pipeline - TAT Study Area (Acres)

Jurisdictional Aquatic Resource	ACOE/RWQCB[1]	CDFW[1]	City of San Diego Wetlands[1]
Non-wetland Waters/Streambed			
Ephemeral Stream Channel (Non-vegetated Channel)	0.01	0.01	—
Perennial Stream Channel/Open Water	0.39	0.39	0.39
Total jurisdictional area[2]	**0.40**	**0.40**	**0.39**

Notes:
[1] The acreages listed in the ACOE/RWQCB, CDFW, and City of San Diego Wetlands columns overlap and should not be summed together.
[2] Acreage may not total due to rounding.

San Vicente Pipeline - In-Reservoir Alternative Terminus

The San Vicente Pipeline - In-Reservoir Alternative Terminus (IRAT) would connect to the San Vicente Pipeline and occurs within the southern portion of the San Vicente Reservoir. The San Vicente Pipeline - IRAT area has elevations ranging from approximately 480 feet to 880 feet AMSL. There are both developed lands and native habitat within the San Vicente Pipeline - IRAT. Adjacent land uses include a mixture of existing open space, low-density residential development, and the San Vicente Reservoir. The entire length of the San Vicente Pipeline - IRAT is located within this MHPA area, with the majority occurring within the San Vicente Reservoir.

Vegetation Communities and Land Cover Types

The San Vicente Pipeline - IRAT study area supports seven vegetation communities and/or land cover types (Table 5.4-22). The urban/developed land cover type is not considered a sensitive community by the City's MSCP.

Table 5.4-22
Vegetation Communities and Land Cover Types Within the San Vicente Pipeline - IRAT Study Area

General Vegetation Community/ Land Cover Category	General Vegetation Type (Holland/Oberbauer Code)	Tier[1]	IRAT Footprint Acres*	Total Acres in Study Area
Disturbed and Developed Areas (10000)	Disturbed Habitat (11300)	IV	—	1.59
	Urban/Developed (12000)	IV	5.99	13.20
	Disturbed and Developed Areas Total[2]		*5.99*	*14.79*
Scrub and Chaparral (30000)	Diegan Coastal Sage Scrub (32500)	II	1.74	53.19
	Southern Mixed Chaparral (37120)	IIIA	—	8.79
	Scrub and Chaparral Total[2]		*1.74*	*61.98*
Grasslands, Vernal Pools, Meadows, and Other Herb Communities (40000)	Non-native Grassland (42200)	IIIB	0.01	4.66
	Grasslands, Vernal Pools, Meadows, and Other Herb Communities Total[2]		*0.01*	*4.66*
Riparian and Bottomland Habitat (60000)	Open Water – Freshwater (64140)	Wetland	0.50	177.01
	Riparian and Bottomland Habitat Total[2]		*0.50*	*177.01*
Woodland (70000)	Coast Live Oak Woodland (71160)	I	<0.01	<0.01
	Woodland Total[2]		*<0.01*	*<0.01*
	Total[2]		**8.24**	**258.44**

Notes:
1 City Subarea Plan tiers from San Diego Municipal Code, Land Development Code—Biology Guidelines (City of San Diego 2012).
2 Totals may not sum due to rounding.
* The footprint acreage is based off the project alignment with a 30-foot buffer, for a total of a 60-foot corridor.

Sensitive Plants

The following sensitive plant species were observed in San Vicente Pipeline - IRAT survey area: delicate clarkia (*Clarkia delicata*) (10 individuals), San Diego County viguiera (approximately 1,570 individuals), and white rabbit-tobacco (760 individuals). There are no other sensitive plant species that have a moderate to high potential to occur in the San Vicente Pipeline - IRAT survey area (Appendix M, Sensitive Plant Species Potential to Occur within the San Vicente Reservoir

Alternative, of Appendix C). No USFWS Critical Habitat occurs within or immediately adjacent to the San Vicente Pipeline - IRAT study area.

Sensitive Wildlife Species

The following sensitive wildlife species were observed in San Vicente Pipeline - IRAT study area: San Diegan tiger whiptail, orangethroat whiptail, southern California rufous-crowned sparrow, and coastal California gnatcatcher. Sensitive wildlife species that have moderate to high potential to occur in the San Vicente Pipeline - IRAT study area include Cooper's hawk, Blainville's horned lizard, western pond turtle, red diamondback rattlesnake, cougar, monarch, and mule deer (Appendix O, Sensitive Wildlife Species Potential to Occur within the San Vicente Reservoir Alternative, of Appendix C). No USFWS Critical Habitat occurs within or immediately adjacent to the San Vicente Pipeline - IRAT study area.

Jurisdictional Aquatic Resources

ACOE-, RWQCB-, and CDFW-jurisdictional areas within the San Vicente Pipeline - IRAT study area total 20.44 acres of non-wetland stream channel/open water. All of the jurisdictional aquatic resources are considered wetlands by the City of San Diego. Table 5.4-23 summarizes these features.

Table 5.4-23
Jurisdictional Aquatic Resources in the
San Vicente Pipeline - IRAT Study Area (Acres)

Jurisdictional Aquatic Resource	ACOE/RWQCB[1]	CDFW[1]	City of San Diego Wetlands[1]
Non-wetland Waters/Streambed			
Ephemeral Stream Channel (Non-vegetated Channel)	0.27	0.27	0.27
Perennial Stream Channel/Open Water	20.17	20.17	20.17
Total jurisdictional area[2,3]	**20.44**	**20.44**	**20.44**

Notes:

1 The acreages listed in the ACOE/RWQCB, CDFW, and City of San Diego Wetlands columns overlap and should not be summed together.

2 Acreage may not total due to rounding.

3 Approximately 0.15 acre of non-wetland waters overlaps with the Marina Alternative Study Area, but only one of these inlet alternatives would be selected.

San Vicente Pipeline - Marina Alternative Terminus

The San Vicente Pipeline - Marina Alternative Terminus (MAT) would connect to the San Vicente Pipeline and occurs within the southern portion of the San Vicente Reservoir. The San Vicente Pipeline - MAT runs north–south with elevations ranging from approximately 480 feet to 840 feet AMSL. Existing vegetation communities and land covers within the San Vicente Pipeline - MAT include Diegan coastal sage scrub (including restored), southern mixed chaparral, disturbed, and developed. Adjacent land uses include a mixture of existing open space, low-density residential development, and the San Vicente Reservoir. The San Vicente Reservoir is included within the MHPA boundary. The entire length of the San Vicente Pipeline - MAT is located within MHPA.

Vegetation Communities and Land Cover Types

The San Vicente Pipeline - MAT study area supports 7 vegetation communities and/or land cover types (Table 5.4-24). The urban/developed land cover type is not considered a sensitive community by the City's MSCP.

Table 5.4-24
Vegetation Communities and Land Cover Types
Within the San Vicente Pipeline - MAT Study Area

General Vegetation Community/Land Cover Category	General Vegetation Type (Holland/Oberbauer Code)	Tier[1]	MAT Footprint Acres*	Total Acres in Study Area
Disturbed and Developed Areas (10000)	Disturbed Habitat (11300)	IV	2.16	15.66
	Urban/Developed (12000)	IV	7.89	17.32
Disturbed and Developed Areas Total[2]			*10.04*	*32.99*
Scrub and Chaparral (30000)	Diegan Coastal Sage Scrub (32500)	II	1.74	1.74
	Diegan Coastal Sage Scrub (restored) (32500)	II	0.37	10.27
	Southern Mixed Chaparral (37120)	IIIA	0.34	16.22
Scrub and Chaparral Total[2]			*2.45*	*28.23*
Grasslands, Vernal Pools, Meadows, and Other Herb Communities (40000)	Non-native Grassland (42200)	IIIB	0.01	0.01
Grasslands, Vernal Pools, Meadows, and Other Herb Communities Total[2]			*0.01*	*0.01*

Table 5.4-24
Vegetation Communities and Land Cover Types
Within the San Vicente Pipeline - MAT Study Area

General Vegetation Community/Land Cover Category	General Vegetation Type (Holland/Oberbauer Code)	Tier[1]	MAT Footprint Acres*	Total Acres in Study Area
Riparian and Bottomland Habitat (60000)	Open Water – Freshwater (64140)	Wetland	1.64	42.54
		Riparian and Bottomland Habitat Total[2]	*1.64*	*42.54*
		Total[2]	**14.14**	**103.76**

Notes:
[1] City Subarea Plan tiers from San Diego Municipal Code, Land Development Code—Biology Guidelines (City of San Diego 2012).
[2] Totals may not sum due to rounding.
* The footprint acreage is based off the project alignment with a 30-foot buffer, for a total of a 60-foot corridor.

Sensitive Plants

The following sensitive plant species were observed in the San Vicente Pipeline - MAT survey area: delicate clarkia (10 individuals), Robinson's pepper-grass (approximately 6,000 individuals), ashy spike-moss (4 polygons[5]), San Diego County viguiera (approximately 1,500 individuals), and white rabbit-tobacco (approximately 760 individuals). There are no other sensitive plant species that have a moderate to high potential to occur in the San Vicente Pipeline - MAT survey area (Appendix M, Sensitive Plant Species Potential to Occur within the San Vicente Reservoir Alternative, of Appendix C). No USFWS Critical Habitat occurs within or immediately adjacent to the San Vicente Pipeline - MAT study area.

Sensitive Wildlife Species

The following sensitive wildlife species were observed in San Vicente Pipeline - MAT study area: southern California rufous-crowned sparrow. Sensitive wildlife species that have moderate to high potential to occur in the San Vicente Pipeline - MAT study area include coastal California gnatcatcher, mule deer, orangethroat whiptail, Blainville's horned lizard, red diamondback rattlesnake, osprey, cougar, monarch, San Diegan tiger whiptail, and Cooper's hawk (Appendix O, Sensitive Wildlife

[5] This number represents the number of polygons mapped. This species is a fern and grows as a continuous mat, which makes it difficult to provide accurate population counts.

Species Potential to Occur within the San Vicente Reservoir Alternative, of Appendix C). No USFWS Critical Habitat occurs within or immediately adjacent to the San Vicente Pipeline - MAT study area.

Jurisdictional Aquatic Resources

ACOE-, RWQCB-, and CDFW-jurisdictional areas within the San Vicente Pipeline - MAT study area total 3.51 acre of non-wetland stream channel/open water. All of the jurisdictional aquatic resources are considered wetlands by the City of San Diego. Table 5.4-25 summarizes these features.

Table 5.4-25
Jurisdictional Aquatic Resources in the
San Vicente Pipeline - MAT Study Area (Acres)

Jurisdictional Aquatic Resource	ACOE/RWQCB[1]	CDFW[1]	City of San Diego Wetlands[1]
Non-wetland Waters/Streambed			
Ephemeral Stream Channel (Non-vegetated Channel)	0.02	0.02	0.02
Perennial Stream Channel/Open Water	3.48	3.48	3.48
Total jurisdictional area[2,3]	**3.51**	**3.51**	**3.51**

Notes:
1 The acreages listed in the ACOE/RWQCB, CDFW, and City of San Diego Wetlands columns overlap and should not be summed together.
2 Acreage may not total due to rounding.
3 Approximately 0.15 acre of non-wetland waters overlaps with the San Vicente Pipeline - IRAT Study Area, but only one of these inlet alternatives would be selected.

Mission Trails Booster Station

The Mission Trails Booster Station (MTBS) is located on the east side of Mission Gorge Road, west of Hillandale Drive, and north of Laramie Way. Within the MTBS, the topography has a slight western and southwestern slope. The MTBS has an elevation of approximately 400 feet AMSL. Existing land use at the MTBS include developed land and disturbed Diegan coastal sage scrub. The MTBS is not within the MHPA boundary and is surrounded by existing residential development. Within the vicinity of the MTBS are open space areas designated as MHPA, including the San Diego River. The San Diego River lies 0.25 mile to the northwest of the MTBS.

Vegetation Communities and Land Cover Types

The MTBS study area supports five vegetation communities and/or land cover types (Table 5.4-26). The urban/developed land cover type and non-native woodland are not considered a sensitive community by the City's MSCP.

Table 5.4-26
Vegetation Communities and Land Cover Types Within the Mission Trails Booster Station Study Area

General Vegetation Community/ Land Cover Category	General Vegetation Type (Holland/Oberbauer Code)	Tier[1]	MTBS Footprint Acres	Total Acres in Study Area
Disturbed and Developed Areas (10000)	Disturbed Habitat (11300)	IV	—	0.78
	Urban/Developed (12000)	IV	<0.01	24.54
	Disturbed and Developed Areas Total[2]		*<0.01*	*25.32*
Scrub and Chaparral (30000)	Diegan Coastal Sage Scrub (32500)	II	—	1.63
	Diegan Coastal Sage Scrub (disturbed) (32500)	II	1.22	2.31
	Scrub and Chaparral Total[2]		*1.22*	*3.94*
Woodland (70000)	Non-native Woodland (79000)	IV	—	0.64
	Woodland Total[2]		—	*0.64*
	Total[2]		**1.22**	**29.91**

Notes:
1 City Subarea Plan tiers from San Diego Municipal Code, Land Development Code—Biology Guidelines (City of San Diego 2012).
2 Totals may not sum due to rounding.

Sensitive Plant Species

One sensitive plant species, San Diego County viguiera (200 ~~one~~ individuals) was observed in the MTBS survey area. There are no other sensitive plant species that have a moderate to high potential to occur in the MTBS survey area (Appendix M, Sensitive Plant Species Potential to Occur within the San Vicente Reservoir Alternative, of Appendix C). No USFWS Critical Habitat, or MHPA, occurs within or immediately adjacent to the MTBS study area.

Sensitive Wildlife Species

No sensitive wildlife species were observed or have moderate to high potential to occur within the MTBS study area. No USFWS Critical Habitat, or MHPA, occurs within or immediately adjacent to the MTBS study area.

Jurisdictional Aquatic Resources

There are no jurisdictional aquatic resources within the MTBS study area.

5.4.2.3 Summary of Miramar Reservoir Alternative

Vegetation Communities and Land Cover Types

A total of 38 vegetation communities and/or land cover types were observed in the Miramar Reservoir Alternative study area (Table 5.4-27). The urban/developed land cover type, non-native vegetation, and extensive agriculture are not considered sensitive communities by the City's MSCP. Table 5.4-27 includes all of the vegetation within the 500-foot study area buffer for the Miramar Reservoir Alternative.

Table 5.4-27
Vegetation Communities and Land Cover Types Within Miramar Reservoir Alternative Study Area

General Vegetation Community/Land Cover Category	General Vegetation Type (Holland/Oberbauer Code)	Tier/Wetland[1]	Total Acres in Study Area	% of Miramar Reservoir Alternative Study Area
Disturbed and Developed Areas (10000)	Non-native Vegetation (11000)	IV	62.61	2.1
	Disturbed Wetland (11200)	Wetland	1.64	0.1
	Disturbed Habitat (11300)	IV	84.06~~83.91~~	2.9
	Urban/Developed (12000)	IV	1,904.56 ~~1,904.44~~	64.8
	Developed – Concrete Channel (12000)	IV	1.29	<0.1
	Extensive Agriculture – Field/Pasture, Row Crops (18300)	IV	33.20~~33.32~~	1.1
Disturbed and Developed Areas Total[2]			*2,087.35 ~~2,087.21~~*	*71.0*

Table 5.4-27
Vegetation Communities and Land Cover Types Within Miramar Reservoir Alternative Study Area

General Vegetation Community/Land Cover Category	General Vegetation Type (Holland/Oberbauer Code)	Tier/Wetland[1]	Total Acres in Study Area	% of Miramar Reservoir Alternative Study Area
Scrub and Chaparral (30000)	Diegan Coastal Sage Scrub[3] (32500)	II	182.81~~182.83~~	6.2
	Diegan Coastal Sage Scrub (disturbed)[3] (32500)	II	91.78	3.1
	Diegan Coastal Sage Scrub (restored)[3] (32500)	II	0.46	<0.1
	Diegan Coastal Sage Scrub—Baccharis-dominated[3] (32530)	II	17.33	0.6
	Diegan Coastal Sage Scrub—Baccharis-dominated (disturbed)[3] (32530)	II	1.51	0.1
	Flat-Topped Buckwheat[3] (32800)	II	2.40	0.1
	Flat-Topped Buckwheat (disturbed)[3] (32800)	II	1.74	0.1
	Southern Mixed Chaparral[3] (37120)	IIIA	52.62	1.8
	Southern Mixed Chaparral (disturbed)[3] (37120)	IIIA	0.42	<0.1
	Chamise Chaparral[3] (37200)	IIIA	61.24	2.0
	Coastal Sage—Chaparral Transition[3] (37G00)	II	17.33~~17.45~~	0.6
Scrub and Chaparral Total[2]			*429.75~~429.78~~*	*14.6*
Grasslands, Vernal Pools, Meadows, and Other Herb Communities (40000)	Native Grassland[3] (42100)	I	1.31	<0.1
	Non-Native Grassland[3] (42200)	IIIB	107.89	3.7
	Vernal Pool (44000)	Wetland	2.42	<0.1
Grasslands, Vernal Pools, Meadows, and Other Herb Communities Total[2]			*111.62*	*3.8*

Table 5.4-27
Vegetation Communities and Land Cover Types Within Miramar Reservoir Alternative Study Area

General Vegetation Community/Land Cover Category	General Vegetation Type (Holland/Oberbauer Code)	Tier/Wetland[1]	Total Acres in Study Area	% of Miramar Reservoir Alternative Study Area
Bog and Marsh (50000)	Cismontane Alkali Marsh (52310)	Wetland	2.32	0.1
	Coastal and Valley Freshwater Marsh (52410)	Wetland	27.07	0.9
	Coastal and Valley Freshwater Marsh (disturbed) (52410)	Wetland	0.01	<0.1
	Herbaceous Wetland (52510)	Wetland	0.76	<0.1
		Bog and Marsh Total[2]	*30.16*	*1.0*
Riparian and Bottomland Habitat (60000)	Southern Riparian Forest (61300)	Wetland	5.15	0.2
	Southern Riparian Forest (disturbed) (61300)	Wetland	0.02	<0.1
	Southern Coast Live Oak Riparian Forest (61310)	Wetland	3.57	0.1
	Southern Arroyo Willow Riparian Forest (61320)	Wetland	4.64	0.2
	Mulefat Scrub (63310)	Wetland	2.22	0.1
	Southern Willow Scrub (63320)	Wetland	10.59	0.4
	Southern Willow Scrub (disturbed) (63320)	Wetland	1.76	0.1
	Open Water – Freshwater (64140)	Wetland	121.63[4]	4.1
	Non-vegetated Channel or Floodway (64200)	Wetland	2.30	0.1
	Arundo-Dominated Riparian (65100)	Wetland	0.55	<0.1
		Riparian and Bottomland Habitat Total[2]	*152.42*	*5.2*
Woodland (70000)	Coast Live Oak Woodland[3] (71160)	I	29.76	1.0
	Coast Live Oak Woodland (disturbed)[3] (71160)	I	1.22	<0.1

Table 5.4-27
Vegetation Communities and Land Cover Types Within Miramar Reservoir Alternative Study Area

General Vegetation Community/Land Cover Category	General Vegetation Type (Holland/Oberbauer Code)	Tier/Wetland[1]	Total Acres in Study Area	% of Miramar Reservoir Alternative Study Area
	Non-native Woodland (79000)	IV	0.29	<0.1
	Eucalyptus Woodland (79100)	IV	96.25	3.3
		Woodland Total[2]	*127.51*	*4.3*
		Total[2]	**2,938.82** ~~**2,938.71**~~	**100.0**

Notes:
1 City Subarea Plan tiers and wetland identification are from San Diego Municipal Code, Land Development Code—Biology Guidelines (City of San Diego 2012).
2 Totals may not sum due to rounding.
3 Sensitive vegetation community in the San Diego Municipal Code, Land Development Code—Biology Guidelines (City of San Diego 2012).
4 The majority of this total is from the Miramar Reservoir (120.26 acres).

Floral Diversity

A total of 466 species of vascular plants, including 309 native species (67%) and 157 non-native species (33%), were recorded during the biological reconnaissance surveys for the Miramar Reservoir Alternative. A cumulative list of all common and sensitive plant species observed in the study area are provided in Appendix J, Plant Compendium, of Appendix C.

Wildlife Diversity

The Miramar Reservoir Alternative study area supports habitat for upland and riparian wildlife species. Chaparral, coastal scrub, woodland, riparian, and non-native habitats (e.g., eucalyptus and non-native grassland) within the study area provide foraging and nesting habitat for migratory and resident bird species and other wildlife species. Chaparral, coastal scrub, and woodlands within the Miramar Reservoir Alternative study area provide cover and foraging opportunities for wildlife species, including reptiles and mammals.

As previously mentioned, wildlife species detected during the field survey by sight, calls, tracks, scat, or other signs were recorded directly onto a field notebook. Binoculars were used to aid in the identification of wildlife. In addition to species actually detected during the surveys, expected wildlife use of the site was determined by known habitat preferences of local species and knowledge of their relative distributions in the area. There were 66 wildlife species observed throughout the Miramar Reservoir Alternative study area. The majority of impacts associated with the Miramar Reservoir Alternative would occur within existing roads surrounded by developed land and wildlife species observed in these areas are common, disturbance-adapted species typically found in urban and suburban settings. Within these developed areas there is minimal suitable habitat for wildlife species due to the cover of impervious surfaces, the proximity to residential and commercial development, and the disturbed nature of the immediately surrounding habitat. Species observed within the study area were recorded during focused surveys, habitat assessments, vegetation mapping and sensitive plant surveys. A list of wildlife species observed in the Miramar Reservoir Alternative study area is presented in Appendix K, Wildlife Compendium, of Appendix C.

Of the total 66 wildlife species observed, 6 (9%) are considered special status (4 of which are MSCP Covered species). The study area does contain native habitat types surrounding the developed roads as well as proposed impacts within native habitats. All sensitive species occur within these native habitat areas. Species richness generally increases commensurate with the amount of native habitat and the presence of more habitat types and ecotones. Species richness in the study area is low due to the limited extent of native habitats, the isolated and fragmented context of the natural vegetation communities, and the majority of the proposed impacts occurring within existing development.

Sensitive Plant Species

Plant species are considered sensitive if they have been listed or proposed for listing by the federal or state government as rare, endangered, or threatened ("listed species"); have a California Rare Plant Rank (CRPR) of 1–4; are listed as a MSCP Covered Species; and/or have been adopted by the City as narrow endemic.

Sensitive plant surveys were conducted within the proposed Miramar Reservoir Alternative study area. As mentioned previously, the survey area for sensitive plants is defined as a 100-foot buffer surrounding suitable habitat within the alignment. Prior to special-status plant species surveys, an evaluation of known records in the

La Jolla, Del Mar, and Poway quadrangles and the surrounding nine quadrangles, including Encinitas, Rancho Santa Fe, Escondido, San Pasqual, San Vicente Reservoir, El Cajon, La Mesa, National City, and Point Loma (CDFW 2016; CNPS 2017~~6~~; USFWS 2016a) was conducted. In addition, Dudek's knowledge of biological resources and regional distribution of each species, as well as elevation, habitat, and soils present within the study area were evaluated to determine the potential for various special status species to occur.

Sensitive plant species directly observed during focused surveys or known to occur in the surrounding region are described in Appendix L, Sensitive Plant Species Potential to Occur within the Miramar Reservoir Alternative, of Appendix C.

The following sensitive plant species were directly observed within the Miramar Reservoir Alternative survey area for sensitive plants (i.e., within 100 feet of the components): California adolphia, San Diego sagewort, Orcutt's brodiaea, wart-stemmed ceanothus, long-spined spineflower, San Diego barrel cactus, graceful tarplant, decumbent goldenbush, San Diego marsh-elder, southwestern spiny rush, small-flowered microseris, Robinson's pepper-grass, golden-rayed pentachaeta, Nuttall's scrub oak, Coulter's matilija poppy, ashy spike-moss, and San Diego County viguiera. The MSCP covered species purple nightshade (*Solanum xanti*) was observed within the Miramar Reservoir Alternative survey area; however, the location was not mapped due to the species' low sensitivity. The sensitive plant species observed in the Miramar Reservoir Alternative study area are described in detail below and are shown on Figures 5.4-1A through 5.4-1 Z, Biological Resources – Miramar Reservoir and San Vicente Reservoir Alternatives.

Sensitive Wildlife Species

Sensitive wildlife species are those listed as federal/state endangered or threatened, proposed for listing, fully protected by CDFW, California Watch List (WL), California Species of Special Concern (SSC), or MSCP Covered Species. Protocol level surveys were conducted in the Miramar Reservoir Alternative study areas for the following sensitive wildlife species: coastal California gnatcatcher, southwestern willow flycatcher, and least Bell's vireo. Habitat assessments and focused surveys for other sensitive species included: four-passes for Quino checkerspot butterfly, larval host plant surveys for Quino checkerspot butterfly, protocol-level wet and dry season surveys for San Diego and Riverside fairy shrimp, burrowing owl focused surveys~~,~~; ~~four-passes~~focused surveys for western pond turtle, and Hermes copper butterfly habitat assessment and focused surveys.

Sensitive wildlife species directly observed in the study area during focused surveys, or those known to occur in the surrounding region, are described in Appendix N, Sensitive Wildlife Species Potential to Occur within the Miramar Reservoir Alternative, of Appendix C. Appendix N describes the potential for each species to occur based on their general biology (primary habitat associations, range, and known elevation range) and known occurrences within the La Jolla, Del Mar, and Poway quadrangles and the surrounding nine quadrangles, including Encinitas, Rancho Santa Fe, Escondido, San Pasqual, San Vicente Reservoir, El Cajon, La Mesa, National City, and Point Loma (CDFW 2016; USFWS 2016a), as well as Dudek's knowledge of biological resources in the area and regional distribution of each species.

Sensitive wildlife species observed within the 500-foot buffer of the Miramar Reservoir Alternative study areas include Cooper's hawk, coastal California gnatcatcher, yellow warbler, white-tailed kite, San Diego fairy shrimp, and western pond turtle.

All sensitive wildlife species that were observed or for which focused surveys were conducted in the Miramar Reservoir Alternative study area are described in Appendix C, and sightings are shown in 5.4-1A through 5.4-1P, Vegetation Communities/Land Covers and Wildlife Observations – Miramar Reservoir Alternative.

Wildlife Corridors and Habitat Linkages

Wildlife corridors are linear features that connect large patches of natural open space and provide avenues for the immigration and emigration of animals. Wildlife corridors contribute to population viability by (1) assuring the continual exchange of genes between populations, which helps maintain genetic diversity; (2) providing access to adjacent habitat areas, representing additional territory for foraging and mating; (3) allowing for a greater carrying capacity; and (4) providing routes for colonization of habitat lands following local population extinctions or habitat recovery from ecological catastrophes (e.g., fires).

Habitat linkages are patches of native habitat that function to join two larger patches of habitat. They serve as connections between habitat patches and help reduce the adverse effects of habitat fragmentation. Although individual animals may not move through a habitat linkage, the linkage does represent a potential route for gene flow and long-term dispersal. Habitat linkages may serve as both habitat and avenues of gene flow for small animals such as reptiles and amphibians. Habitat linkages may be represented by continuous patches of habitat or by nearby habitat "islands" that function as "stepping stones" for dispersal.

The MSCP defines core and linkage areas as those maintaining ecosystem function and processes, including large animal movement. Each core area is connected to other core areas or to habitat areas outside of the MSCP either through common boundaries or through linkages. Core areas have multiple connections to help ensure that the balance in the ecosystem would be maintained (Figure 2-2, Generalized Core Biological Resource Areas and Linkages, in County of San Diego 1998). The Miramar Reservoir Alternative intersects both core areas and habitat linkages identified within the MSCP (Figure 5.4-2, Core Areas and Habitat Linkages). Habitat Linkage C surrounding the San Diego River borders the southern edge of the Morena Pump Station. The Morena Pipelines cross Marian Bear Memorial Park and Rose Canyon Open Space Park, which are a part of Biological Core Area 15, as it connects to the NCWRP Expansion. The NCPWF, NCWRP Expansion, LFG Pipeline, and MBC all sit within a core area, which contains both existing development as well as some areas of open space associated with MCAS Miramar (Biological Core Area 15).

The *Integrated Natural Resources Management Plan* (INRMP) identifies two corridors, Rose Canyon and San Clemente Canyon, that connect the east and west sides of MCAS Miramar and are within the Miramar Reservoir Alternative study area (MCAS Miramar INRMP 2011). Rose Canyon contains coastal sage scrub and chaparral with documented use by mule deer, bobcat (*Lynx rufus*), and occasionally cougar. San Clemente Canyon contains coastal sage scrub, chaparral, wetland, and riparian vegetation with use by mule deer. Both canyons have intermittent water flow. The LFG Pipeline crosses over Rose Canyon, and the MBC sits just south of the western end of San Clemente Canyon.

Jurisdictional Aquatic Resources

The results of the jurisdictional delineation conducted by Dudek in 2016 determined that there are a total of 2.96 acres of wetlands and non-wetland waters in the Miramar Reservoir Alternative study area under the jurisdiction of ACOE/RWQCB, streambeds and associated riparian areas under CDFW jurisdiction, and/or wetlands regulated by the City of San Diego. Jurisdictional aquatic resources mapped in the study area are shown on Figures 5.4-1A through 5.4-1AD, Biological Resources – Miramar Reservoir and San Vicente Reservoir Alternatives, and Table 5.4-28 provides a summary of these resources under the jurisdiction of the ACOE, RWQCB, CDFW, and/or City of San Diego.

Table 5.4-28
Jurisdictional Aquatic Resources in the Miramar Reservoir Alternative Study Area (Acres)

Jurisdictional Aquatic Resource	ACOE/RWQCB[1]	CDFW[1]	City of San Diego Wetlands[1]
Wetland or Riparian Areas			
Cismontane Alkali Marsh	0.02	0.02	0.02
Coast Live Oak Woodland	—	0.09	0.09
Coastal and Valley Freshwater Marsh	0.37	0.37	0.37
Disturbed Coast Live Oak Woodland	—	0.06	0.06
Disturbed Southern Riparian Forest	—	0.02	0.02
Mulefat Scrub	0.04	0.07	0.07
Southern Arroyo Willow Riparian Forest	—	0.02	0.02
Southern Willow Scrub	0.25	0.25	0.25
Vernal Pool	0.56	—	0.98[2]
Total Riparian/Wetlands	*1.23*	*0.89*	1.88
Non-wetland Waters/Streambed			
Ephemeral Stream Channel (Developed – Concrete Channel)	0.03	0.03	—
Ephemeral Stream Channel (Disturbed Wetland)	0.11	0.11	0.11
Ephemeral Stream Channel (Non-vegetated Channel)	0.51	0.46	0.46
Perennial Stream Channel/Open Water[3]	0.51	0.51	0.51
Total Non-wetland Waters/Streambed	*1.16*	*1.12*	*1.10*
Total jurisdictional area[4]	**2.40**	**2.01**	**2.96**

Notes:

1 The acreages listed in the ACOE/RWQCB, CDFW, and City of San Diego Wetlands columns overlap and should not be summed together.

2 This total includes 0.98 acre of vernal pool that may be regulated by the RWQCB.

3 Since there are no impacts within the Miramar Reservoir, only the portion where the North City Pipeline meets the Miramar Reservoir was included in the jurisdictional resource study area.

4 Acreage may not total due to rounding.

ACOE- and RWQCB-jurisdictional areas within the Miramar Reservoir Alternative study area total 2.40 acres, including 1.23 acre of jurisdictional wetlands and 1.16 acres of non-wetland stream channels or reservoir features. Vernal pools within MCAS Miramar are considered ACOE- and RWQCB-jurisdictional and total 0.56 acre. This total includes the vernal pools within the LFG Pipeline (0.45 acre), and North City Pipeline (0.10 acre) study areas.

CDFW jurisdiction extends over all areas under ACOE and RWQCB jurisdiction discussed above and includes areas that meet ACOE wetland (i.e., hydrophytic) vegetation criteria but lack wetlands hydrology and/or hydric soils indicators. CDFW-jurisdictional areas on site total 2.03 acres, including 0.89 acre of riparian habitat and 1.12 acres of streambed (including developed - concrete lined channel, non-vegetated channel or disturbed wetland) or reservoir features.

The majority of the jurisdictional aquatic resources are considered wetlands by the City of San Diego, with the exception of 0.03 acre of ephemeral stream channel (developed –concrete channel within Tecolote Creek) that does not meet the City's criteria for a wetland. Also included under City jurisdiction are vernal pools, totaling 0.98 acre. The vernal pools occur with the study area for four components: the LFG Pipeline (0.45 acre), MBC (0.03 acre), North City Pipeline (0.12 acre), and the NCPWF (0.38 acre). The vernal pools at the NCPWF, one vernal pool at MBC, and one vernal pool along the North City Pipeline are all small, isolated, and do not support listed species (Appendices B, C, G, and H of Appendix C). However, RWQCB may assert jurisdiction over the vernal pools as wetland waters of the state under the Porter Cologne Act. The vernal pools would be considered City wetlands in accordance with the City's Biology Guidelines (City of San Diego 2012).

The portion of the Miramar Reservoir Alternative study area that extends into the Coastal Overlay Zone includes 0.03 acre of City-regulated wetlands.

5.4.2.4 Summary of San Vicente Reservoir Alternative

Vegetation Communities and Land Cover Types

A total of 42 vegetation communities and/or land cover types were observed in the San Vicente Reservoir Alternative study area (Table 5.4-29). Table 5.4-29 includes all of the vegetation within the 500-foot study area buffer for the San Vicente Reservoir Alternative. All vegetation communities, including sensitive communities, occurring in the study area are defined below and further described in context of their location within the specific project components. Per the San Diego Municipal Code, Land Development Code—Biology Guidelines (City of San Diego 2012), sensitive vegetation communities are defined as those that are considered rare within the region, support sensitive plant and/or wildlife species, or are ranked Tier I–III or identified as wetlands. All vegetation communities located within San Vicente Reservoir Alternative study area are spatially represented on Figures 5.4-1A through 5.4-1AD, Biological Resources – Miramar Reservoir and San Vicente Reservoir Alternatives.

Table 5.4-29
Vegetation Communities and Land Cover Types in San Vicente Reservoir Alternative Study Area

General Vegetation Community/Land Cover Category	General Vegetation Type (Holland/Oberbauer Code)	Tier/ Wetlands[1]	Total Acres in Study Area	% of San Vicente Reservoir Alternative Study Area
Disturbed and Developed Areas (10000)	Non-native Vegetation (11000)	IV	83.15	1.6
	Disturbed Wetland (11200)	Wetland	2.93	0.1
	Disturbed Habitat (11300)	IV	176.23~~176.08~~	3.4
	Urban/Developed (12000)	IV	3,122.21 ~~3,122.10~~	60.8
	Developed – Concrete Channel (12000)	IV	1.05	<0.1
	General Agriculture (18000)	IV	9.68	0.2
	Intensive Agriculture – Dairies, Nurseries, Chicken Ranches (18200)	IV	12.74	0.2
	Extensive Agriculture – Field/Pasture, Row Crops (18300)	IV	33.20~~33.32~~	0.6
Disturbed and Developed Areas Total[2]			*3,441.2 0~~3,441.06~~*	*67.0*
Scrub and Chaparral (30000)	Diegan Coastal Sage Scrub (32500)	II	595.07 ~~595.10~~	11.6
	Diegan Coastal Sage Scrub (disturbed) (32500)	II	108.71	2.1
	Diegan Coastal Sage Scrub (restored) (32500)	II	16.03	0.3
	Diegan Coastal Sage Scrub—Baccharis-dominated (32530)	II	25.55	0.5
	Diegan Coastal Sage Scrub—Baccharis-dominated (disturbed) (32530)	II	4.29	0.1
	Flat-Topped Buckwheat (32800)	II	2.40	<0.1
	Flat-Topped Buckwheat (disturbed) (32800)	II	1.74	<0.1

Table 5.4-29
Vegetation Communities and Land Cover Types in San Vicente Reservoir Alternative Study Area

General Vegetation Community/Land Cover Category	General Vegetation Type (Holland/Oberbauer Code)	Tier/ Wetlands[1]	Total Acres in Study Area	% of San Vicente Reservoir Alternative Study Area
	Southern Mixed Chaparral (37120)	IIIA	173.75	3.4
	Chamise Chaparral (37200)	IIIA	42.32	0.8
	Scrub Oak Chaparral (37900)	I	1.37	<0.1
	Coastal Sage—Chaparral Transition (37G00)	II	23.82	0.5
	Scrub and Chaparral Total[2]		*995.04~~995.07~~*	*19.4*
Grasslands, Vernal Pools, Meadows, and Other Herb Communities (40000)	Native Grassland (42100)	I	7.95	0.2
	Non-native Grassland (42200)	IIIB	183.35	3.6
	Vernal Pool (44000)	Wetland	3.10	0.1
	Grasslands, Vernal Pools, Meadows, and Other Herb Communities Total[2]		*194.40*	*3.8*
Bog and Marsh (50000)	Cismontane Alkali Marsh (52310)	Wetland	2.32	0.1
	Coastal and Valley Freshwater Marsh (52410)	Wetland	4.01	<0.1
	Coastal and Valley Freshwater Marsh (disturbed) (52410)	Wetland	0.01	0.1
	Herbaceous Wetland (52510)	Wetland	0.76	<0.1
	Bog and Marsh Total[2]		*7.10*	*0.1*
Riparian and Bottomland Habitat (60000)	Southern Riparian Forest (61300)	Wetland	6.57	0.1
	Southern Riparian Forest (disturbed) (61300)	Wetland	0.02	<0.1
	Southern Coast Live Oak Riparian Forest (61310)	Wetland	6.18	0.1
	Southern Arroyo Willow Riparian Forest (61320)	Wetland	28.96	0.6

Table 5.4-29
Vegetation Communities and Land Cover Types in San Vicente Reservoir Alternative Study Area

General Vegetation Community/Land Cover Category	General Vegetation Type (Holland/Oberbauer Code)	Tier/ Wetlands[1]	Total Acres in Study Area	% of San Vicente Reservoir Alternative Study Area
	Southern Cottonwood—Willow Riparian Forest (61330)	Wetland	25.63	0.5
	Southern Sycamore Riparian Woodland (62400)	Wetland	7.70	0.1
	Mulefat Scrub (63310)	Wetland	6.37	0.1
	Mulefat Scrub (disturbed) (63310)	Wetland	1.89	<0.1
	Southern Willow Scrub (63320)	Wetland	52.12	1.0
	Southern Willow Scrub (disturbed) (63320)	Wetland	4.08	0.1
	Open Water – Freshwater (64140)	Wetland	222.27	4.3
	Non-vegetated Channel or Floodway (64200)	Wetland	4.85	0.1
	Arundo-Dominated Riparian (65100)	Wetland	6.98	0.1
	Riparian and Bottomland Habitat Total[2]		*373.62*	*7.3*
Woodland (70000)	Coast Live Oak Woodland (71160)	I	38.13	0.7
	Coast Live Oak Woodland (disturbed) (71160)	I	1.22	<0.1
	Non-native Woodland (79000)	IV	17.24	0.3
	Eucalyptus Woodland (79100)	IV	66.40	1.3
	Woodland Total[2]		*122.99*	*2.4*
	Total[2]		**5,134.35** ~~**5,134.24**~~	**100.0**

Notes:

[1] City Subarea Plan tiers and wetland identification are from San Diego Municipal Code, Land Development Code—Biology Guidelines (City of San Diego 2012).

[2] Totals may not sum due to rounding.

Floral Diversity

A total of 469 species of vascular plants, 312 native species (67%), and 157 non-native species (33%), were recorded during the biological surveys for the San Vicente Reservoir Alternative. A cumulative list of all common and sensitive plant species observed in the study area are provided in Appendix J, Plant Compendium, of Appendix C.

Wildlife Diversity

The San Vicente Reservoir Alternative study area supports habitat for upland and riparian wildlife species. Chaparral, coastal scrub, woodland, riparian, and non-native habitats (e.g., eucalyptus and non-native grassland) within the study area provide foraging and nesting habitat for migratory and resident bird species and other wildlife species. Rock outcroppings, chaparral, coastal scrub, and woodlands within the San Vicente Reservoir Alternative study area provide cover and foraging opportunities for wildlife species, including reptiles and mammals.

As previously mentioned, wildlife species detected during the field survey by sight, calls, tracks, scat, or other signs were recorded directly onto a field notebook. Binoculars were used to aid in the identification of wildlife. In addition to species actually detected during the surveys, expected wildlife use of the site was determined by known habitat preferences of local species and knowledge of their relative distributions in the area. There were 134 wildlife species observed throughout the San Vicente Reservoir study area. A list of wildlife species observed in the Project Alternatives study area is presented in Appendix K, Wildlife Compendium, of Appendix C.

Of the total species observed, 14 (10.4%) of these are considered special status (8 of which are MSCP Covered Species). The study area does contain native habitat types surrounding the developed roads as well as proposed impacts within native habitats. All sensitive species occur within these native habitat areas. Species richness is generally increased with the amount of native habitat and the presence of more habitat types and ecotones. Species richness in the study area is low due to the limited extent of native habitats, the isolated and fragmented context of the natural vegetation communities and the majority of the proposed impacts occurring within existing development.

Sensitive Plant Species

Plant species are considered sensitive if they have been listed or proposed for listing by the federal or state government as rare, endangered, or threatened ("listed species"); have a CRPR of 1–4; are listed as an MSCP Covered Species; and/or have been adopted by the City as narrow endemic.

Sensitive plant surveys were conducted within the proposed San Vicente Reservoir Alternative survey area. Prior to sensitive plant species surveys, an evaluation of known records in the La Jolla, Del Mar, La Mesa, El Cajon and San Vicente quadrangles and the surrounding 12 quadrangles, including Poway, Encinitas, Rancho Santa Fe, Escondido, San Pasqual, National City, Point Loma, Jamul Mountain, Dulzura, Alpine, El Cajon Mountain, and Ramona (CDFW 2016; CNPS 2017~~6~~; USFWS 2016a) was conducted. In addition, Dudek's knowledge of biological resources in the area and regional distribution of each species, as well as range, elevation, habitat, and soils present within the survey area, were evaluated to determine the potential for various sensitive species to occur. Sensitive plant species directly observed in the study area during focused surveys, or known to occur in the surrounding region, are described in Appendix M, Sensitive Plant Species Potential to Occur within the San Vicente Reservoir Alternative, of Appendix C.

The following sensitive plant species were directly observed within the San Vicente Reservoir Alternative survey area: San Diego sagewort, Orcutt's brodiaea, wart-stemmed ceanothus, long-spined spineflower, delicate clarkia, San Diego barrel cactus, graceful tarplant, San Diego marsh-elder, Southern California black walnut, southwestern spiny rush, Robinson's pepper-grass, small-flowered microseris, golden-rayed pentachaeta, white rabbit-tobacco, Nuttall's scrub oak, Coulter's matilija poppy, ashy spike-moss, and San Diego County viguiera. Sensitive plant species observed are described in Appendix C and are shown on Figures 5.4-1A through 5.4-1AD, Biological Resources– Miramar Reservoir and San Vicente Reservoir Alternatives.

Sensitive Wildlife Species

Sensitive wildlife species are those listed as federal/state endangered or threatened, proposed for listing, fully protected by CDFW, California SSC, or MSCP Covered Species. Protocol-level surveys were conducted in the San Vicente Reservoir Alternative study area for the following sensitive wildlife species: coastal California gnatcatcher, southwestern willow flycatcher, least Bell's vireo, Quino

checkerspot butterfly, and San Diego and Riverside fairy shrimp. Habitat assessments and focused surveys for other sensitive species included: burrowing owl, western pond turtle, and Hermes copper butterfly.

Sensitive wildlife species directly observed in the study area during focused surveys, or those known to occur in the surrounding region, are described in Appendix O, Sensitive Wildlife Species Potential to Occur within the San Vicente Reservoir Alternative, of Appendix C. Appendix O described the potential for each species to occur based on their general biology (primary habitat associations, range, and known elevation range) and known occurrences within the La Jolla, Del Mar, La Mesa, El Cajon and San Vicente quadrangles and the surrounding 12 quadrangles, including Poway, Encinitas, Rancho Santa Fe, Escondido, San Pasqual, National City, Point Loma, Jamul Mountain, Dulzura, Alpine, El Cajon Mountain, and Ramona (CDFW 2016; USFWS 2016a), as well Dudek's knowledge of biological resources in the area and regional distribution of each species.

Sensitive wildlife species observed within the 500-foot buffer of the San Vicente Reservoir Alternative study areas include Cooper's hawk, coastal California gnatcatcher, white-tailed kite, yellow warbler, orangethroat whiptail, San Diegan tiger whiptail, western pond turtle, two-striped gartersnake, San Diego fairy shrimp, least Bell's vireo, willow flycatcher, yellow-breasted chat, southern California rufous-crowed sparrow, western bluebird, and mule deer.

All sensitive wildlife species that were observed or for which focused surveys were conducted in the San Vicente Reservoir Alternative study area are described in Appendix C and sightings are shown in Figures 5.4-1A through 5.4-1AD, Biological Resources – Miramar Reservoir and San Vicente Reservoir Alternatives.

Wildlife Corridors and Habitat Linkages

As discussed fully in Section 5.4.2.3, wildlife corridors are linear features that connect large patches of natural open space and provide avenues for the immigration and emigration of animals. The MSCP defines core and linkage areas as those maintaining ecosystem function and processes, including large animal movement (Figure 2-2, Generalized Core Biological Resource Areas and Linkages, in City of San Diego 1997). The wildlife corridors for the San Vicente Reservoir Alternative are similar to the those discussed for the Miramar Reservoir Alternative with the exception of the San Vicente Pipeline and the impacts associated with the San Vicente Pipeline - Repurposed 36-inch Recycled Water Line. The San Vicente

Pipeline runs through a habitat linkage surrounding the San Diego River and core areas associated with Mission Trails Regional Park (Biological Core Area 10) and the San Diego River (Habitat Linkage C), and open space surrounding the San Vicente Reservoir (Biological Core Area 11). The San Vicente Pipeline - Repurposed 36-inch Recycled Water Line runs through both Rose Canyon and San Clemente Canyon, and if the San Vincente Reservoir Alternative is implemented, there would be impacts associated with work to air and blow-off valves along its length (Figure 5.4-2, Core Areas and Habitat Linkages).

Jurisdictional Aquatic Resources

The total wetlands and non-wetland waters in the San Vicente Reservoir Alternative study area under the jurisdiction of ACOE/RWQCB, streambeds/open water and associated riparian areas under CDFW jurisdiction, and/or wetlands regulated by the CCC and City of San Diego is 32.31 acres. Jurisdictional aquatic resources, including both wetlands/riparian areas and non-wetland waters/streambeds, mapped in the study area are shown on Figures 5.4-1A through 5.4-1Z, Biological Resources – Miramar Reservoir and San Vicente Reservoir Alternatives. Table 5.4-30 provides a summary of these resources under the jurisdiction of the ACOE, RWQCB, CDFW, and/or City of San Diego.

Table 5.4-30
Jurisdictional Aquatic Resources in the
San Vicente Reservoir Alternative Study Area (Acres)

Jurisdictional Aquatic Resource	ACOE/RWQCB[1]	CDFW[1]	City of San Diego Wetlands[1]
Wetland or Riparian Areas			
Arundo-Dominated Riparian	0.33	0.39	0.39
Cismontane Alkali Marsh	0.02	0.02	0.02
Coast Live Oak Woodland	—	0.09	0.09
Coastal and Valley Freshwater Marsh	0.29	0.29	0.29
Disturbed Coast Live Oak Woodland	—	0.06	0.06
Disturbed Mulefat Scrub	—	0.17	0.17
Disturbed Southern Riparian Forest	—	0.02	0.02
Mulefat Scrub	0.04	0.23	0.23
Southern Arroyo Willow Riparian Forest	1.12	1.56	1.56
Southern Cottonwood–Willow Riparian Forest	—	0.08	0.08
Southern Sycamore–Alder Riparian Woodland	—	0.58	0.58

Table 5.4-30
Jurisdictional Aquatic Resources in the San Vicente Reservoir Alternative Study Area (Acres)

Jurisdictional Aquatic Resource	ACOE/RWQCB[1]	CDFW[1]	City of San Diego Wetlands[1]
Southern Willow Scrub	0.80	1.88	1.88
Vernal Pool	1.33	—	1.73[2]
Total Riparian/Wetlands	*3.93*	*5.37*	*7.10*
Non-wetland Waters/Streambed			
Ephemeral Stream Channel (Developed – Concrete Channel)	0.03	0.03	—
Ephemeral Stream Channel (Disturbed Wetland)	0.11	0.11	0.11
Ephemeral Stream Channel (Non-vegetated Channel)	1.69	0.95	0.94
Intermittent Stream Channel	0.06	0.06	0.06
Perennial Stream Channel/Open Water	24.10	24.10	24.10
Total Non-wetland Waters/Streambed	*25.99*	*25.26*	*25.24*
Total jurisdictional area[3]	**29.92**	**30.63**	**32.31**

Notes:

1 The acreages listed in the ACOE/RWQCB, CDFW, and City of San Diego Wetlands columns overlap and should not be summed together.

2 This 1.73 acres of vernal pool is also potentially regulated by the RWQCB.

3 Acreage may not total due to rounding.

ACOE- and RWQCB-jurisdictional areas within the San Vicente Reservoir Alternative study area total 29.92 acres, including 3.93 acres of jurisdictional wetlands and 25.99 acres of non-wetland stream channels/open water. Vernal pools within MCAS Miramar are considered ACOE- and RWQCB-jurisdictional and total 1.33 acres. This total includes the vernal pools within the LFG Pipeline (0.45 acre), and the San Vicente Pipeline - Repurposed 36-inch Recycled Water Line (0.87 acre) study areas.

CDFW jurisdiction extends over all areas under ACOE and RWQCB jurisdiction discussed above and includes areas that meet ACOE wetland (i.e., hydrophytic) vegetation criteria but lack wetlands hydrology and/or hydric soils indicators. CDFW-jurisdictional areas on site total 30.63 acres, including 5.37 acres of riparian habitat and 25.26 acres of streambed/open water.

The majority of the jurisdictional aquatic resources are considered wetlands by the City of San Diego, with the exception of 0.75 acre of ephemeral stream channels (i.e. developed – concrete channel and non-vegetated channel) that do not meet

the City's criteria for a wetland. Also included only under City jurisdiction, and potentially under RWQCB jurisdiction, are vernal pools, totaling 1.73 acres. Vernal pools occur within the study area of the following four components: LFG Pipeline (0.45 acre), MBC (0.03 acre), NCPWF (0.38 acre), and the along the San Vicente Pipeline - Repurposed 36-inch Recycled Water Line (0.87 acre). The vernal pools at the NCPWF and the one vernal pool at the MBC are small, isolated, and do not support listed species (Appendices B, C, G, and H of Appendix C). However, RWQCB may assert jurisdiction over the vernal pools as wetland waters of the state under the Porter-Cologne Act.

The portion of the San Vicente Reservoir Alternative study area that extends into the Coastal Overlay Zone includes 0.03 acre of City-regulated wetlands.

5.4.2.5 Miramar Reservoir Limnology

Using limnological data obtained from the City for 2014 and 2015 dissolved oxygen (DO) within the reservoir ranges seasonally from approximately 7 to 10 milligrams per Liter (mg/L) at the surface and from 0.0 to 10 mg/L at the bottom of the reservoir. Total nitrogen and total phosphorus (TP), two key biological nutrients in aquatic systems, had recorded medians from surface samples collected monthly between 2005 and 2014 of 0.24 mg/L and <0.078 mg/L, respectively (> 90% of the TP samples had concentrations below the method detection limit of 0.078 mg/L). TP levels in Miramar Reservoir from 2013 through 2014 ranged from 0 to 0.4 mg/L. Many of the samples collected from the hypolimnion (water layer below the thermocline) are above this detection limit, so the in-reservoir data provides a good representation of the conditions in the reservoir. However, 22 of the 23 samples collected at the surface from 2013 through 2014 (calibration period) were below the detection limit. Based on the TP levels recorded at the inflow to the reservoir and the uptake of TP in the reservoir, which generally occurs from February to October, TP levels in the epilimnion (water layer above the thermocline) are expected to be generally an order of magnitude lower than the existing laboratory detection limit of 0.078 mg/L. As a result, the model results from CAEDYM are likely the best available tool to estimate the historical (existing) TP concentration in the reservoir's epilimnion. Based on the existing conditions model run for Miramar Reservoir, chlorophyll-*a*, a proxy measurement of primary productivity (i.e., presence of algae), ranged from spring highs of 2.72 micrograms per liter (µg/L) to a winter low of 0.21 µg/L, with a median value of 0.26 µg/L (Appendix G of this EIR/EIS). Water column clarity is generally good, with visibility ranging from 3.9 to 14.3 meters (12.8 to 46.9 feet) with a mean value of 9.5 meters (31 feet) (City of San Diego 2012–2014). As

discussed in Section 4.6.5 of Appendix C, based on Carlson's (1977) Trophic Status Index, Miramar Reservoir is currently classified as oligotrophic (i.e., low dissolved nutrient concentrations and low plant growth that is usually accompanied by an abundance of dissolved oxygen), although some key characteristics are more typical of mesotrophic lakes (i.e., moderate amount of dissolved nutrients). In general, chlorophyll-*a* concentrations are very low in Miramar Reservoir, but tend to peak in the spring for brief periods, since the reservoir is replenished with nutrients released from sediments during turnover in late December, and when temperatures and increased sunlight become sufficient to initiate algal growth. During short periods in the spring when phytoplankton blooms seasonally occur, the reservoir is closer to the low-mesotrophic end of the scale (Carlson 1977; Barnes and Mann 1991).

Miramar Reservoir is thermally stratified for the majority of the year. Water temperatures range from a minimum of approximately 57 degrees Fahrenheit (°F) at the reservoir bottom in winter to a summer high of almost 82°F at the reservoir surface (Appendix G of this EIR/EIS).

Miramar Reservoir Aquatic Resources

Emergent and submerged aquatic vegetation occur within a band at the water's edge of the reservoir. The dominant emergent species consists of dense stands of California bulrush (*Schoenoplectus californicus*) and cattails (*Typha* spp.) along the banks and submerged aquatic vegetation and algae. In addition to emergent and submerged aquatic vegetation, plankton is also present within the reservoir and constitutes a key component of the aquatic food chain.

Miramar Reservoir currently supports a warm water fishery, specifically various non-native centrarchid species (including largemouth bass [*Micropterus salmoides*], bluegill [*Lepomis macrochirus*], redear sunfish [*L. microlophus*], green sunfish [*L. cyanellus*], and black crappie [*Pomoxis nigromaculatus*]), as well as channel catfish (*Ictalurus punctatus*), brown bullhead (*Ameiurus nebulosus*), and common carp (*Cyprinus carpio*) that are common to recreational fisheries in California. Additional fish species that were not intentionally introduced (including threadfin shad (*Dorosoma petenense*), golden shiner (*Notemigonus crysoleucas*), and prickly sculpin (*Cottus asper*), have become established as well, either through imported water deliveries from both the Colorado River and the Central Valley Delta (via the California Aqueduct) or through anthropogenic means such as fishing or release of domestic species such as goldfish *(Carassius auratus*) and mosquito fish (*Gambusia affinis*). It is also likely possible that the species composition is augmented to some

degree by eggs and larvae that enter the reservoir from raw imported water. Only one cold water fish species, rainbow trout (*Oncorhynchus mykiss*), was introduced into the reservoir for a recreational put-and-take fishery. The CDFW-provided stocking records indicating that they have seasonally stocked approximately 9,900 pounds/19,000+ fish from January 2013 to Nov 29, 2016. As such, populations of coldwater species are maintained by stocking, and warm water species are generally maintained by reproduction as well as re-introduction from imported water. Based on a fishery study conducted by CDFW in spring and fall of 2014 (CDFW 2014), three species were captured: bluegill, largemouth bass, and black crappie. Largemouth bass made up the highest percentage of the total fish captured and were generally all 250 millimeters to 400 millimeters, with 75% falling in the "stock" or 18% in the "quality" stock size categories. In general, the stock size and length/weight relationships indicate that reproduction is successful; however, food foraging opportunities may be limited. In addition,

With the exception of the rainbow trout population that is seasonally stocked, the fishery is self-sustaining and has a fishery composition that allows a complete and self-cycling aquatic food chain to exist across multiple trophic levels (e.g., plankton, primary, secondary and tertiary consumers and detritivores). Effects to piscivorous fish, especially largemouth bass, is not expected to be substantial as the population appears to be supported primarily by forage fish (likely rainbow trout and other small/juvenile fish).

The reservoir also supports the non-native and invasive quagga mussel (*Dreissena rostriformis bugensis).* This species is capable of filtering out substantial amounts of phytoplankton as well as particulate organic matter that provides food for the zooplankton community, which then supports other trophic levels in the reservoir. This species also concentrates organic pollutants within their tissues (up to 300,000 times greater than concentrations in the environment), and these pollutants are found in their pseudofeces, which can be passed up the food chain and increase wildlife exposure to organic pollutants (Snyder et al. 1997). Their presence in the reservoir is relatively new and growing. The extent of their effect is yet to be determined, but is expected to eventually have long-term trophic effects. In addition to quagga mussels, several other non-native species occur in the reservoir including American bullfrog (*Rana catesbeiana*) and red-eared sliders (*Trachemys scripta elegans*).

5.4.3 REGULATORY FRAMEWORK

5.4.3.1 Federal

National Environmental Policy Act

The National Environmental Policy Act (NEPA) established a national policy for protection of the environment. The objectives of NEPA are: "To declare a national policy which will encourage productive and enjoyable harmony between man and his environment; to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man; to enrich the understanding of the ecological systems and natural resources important to the Nation; and to establish a Council on Environmental Quality" (42 U.S.C. 4321). To assist federal agencies in fulfilling the goals and effectively implementing the requirements of NEPA, in 1978 the Council on Environmental Quality issued regulations for implementing the procedural aspects of NEPA (40 CFR Part 1500–1508).

Pursuant to NEPA regulations (40 CFR 1500–1508), project impacts are evaluated based on the criteria of context and intensity. Context means the affected environment in which a proposed project occurs. Intensity refers to the severity of the impact, which is examined in terms of the type, quality, and sensitivity of the resource involved; location and extent of the effect; duration of the effect (short or long term), and other consideration of context. Impacts are described in terms of beneficial, not adverse, or adverse. Sections 5, 6 and 7 of this report describes the project's short-term, long-term, and cumulative effects, both direct and indirect, in accordance with the requirements of NEPA.

The Bureau of Reclamation (Reclamation) is the lead agency under NEPA and therefore responsible for review of the environmental impacts of the North City Project and to assure that the North City Project is in accordance with the goals, objectives, or other requirements of the Natural Communities Conservation Planning program. In that capacity, the City and Reclamation must assess the potential for adverse direct, indirect, and cumulative impacts on the environment that may result from approval and implementation of the North City Project. The Reclamation's NEPA Handbook (Reclamation 2012) outlines guidance for implementing NEPA, the Council on Environmental Quality's Regulations for Implementing the Procedural Provisions (40 CFR Parts 1500–1508), the U.S. Department of the Interior's NEPA Regulations (43 CFR Part 46), and the Departmental Manual Chapter 516. The Reclamation NEPA

Handbook draws these requirements together and provides guidance on how to apply them to Reclamation programs and activities.

Federal Endangered Species Act

The federal Endangered Species Act (FESA) of 1973 (16 U.S.C. 1531 et seq.), as amended, is administered by the U.S. Fish and Wildlife Service (USFWS), National Oceanic and Atmospheric Administration, and National Marine Fisheries Service. This legislation is intended to provide a means to conserve the ecosystems upon which endangered and threatened species depend and provide programs for the conservation of those species, thus preventing extinction of plants and wildlife. Under provisions of Section 9(a)(1)(B) of FESA, it is unlawful to "take" any listed species. "Take" is defined in Section 3(19) of FESA as, "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." Additionally, Section 7(a)(2) of the FESA directs federal agencies to consult with the USFWS for any actions that "may affect" listed species.

FESA provides for designation of Critical Habitat, defined in Section 3(5)(A) as specific areas within the geographical range occupied by a species where physical or biological features "essential to the conservation of the species" are found and "which may require special management considerations or protection." Critical Habitat may also include areas outside the current geographical area occupied by the species that are nonetheless "essential for the conservation of the species." However, Congress amended Section 4(a)(3)(B)(i) of FESA to limit the designation of land controlled by the Department of Defense (National Defense Authorization Act, P.L. No. 108–136):

> The Secretary shall not designate as critical habitat any lands or other geographical areas owned or controlled by the Department of Defense, or designated for its use, that are subject to an integrated natural resources management plan prepared under section 101 of the Sikes Act (16 U.S.C. 670a), if the Secretary determines in writing that such plan provides a benefit to the species for which critical habitat is proposed for designation.

Therefore, there are areas within MCAS Miramar that are exempt from the Critical Habitat designations due to MCAS Miramar having a legally operative integrated natural resource management plan.

Integrated Natural Resources Management Plan

MCAS Miramar is comprised of large swaths of open space that contain vernal pools, wetland areas, upland habitat and the federally listed plant and wildlife species occurring in these areas. Additionally, these lands function as wildlife corridors for the movement and dispersal of wildlife. The *Integrated Natural Resource Management Plan* (INRMP 2011–2015; MCAS Miramar INRMP 2011) guides land use activities, natural resource management, and conservation, and ensures compliance with environmental laws and regulations on MCAS Miramar. USFWS identifies Essential Habitat as areas eligible for designation as Critical Habitat, and the INRMP incorporates Essential Habitat into high priority management areas to benefit the conservation to species. Management Areas (MAs) Level I through Level V have been developed to support the conservation and management of regulated resources occurring within MCAS Miramar. Level I MAs mainly support vernal pool habitat and their associated watersheds; Level II MAs focus on non-vernal pool, federally listed species; Level III MAs support riparian vegetation and wildlife corridors/linkages; Level IV MAs support some sensitive and protected resources; and Level V MAs are associated with developed land uses and are the first considered for new development. Because the North City Project crosses through MCAS Miramar lands, it will be subject to the regulations of the INRMP. See Appendix A of Appendix C for details regarding the INRMP analysis.

~~Migratory Bird Treaty Act~~

~~The Migratory Bird Treaty Act (MBTA) prohibits the take of any migratory bird or any part, nest, or eggs of any such bird. Under the MBTA, "take" is defined as pursue, hunt, shoot, wound, kill trap, capture, or collect, or any attempt to carry out these activities (16 U.S.C. 703 et seq.). Additionally, Executive Order 13186, "Responsibilities of Federal Agencies to Protect Migratory Birds," requires that any project with federal involvement address impacts of federal actions on migratory birds with the purpose of promoting conservation of migratory bird populations (66 FR 3853–3856). The Executive Order requires federal agencies to work with USFWS to develop a memorandum of understanding. USFWS reviews actions that might affect these species.~~

~~Currently, birds are considered to be nesting under the MBTA only when there are eggs or chicks which are dependent on the nest.~~

U.S. Army Corps of Engineers

Pursuant to Section 404 of the Clean Water Act, the ACOE regulates the discharge of dredged and/or fill material into "waters of the United States." The term "wetlands" (a subset of waters) is defined in 33 CFR 328.3(b) as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas." In the absence of wetlands, the limits of ACOE jurisdiction in non-tidal waters, such as intermittent streams, extend to the "ordinary high water mark," which is defined in 33 CFR 328.3(e).

Section 320.4(b)(2) of the ACOE General Regulatory Policies (33 CFR 320–330) list criteria for consideration when evaluating wetland functions and values. These include wildlife habitat (spawning, nesting, rearing, and resting), food chain productivity, water quality, ground water recharge, and areas for the protection from storm and floodwaters.

5.4.3.2 State

California Endangered Species Act

The CDFW administers the California Endangered Species Act (CESA; California Fish and Game Code, Section 2050 et seq.), which prohibits the "take" of plant and animal species designated by the Fish and Game Commission as endangered or threatened in the State of California. Under CESA Section 86, take is defined as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." CESA Section 2053 stipulates that state agencies may not approve projects that will "jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat essential to the continued existence of those species, if there are reasonable and prudent alternatives available consistent with conserving the species or its habitat which would prevent jeopardy."

CESA Sections 2080 through 2085 address the taking of threatened, endangered, or candidate species by stating, "No person shall import into this state, export out of this state, or take, possess, purchase, or sell within this state, any species, or any part or product thereof, that the Commission determines to be an endangered species or a threatened species, or attempt any of those acts, except as otherwise provided in this chapter, the Native Plant Protection Act (Fish and Game Code,

Sections 1900–1913), or the California Desert Native Plants Act (Food and Agricultural Code, Section 80001)."

California Fish and Game Code

According to Sections 3511 and 4700 of the Fish and Game Code, which regulate birds and mammals, respectively, a "fully protected" species may not be taken or possessed without a permit from the Fish and Game Commission, and "incidental takes" of these species are not authorized.

According to Section 3503, it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto. Section 3503.5 states that it is unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes (birds of prey) or to take, possess or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto. ~~Finally, Section 3513 states that is unlawful to take or possess any migratory nongame bird as designated in the MBTA or any part of such migratory nongame bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the MBTA.~~

For the purposes of these state regulations, CDFW currently defines an active nest as one that is under construction or in use and includes existing nests that are being modified. For example, if a hawk is adding to or maintaining an existing stick nest in a transmission tower, then it would be considered to be active and covered under these Fish and Game Code Sections.

CDFW Streambed and Riparian Habitat

Pursuant to Section 1602 of the Fish and Game Code, the CDFW regulates all diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake that supports fish or wildlife. A Streambed Alteration Agreement is required for impacts to jurisdictional wetlands in accordance with Section 1602 of the California Fish and Game Code.

State and Regional Water Quality Control Board

The intent of the Porter–Cologne Water Quality Control Act is to protect water quality and the beneficial uses of water, and it applies to both surface water and groundwater. Under this law, the State Water Resources Control Board develops

statewide water quality plans, and the RWQCBs develop basin plans that identify beneficial uses, water quality objectives, and implementation plans. The RWQCBs have the primary responsibility to implement the provisions of both statewide and basin plans. Waters regulated under the Porter–Cologne Water Quality Control Act include isolated waters that are no longer regulated by the ACOE. Developments with impact to jurisdictional waters must demonstrate compliance with the goals of the act by developing Stormwater Pollution Prevention Plans, Standard Urban Storm Water Mitigation Plans, and other measures to obtain a Clean Water Act Section 401 certification.

California Environmental Quality Act

The California Environmental Quality Act (CEQA) requires identification of a project's potentially significant impacts on biological resources and feasible mitigation measures and alternatives that could avoid or reduce significant impacts. CEQA Guidelines Section 15380(b)(1) defines endangered animals or plants as species or subspecies whose "survival and reproduction in the wild are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, disease, or other factors" (14 CCR 15000 et seq.). A rare animal or plant is defined in CEQA Guidelines Section 15380(b)(2) as a species that, although not presently threatened with extinction, exists "in such small numbers throughout all or a significant portion of its range that it may become endangered if its environment worsens; or … [t]he species is likely to become endangered within the foreseeable future throughout all or a significant portion of its range and may be considered 'threatened' as that term is used in the federal Endangered Species Act." Additionally, an animal or plant may be presumed to be endangered, rare, or threatened if it meets the criteria for listing, as defined further in CEQA Guidelines Section 15380(c). CEQA also requires identification of a project's potentially significant impacts on riparian habitats (such as wetlands, bays, estuaries, and marshes) and other sensitive natural communities, including habitats occupied by endangered, rare, and threatened species.

California Coastal Act

The California Coastal Commission (CCC) was established by voter initiative in 1972 and was made permanent by the California Legislature through the adoption of the California Coastal Act of 1976 (Public Resources Code Section 30000 et seq.). The CCC, in partnership with coastal cities and counties, plans and regulates the use of land and water in the coastal zone. Under the California Coastal Act (CCA), cities and

counties are responsible for preparing Local Coastal Programs (LCPs) in order to obtain authority to issue coastal development permits (CDPs) for projects within their jurisdiction. LCPs consist of land use plans, zoning ordinances, zoning maps, and other implementing actions that conform to the policies of the CCA. Until an agency has a fully certified LCP, the CCC is responsible for issuing CDPs.

Under the CCA, Section 30107.5, environmentally sensitive habitat areas are areas within the coastal zone that are "designated based on the presence of rare habitats or areas that support populations of rare, sensitive, or especially valuable species or habitats." In addition, the CCC regulates impacts to coastal wetlands defined in Section 30121 of the CCA as, "lands within the coastal zone which may be covered periodically or permanently with shallow water and include saltwater marshes, freshwater marshes, open or closed brackish water marshes, swamps, mudflats, and fens." The CCA requires that most development avoid and buffer coastal wetland resources in accordance with Sections 301231 and 30233, including limiting the filling of wetlands to certain allowable uses.

The North City Project is entirely outside the coastal zone, with the exception of one overflow pipe from the Morena Pump Station that is approximately 200 feet within the boundary. The overflow pipe is located along Friars Road. The general Mission Bay Park area, including portions of Friars Road and the railroad right-of-way, comprise a unique segment of the City of San Diego coastal zone, which is mostly located in what is called a deferred certification area, an area within the coastal zone that is not part of the City of San Diego's LCP. In the deferred certification areas, the CCC retains coastal development permit authority. Chapter 3 of the CCA is the legal standard of review for CDPs. If parts of the overflow pipe are located within the coastal zone, then any proposed development in that area would require a CDP from the CCC San Diego district office. However, based on communication with Alexander Llerandi of the CCC staff, the City has received concurrence that the overflow pipe is within the City's jurisdiction (and the CCC's CDP appealable jurisdiction) and can be processed locally (Llerandi, pers. comm. 2017).

5.4.3.3 Regional

Multiple Species Conservation Program

The City of San Diego is a participant in the San Diego MSCP, a comprehensive, regional long-term habitat conservation program designed to provide permit issuance authority for take of covered species to the local regulatory agencies. The MSCP addresses habitat and species conservation within approximately 900 square

miles in the southwestern portion of San Diego County (County of San Diego 1998). It serves as an approved habitat conservation plan pursuant to an approved Natural Communities Conservation Plan in accordance with the state Natural Communities Conservation Planning Act (County of San Diego 1998).

The MSCP establishes a preserve system designed to conserve large blocks of interconnected habitat having high biological value that are delineated in MHPAs. The City MHPA is a "hard line" preserve developed by the City in cooperation with the wildlife agencies, property owners, developers, and environmental groups. The MHPA identifies biological core resource areas and corridors targeted for conservation, in which only limited development may occur (City of San Diego 1997).

The MSCP identifies 85 plants and animals to be "covered" under the plan ("Covered Species"). Many of these Covered Species are subject to one or more protective designations under state and/or federal law and some are endemic to San Diego. The MSCP seeks to provide adequate habitat in the preserve to maintain ecosystem functions and persistence of extant populations of the 85 Covered Species while also allowing participating landowners "take" of Covered Species on lands located outside of the preserve. The purpose of the MSCP is to address species conservation on a regional level and thereby avoid project-by-project biological mitigation which tends to fragment habitat.

Within the City of San Diego, the MSCP is implemented through the City of San Diego MSCP Subarea Plan (Subarea Plan) (City of San Diego 1997), which applies within 6,501 acres. Portions of the North City Project are located within and adjacent to MHPAs (City of San Diego, 1997).

5.4.3.4 Local

City of San Diego MSCP Subarea Plan

The Subarea Plan (1997) encompasses 206,124 acres within the MSCP Subregional Plan area. The North City Project study area is located within the Northern (Miramar Reservoir Alternative only), Urban, and Eastern areas (San Vicente Reservoir Alternative only) of the Subarea Plan. In addition, the project crosses through MCAS Miramar lands which are excluded from the MSCP Subarea Plan. The Northern area includes the majority of the Los Penasquitos Lagoon/Canyon del Mar Mesa core, and developed and undeveloped land from Black Mountain Ranch to Lopez Canyon and the North City Future Urbanizing Area. Urban habitat areas within the MHPA include existing designated open

space such as Mission Bay, Tecolote Canyon, Marian Bear Memorial Park, Rose Canyon, San Diego River, the southern slopes along Mission Valley, Carroll and Rattlesnake Canyons, Florida Canyon, Chollas Creek, and a variety of smaller canyon systems. The Eastern area includes East Elliott and Mission Trails Regional Park. The land surrounding, and encompassing, the San Vicente Dam is identified as Cornerstone Lands. However, areas that are excluded from the MHPA (and Cornerstone Land designation) in order to provide for current and future requirements of the Public Utilities Department include the existing San Vicente Reservoir and dam, and all lands within 300 feet horizontally from the ultimate high water level (~~MSCP Subarea Plan~~City of San Diego 1997)

The City of San Diego Public Utilities Department – Water Fund owns four large areas of land within the City of San Diego MSCP preserve system: (1) lands surrounding portions of Upper and Lower Otay Reservoir; (2) lands surrounding the San Vicente Reservoir; (3) lands owned by the City of San Diego in Marron Valley; and (4) watershed management lands around Hodges Reservoir, including the portion of San Pasqual Valley from Hodges Reservoir east to the area referred to as the "narrows." These lands contain valuable biological resources and have each been identified as a core biological resource area. These lands total 10,400 acres and are commonly referred to as the Cornerstone Lands because they are considered essential building blocks for creating a viable habitat preserve system.

The San Diego City Charter restricts the use and disposition of Water Utility assets and thus the Water Fund must be compensated for any title restrictions placed on the Cornerstone Lands. To meet the policy objectives of the MSCP and comply with the City Charter, the City of San Diego entered into a Conservation Land Bank Agreement with the wildlife agencies for the Cornerstone Lands.

The Subarea Plan is characterized by urban land uses with approximately three-quarters either built out or retained as open space/park system. The City MHPA is a "hard line" preserve developed by the City in cooperation with the wildlife agencies, property owners, developers, and environmental groups. The MHPA identifies biological core resource areas and corridors targeted for conservation, in which only limited development may occur (City of San Diego 1997). The MHPA is considered an urban preserve that is constrained by existing or approved development, and is comprised of habitat linkages connecting several large core areas of habitat (Figure 5.4-3, Multi-Habitat Planning Area). The criteria used to define core and linkage areas involves maintaining ecosystem function and processes, including large animal movement. Each core area is connected to other

core areas or to habitat areas outside of the MSCP either through common boundaries or through linkages. Core areas have multiple connections to help ensure that the balance in the ecosystem would be maintained (City of San Diego 1997). Critical habitat linkages between core areas are conserved in a functional manner with a minimum of 75% of the habitat within identified linkages conserved (City of San Diego 1997).

Placement of utility lines within the City of San Diego's MHPA must be in compliance with the policies identified in Section 1.4.2 of the City of San Diego's Subarea Plan. These policies are listed below.

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, then the lines should follow previously existing roads, easements, rights-of-way and disturbed areas, minimizing habitat fragmentation.
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 would be required.
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 would be required.
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 would 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.
5. Roads in the MHPA would 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.

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.
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.
8. For the most part, existing roads and utility lines are considered a compatible use within the MHPA and therefore would 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.

City of San Diego Biology Guidelines

The City of San Diego Development Services Department developed the Biology Guidelines within the Land Development Manual "to aid in the implementation and interpretation of the Environmentally Sensitive Lands Regulations (ESL), San Diego Land Development Code (LDC), Chapter 14, Division 1, Section 143.0101 et seq., and the Open Space Residential (OR-1-2) Zone, Chapter 13, Division 2, Section 131.0201 et seq." (City of San Diego 2012). The guidelines also provide standards for the determination of impact and mitigation under CEQA and the Coastal Act. Sensitive biological resources, as defined by the Environmentally Sensitive Lands Regulations, include lands within the MHPA, as discussed in Section 1.3.3 of Appendix C, as well as other lands outside of the MHPA that contain wetlands; vegetation communities classifiable as Tier I, II, IIIA or IIIB; habitat for rare, endangered or threatened species; or narrow endemic species.

The City's definition of wetlands is broader than the definition applied by the ACOE. The City uses the criteria listed in Section 320.4(b)(2) of the ACOE General Regulatory Policies (33 CFR 320–330) to apply an appropriate buffer around

wetlands that serves to protect the function and value of the wetland. Guidelines that supplement the development regulation requirements described in this section are provided in the San Diego Municipal Code, Land Development Code—Biology Guidelines (City of San Diego 2012). The jurisdictional delineation study area surveyed included a 50-foot buffer from the proposed impact area, and there are resources in the San Diego River floodplain within this buffer that would be considered wetlands within the Coastal Overlay Zone, and therefore would require adherence to the Coastal Overlay Zone wetland buffer regulations (City of San Diego 2012). According to the City's Bio Guidelines, a wetland buffer is an area surrounding a wetland that helps protect the function and value of the adjacent wetland by reducing physical disturbance, provides a transition zone where one habitat phases into another, acts to slow flood waters for flood and erosion control, sediment filtration, water purification, ground water recharge (City of San Diego 2012). Within the Coastal Overlay Zone, wetland buffers should be a minimum of 100 feet wide (as determined on a case-by-case basis in consultation with CDFW, USFWS, and the ACOE) adjacent to a wetland. The width of the buffer is determined by factors such as: type and size of development, sensitivity of the wetland resource to edge effects, topography, and the need for upland transition (City of San Diego 2012).

The San Diego Municipal Code also ranks upland habitat values by rarity and sensitivity. The most sensitive habitats are Tier I, and the least sensitive are Tier IV. The varying mitigation ratios and requirements that mitigation be either in-tier or in-kind are based on the sensitivity of the habitat being affected.

The North City Project would be considered an Essential Public Project in that it would service the community at large and not just a single development project or property. Examples of Essential Public Projects include identified circulation element roads, major water and sewer lines, publicly owned schools, parks, libraries, and police and fire facilities.

The North City Project meets the definition of an Essential Public Project as identified in Section IV of the City's Biology Guidelines, in that it is a utility project which will service the community at large and not just a single development project or property. The North City Project is a covered project under the VPHCP, which was adopted in January 2018. In association with the adoption of the VPHCP, an ordinance amending the City of San Diego's Land Development Code, Environmentally Sensitive Lands (ESL) regulation was approved. The amended ESL regulation states: "Outside the Coastal Overlay Zone, encroachment into a vernal

pool is allowed outside of the MHPA where the development is consistent with the Biology Guidelines of the Land Development Manual and VPHCP." Such development does not require a deviation to the wetland regulations. Since the vernal pools on the NCPWF are outside the MHPA and will be mitigated in accordance with the City's Biology Guidelines and VPHCP requirements, the North City Project meets the requirements for impacts and mitigation to vernal pools under the VPHCP. ~~Since the proposed project is an Essential Public Project, deviations from the wetland requirements in the Environmentally Sensitive Lands Regulations will be considered only if all of the criteria listed within Section III (page 22) of the City's Biology Guidelines are met.~~

This report identifies two potential alternatives to the North City Project which will be included within the CEQA document, along with a No Project Alternative. ~~The other criteria for the deviation is a wetlands avoidance alternative. This has been accomplished, to the extent possible, within the Miramar Reservoir Alternative. Impacts to wetlands are minimal under this alternative and only occur in one place: vernal pools at NCPWF.~~ The NCPWF site was chosen for the following reasons: greater efficiency is achieved by locating the facility adjacent to the NCWRP (for example, less energy is required to pump recycled water to the facility); the site contains less sensitive resources than all other adjacent parcels (there are two other City-owned parcels—Pueblo Central and Pueblo South—that are less disturbed and contain more sensitive resources); and all other adjacent parcels are either currently developed, privately owned, or within MCAS Miramar. As discussed in Section 4 of Appendix C, the North City Project has been designed to occur primarily within developed or previously disturbed areas with each component location given careful consideration. Each pipeline alignment has undergone an extensive alternatives analysis to determine the best possible route, with special considerations given to avoiding environmentally sensitive resources. In order to avoid and/or minimize impacts to sensitive biological resources, particularly wetlands, to the furthest extent possible, facility footprints were refined to avoid overlapping those resources. In areas where pipeline alignments cross sensitive resources, the pipeline will be constructed using trenchless construction methods such as auger boring/auger jack and bore, micro-tunneling, or horizontal directional drilling. Any remaining impacts will be mitigated in accordance with Table 2A of the City's Biology Guidelines and as such, the Project shall not have a significant adverse impact to the MSCP.

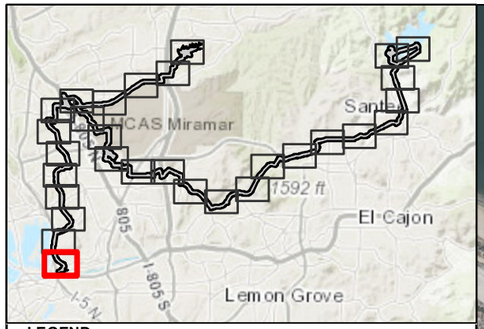
City of San Diego Vernal Pool Habitat Conservation Plan

The ~~Draft~~ Final City of San Diego ~~Vernal Pool Habitat Conservation Plan (~~VPHCP~~;~~ (City of San Diego ~~2016~~2017) encompasses 206,124 acres within the MSCP Subregional Plan area in the southwestern portion of San Diego County. However, the ~~Draft~~ Final VPHCP is a separate conservation plan for vernal pools and species not covered under the MSCP. Five plant and two crustacean species covered by the ~~Draft~~ Final VPHCP include:

- Otay Mesa mint (*Pogogyne nudiuscula*)
- San Diego mesa mint (*Pogogyne abramsii*)
- Spreading navarretia (*Navarretia fossalis*)
- San Diego button-celery (*Eryngium aristulatum* var. *parishii*)
- California Orcutt grass (*Orcuttia californica*)
- Riverside fairy shrimp (*Streptocephalus woottoni*)
- San Diego fairy shrimp (*Branchinecta sandiegonensis*)

The North City Project study area is covered under the ~~Draft~~ Final VPHCP. The covered projects under the ~~Draft~~ Final VPHCP are identified in the MHPA with a hard line preserve boundary that distinguishes between take-authorized development area and the associated conservation area.

The purpose of the ~~Draft~~ Final VPHCP is to: (1) preserve a network of vernal pool habitat in a matrix of open space; (2) protect the biodiversity of these unique wetlands; and (3) define a formal strategy for their long-term conservation, management, and monitoring (City of San Diego ~~2016~~2017). The ~~Draft~~ Final VPHCP considers a seasonally flooded depression to be a vernal pool if it includes one or more indicator species (ACOE 1997; Bauder and McMillan 1998) listed in Appendix A of the ~~Draft~~ Final VPHCP (City of San Diego ~~2016~~2017). Projects covered under the ~~Draft~~ Final VPHCP have areas delineated for both development and preservation and/or mitigation. The MHPA hard line preserve boundaries for covered projects are established after evaluation of habitat and species surveys conducted, evaluation by wildlife agencies, and consideration of how the proposed vernal pool conservation best contributes to the overall ~~Draft~~ Final VPHCP planning effort (City of San Diego ~~2016~~2017). ~~Currently, the Draft VPHCP is preliminary and has not been finalized.~~



LEGEND

- Project Study Area
- Coastal Zone Boundary

Project Pipeline Alternatives

- Morena Wastewater Forcemain and Brine/Centrate Line
- Morena Pump Station - Influent Diversion Sewers
- Morena Pump Station - Overflow Pipes

Project Facilities

- Morena Pump Station

Sensitive Plants

- *Juncus acutus ssp. leopoldii*

Jurisdictional Aquatic Resources

- Non-wetland Waters (ACOE/RWQCB/CDFW)
- Wetland or Riparian Area (ACOE/RWQCB/CDFW)

Vegetation Communities/Land Covers

- ARU, Arundo-Dominated Riparian
- CAM, Cismontane Alkali Marsh
- DEV, Urban/Developed
- DEV-CC, Developed - Concrete Channel
- DH, Disturbed Habitat
- DW, Disturbed Wetland
- EUC, Eucalyptus Woodland
- FWM, Coastal and Valley Freshwater Marsh
- HW, Herbaceous Wetland
- MFS, Mulefat Scrub
- NNV, Non-native Vegetation
- NVC, Non-vegetated Channel or Floodway
- OW, Open Water
- SWS, Southern Willow Scrub
- dSWS, disturbed Southern Willow Scrub

- Multi-Habitat Planning Area

0 500 1,000 Feet

SOURCE: City of San Diego 2016, 2017; SANDAG, 2016

FIGURE 5.4-1A

Biological Resources - Miramar Reservoir and San Vicente Reservoir Alternatives

DUDEK

Pure Water San Diego Program North City Project EIR/EIS

INTENTIONALLY LEFT BLANK

SOURCE: City of San Diego 2016, 2017; SANDAG, 2016

FIGURE 5.4-1B

Biological Resources - Miramar Reservoir and San Vicente Reservoir Alternatives

DUDEK

Pure Water San Diego Program North City Project EIR/EIS

INTENTIONALLY LEFT BLANK