

SECTION 3 LOCAL ENVIRONMENTAL SETTINGS

As stated in Section 2, the Master Plan has not attempted to describe every facility in detail, but rather describes the types of facilities needed to meet the needs of the region in the future. This Program EIR addresses the potentially significant adverse program-level impacts related to the implementation of the Master Plan. As part of this analysis, Sections 4 – 17 present the regional environmental settings of the resources potentially impacted by the Proposed Project.

This section presents the *local* environmental settings for the Proposed Project—that is, a description of the environment immediately surrounding the proposed facility site or area. These local settings are included to provide a general understanding of the environmental settings of the various projects under consideration. Detailed evaluations of specific projects, including detailed local environmental settings, will be conducted as part of the site-specific design and CEQA review. Where the local environmental setting is the same for all projects (e.g., air quality), the setting has been repeated under each project-setting for ease of readability.

3.1 HUBBARD HILL FRS – #1

3.1.1 Land Use Description

The proposed Hubbard Hill FRS would be located in Escondido, east of Ash Street and south of Hubbard Avenue, on Hubbard Hill—a prominent landmark in the city (see **Figure 2-1**). Hubbard Hill is approximately 2 miles north of the downtown area and is identified as part of the North Broadway neighborhood in the Escondido General Plan. This neighborhood is generally characterized by rural residential and agricultural land uses to the north of Hubbard Hill and suburban residential land uses to the south (SANDAG 1997). Two elementary schools, a high school and a few commercial centers are found in this neighborhood. In the immediate vicinity of Hubbard Hill and the facility site, scattered residences and mature avocado orchards are found on the north and west sides. These orchards do not appear to be actively harvested. On the southeast side of Hubbard Hill, existing suburban residential development is found. New residential development may be constructed on the east side of Hubbard Hill as grading activity is currently taking place. A communication site with various small buildings and towers is present atop Hubbard Hill. An existing vent structure owned by the Water Authority, and a single-family residence are present on the Hill approximately 100 yards east of the communication site. This facility will be connected to this existing facility via pipe.

3.1.2 Water Resources

The proposed Hubbard Hill FRS would be constructed at an elevation of 1,081 feet. The nearest drainage is an intermittent unnamed stream about 0.5 mile to the west of Hubbard Hill flowing along the urban area boundary approximately 4 miles southward through Reidy Canyon to Escondido Creek.

The Pacific shoreline at the San Elijo Lagoon outlet within the Escondido Creek hydrologic area (HA) is listed as impaired by bacteria indicators on the California impaired water bodies list (SWRCB 2003). (Refer to **Figure 5-1** for watershed boundaries.) Existing beneficial uses on Escondido Creek include municipal and domestic supply, agriculture, contact and non-contact recreation, warm and cold freshwater habitat, and wildlife habitat. Impairments to beneficial uses in the San Elijo Lagoon are due in part to sedimentation from upstream sources (San Diego County 2003a; RWQCB 1994).

There are no major water storage reservoirs downstream of the project location on Escondido Creek. The project location is within the Rincon Del Diablo Municipal Water District (SDCWA 2000).

The project site is not located within an alluvial groundwater basin.

3.1.3 Biological Resources

The site at Hubbard Hill is largely undeveloped and some remnant but highly fragmented patches of coastal sage scrub habitat exist throughout the area. The north-facing slope contains some portions of agricultural orchards and a large percentage of the south-facing slope is undeveloped due to the extreme slope and contains a significant amount of non-native grassland.

3.1.4 Traffic and Transportation

Access to the proposed Hubbard Hill FRS facility would likely be from I-15 to the North Centre City Parkway or directly from I15 to East El Norte Parkway. For the North Centre City Parkway route, vehicles would travel along North Centre City Parkway to West El Norte Parkway, to North Ash Street, and to Hubbard Avenue. Vehicles directly using the West El Norte Parkway to the project site would exit to North Ash Street.

There is no airport near the Hubbard Hill FRS project site. However, there is an Atchison, Topeka, and Santa Fe (AT&SF) Railroad spur route that ends in downtown Escondido south of the project site.

3.1.5 Noise

The area surrounding the project site is residential with no major noise sources in the area. Therefore, the noise levels at this location will reflect the residential nature of the site.

3.1.6 Air Quality

The proposed Hubbard Hill FRS project would be located in the San Diego County Air Basin (SDAB). The SDAB is under the jurisdiction of the SDAPCD. Of the six air pollutants regulated by the U.S. Environmental Protection Agency (U.S. EPA) and eight regulated by the California Air Resources Board (CARB), only one of the regulated pollutants, Particulate Matter (PM₁₀), occurs in a concentration sufficient to violate State standards. The current Federal PM₁₀

standards were met, but because the State standards have been exceeded every year from 1997 through 2002, San Diego County is designated as a nonattainment area for California Ambient Air Quality Standards (CAAQS) (CARB 2003).

3.1.7 Utilities and Public Services

The City of Escondido would provide any on-site water service to this project. San Diego Gas and Electric (SDG&E) will provide any electrical power and natural gas.

The Escondido Fire Department would provide fire services to this project site. For fire emergencies, the first responding station would be Fire Station #3, approximately 1 mile northwest of the project site. The second responding station would be Fire Station #2, approximately 1.8 miles southwest from this project site (City of Escondido 2003).

Police protection for this project site would be provided by the Escondido Police Department, with two stations approximately 2 miles south of the project site (City of Escondido 2003).

This project site is within the Escondido Union School District. There are two elementary schools and one middle school within a 1-mile radius of the proposed project site. The District is currently constructing two new elementary schools, one of which will be within a 1-mile radius of the project site. Escondido High School, part of the Escondido Union High School District, is also within a 1-mile radius of the project site.

3.1.8 Aesthetics

Hubbard Hill is a prominent landmark in Escondido that is visible from several vantage points in the city. Woodlands, including both mature avocados and other species of trees, as well as grass and shrub vegetation, characterize the relatively steep-sloped hill. Communication towers and buildings, the existing Water Authority vent structure, a few residences, and roads comprise man-made modifications to the visual setting at this site, although these modifications are obscured from many vantage points by vegetation.

3.1.9 Geology and Soils

This site is located in the Peninsular Ranges region. The site lies across the San Marcos gabbro and metasedimentary rocks (e.g., quartzite) of the Bedford Canyon formation (Deméré 1997a). This project site is not located near any known faults and the seismic hazard is low (0.2 to 0.3 fraction of gravitational acceleration [g]) over the next 50 years (Working Group on California Earthquake Probabilities [WGCEP] 1995).

The predominant soil at Hubbard Hill is the Las Posas series which consists of a well-drained, moderately deep, fine sandy loam that has a clay subsoil (U.S. Department of Agriculture [USDA] 1973). These soils are on upland areas that have slopes of 15 to 65 percent and are formed in material weathered from basic igneous rock.

3.1.10 Cultural Resources

The project site is in Escondido. Stone tools and other early artifacts associated with ancient Native Americans known as the San Dieguito people have been discovered in and around the Escondido area. The San Dieguito people occupied the Escondido region approximately 10,000 years ago. Escondido Creek and portions of present-day northern and north-central Escondido were the sites of permanent villages and campsites for the Luiseño Indians. In the nineteenth century, much of the Escondido area was part of a large Mexican land grant ranch (California Environmental Resources Evaluation System [CERES] 2003a).

There have been several small cultural resource surveys and testing of sites around the edges of this project area, but no surveys in the immediate area of this project. All surveys on record were conducted between 1977 and 1991. Eleven houses have been recorded within a 1.5-mile radius around the project site by historic building surveys in nearby developed areas. Prehistoric bedrock milling and processing sites have been reported in the area, and additional sites of this type may be present in portions of the project study area. However, many of these sites are in poor condition and others have been destroyed by residential development.

3.1.11 Public Safety and Hazardous Materials

Escondido's General Plan includes hazard maps that identify areas in the city that relates to public safety and health. These areas include steep slopes (as the degree of slope is related to flood control problems, erosion control, and landslides); flood zones; soils that constrain development in that they cannot support roadways or foundations, are unacceptable for septic systems, and are highly erodible; and fire hazards. This area of the project site is identified as not being within any flood or fire hazard zones, but is included on slope and soils hazards geotechnical maps (City of Escondido 1990).

This project site is currently undeveloped open space and there are no known hazardous materials or waste sites present.

3.1.12 Paleontological Resources

This project is located in the Peninsular Ranges region. The Peninsular Ranges Batholith formation is known to exist in this area (San Diego County 1999). This formation's composition ranges from granite to gabbro (Kennedy 1975). Because of its igneous origin, it is considered to have zero paleontological resource sensitivity and not known to contain fossils (Deméré and Walsh 1993).

3.1.13 Agricultural Resources

The Hubbard Hill FRS would be located within 0.125 mile of two types of farmland: Unique Farmland and Farmland of Local Importance (California Department of Conservation [CDC] 2003). Depending on the final project footprint, there is potential for both Unique Farmland and Farmland of Local Importance to be impacted during construction.

3.1.14 Recreation

There are no parks, recreational facilities, or designated open space areas near this project site.

3.2 SLAUGHTERHOUSE TERMINAL RESERVOIR – #2

3.2.1 Land Use Description

This facility would be located approximately 0.75 mile west of SR 67 in Slaughterhouse Canyon, approximately 1 mile north of Slaughterhouse Canyon Road, and about 4 miles north of the community of Santee (see **Figure 2-2**) (SDCWA 2002a). Slaughterhouse Canyon is a rural valley setting, featuring sparse grassland and chaparral vegetation. There is rural residential development near the confluence of Slaughterhouse Canyon and San Vicente Creek (SANDAG 1997). There is very limited land disturbance in the vicinity of the project location, other than the two sand and gravel quarries of the Slaughterhouse Canyon Mine, approximately 1 mile to the south and southeast of this site, on either side of SR 67. There are no residential or commercial land uses in the vicinity (SANDAG 1997).

3.2.2 Water Resources

The Slaughterhouse Terminal Reservoir would be located at an approximate elevation of 740 feet and runoff at the project location would drain southeast into Slaughterhouse Canyon, a headwater intermittent tributary to San Vicente Creek. The outlet of San Vicente Reservoir is San Vicente Creek, which flows southward through the Moreno Valley to the San Diego River north of Lakeside. While the project location is just to the west of San Vicente Reservoir, the watershed boundary is an approximate 1,000-foot ridge to the east of the project location. San Vicente and El Capitan Reservoirs and Lake Jennings are the major water storage reservoirs on the San Diego River upstream of the project location. This project location is not within the Water Authority service area or member agency boundary.

There are no waters within the Santee Hydrologic Subarea (HSA) identified as impaired on the California impaired water bodies list (SWRCB 2003). The following existing beneficial uses are in attainment on Slaughterhouse Canyon: industrial service supply, contact and non-contact recreation, and warm freshwater and wildlife habitat (RWQCB 1994; San Diego County 2003a).

The project site is not located within an alluvial groundwater basin.

3.2.3 Biological Resources

The predominate soil type in the vicinity of this project is the Olivenhain series which consists of well-drained, moderately deep cobbly loams that have high density of rocks and disintegrated boulders. This soil type is not very productive and a sparse to very sparse Diegan coastal sage scrub community dominates the landscape.

3.2.4 Traffic and Transportation

Roadway access to the proposed Slaughterhouse Terminal Reservoir site is limited to SR 67. This route passes through Santee to the area south of the Slaughterhouse FRS project and north to Ramona. The project area can be accessed from the south via I-8 and SR 67. Access to SR 67 to the north is from Ramona or from I-15 through Poway using County Route (S) 4 (Poway Road) or Scripps Poway Parkway. I-15 is about 8 miles west of SR 67.

Direct access to the Slaughterhouse Terminal Reservoir project site is from a locked access route directly along SR 67. This road is approximately 0.75 mile north of the Slaughterhouse Canyon turnoff. The distance traveled to the project site along this unimproved road is about 1.25 miles.

Except for Gillespie Field near El Cajon and Ramona Landing Field at Ramona, no other airports are within a 10-mile radius of the project site. Additionally, no railroad lines are located in the vicinity of the Slaughterhouse Terminal Reservoir.

3.2.5 Noise

The proposed Slaughterhouse Terminal Reservoir facility would be located in a rural undisturbed area. However, two noise sources are located sufficiently near the site to affect the noise level at the site location. These noise sources are SR 67, approximately 0.5 mile west, and the sand and gravel quarries about 0.7 mile south and 0.6 mile southeast of the proposed project site.

3.2.6 Air Quality

This project would be located in the SDAB. The SDAB is under the jurisdiction of the SDAPCD. Of the six air pollutants regulated by the U.S. EPA and eight regulated by CARB, only one of the regulated pollutants, PM₁₀, occurs in a concentration sufficient to violate State standards. The current Federal PM₁₀ standards were met, but because the State standards have been exceeded every year from 1997 through 2002, San Diego County is designated as a nonattainment area for CAAQS (CARB 2003).

3.2.7 Utilities and Public Services

The proposed Slaughterhouse Terminal Reservoir site is within an unincorporated section of San Diego County. The Water Authority would provide any on-site water service to the project site through truck delivery as necessary. SDG&E would provide any electrical power and natural gas.

The Lakeside Fire Protection District (FPD) would provide fire services to the project site. The closest responding station would be Fire Station #2, which is approximately 4 miles from the proposed project site (Lakeside FPD 2003).

The San Diego County Sheriff's Department would provide police protection for the project site. The nearest sheriff station is in Santee, approximately 5 miles south of the Slaughterhouse Terminal Reservoir site.

There are no schools within 1 mile of the project site (City of San Diego 2003a).

3.2.8 Aesthetics

This project site is within an undeveloped valley setting, featuring sparse grassland and chaparral vegetation with minimal man-made modifications to the landscape. This project site is visible from SR 67, the most prominent public vantage point in the vicinity.

3.2.9 Geology and Soils

This site is located in the Peninsular Ranges region within an area of Eocene sedimentary rocks (sandstone, shale, conglomerate, moderately to well consolidated) (California Geological Survey [CGS] 2002). This project site is not located near any known faults and the seismic hazard is low (0.2 to 0.3 g) over the next 50 years (WGCEP 1995).

Sand and gravel are mined at the Slaughterhouse Canyon Mine less than 1 mile south of this site (California Division of Mines and Geology [CDMG] 1991).

The predominant soil at the Slaughterhouse project site is the Olivenhain series (USDA 1973). The Olivenhain series consists of well-drained, moderately deep, cobbly loams that have a very cobbly clay subsoil. These soils form in old gravel alluvial material and have slopes that range from 2 to 30 percent. Olivenhain soils have moderate expansive properties, severe erodibility, low plasticity (5 to 10), a low liquid limit (15 to 30), and zero soil-slip susceptibility.

3.2.10 Cultural Resources

The proposed Slaughterhouse Terminal Reservoir site would be constructed approximately 1 mile west of the San Vicente Reservoir. The San Vicente Reservoir region is within the traditional territory of the ancient San Dieguito people and the Kumeyaay of more recent times (2,000 years ago). The Luiseño and San Pasqual Indians were still settled in permanent villages at the time of the Spanish Conquest (500 years ago) and Mexican settlement (200 years ago). Sites that are known to contain rocks or boulders with natural features that have been ascribed to female puberty rites or to fertility rituals were encountered near the San Vicente Reservoir during previous cultural resources surveys conducted for the Water Authority's projects (Ogden 1997). Much of the prehistoric and historic resources of the San Vicente region were obliterated with the construction of the dam and subsequent flooding into the reservoir in 1943 (Ogden 1997).

Approximately 25 percent of a 2.5-mile study area around the proposed Slaughterhouse Terminal Reservoir has been surveyed within portions of two block surveys, five linear surveys, and two environmental impact assessments. Prehistoric bedrock milling and processing sites have been reported in the areas surveyed, and additional sites of this type may be present in portions of the project study area. However, site density is low, many of the reported sites are in poor condition, and other reported sites have been destroyed.

3.2.11 Public Safety and Hazardous Materials

The project site is currently an undeveloped open space parcel, adjacent to the Water Authority's First Aqueduct, within Slaughterhouse Canyon. The canyon area is marked by slopes of varying

steepness and a stream corridor is present within the canyon. While the project site is not identified as being within a flood zone, the San Diego County National Pollution Discharge Elimination System (NPDES) Stormwater Permit Map identifies Slaughterhouse Canyon as an “Environmentally Sensitive” Watershed area (San Diego County 2003b).

The Lakeside FPD describes the project area as wildland, meaning that there is little development and that native vegetation predominates (Lakeside FPD 2003). The potential fire hazard is assumed to be high.

No known hazardous materials or waste sites are in the vicinity of the proposed project.

3.2.12 Paleontological Resources

This project is located in the Peninsular Ranges region. The Pomerado Conglomerate, Stadium Conglomerate, Mission Valley, Santiago Peak Volcanics and Peninsular Ranges Batholith formations are known to exist in this area (San Diego County 1999). The Pomerado Conglomerate is considered to have moderate paleontological resource sensitivity because of its unknown potential to contain fossils. The Mission Valley and Stadium Conglomerate formations have both produced fossil remains in the past and can potentially contain fossils in this project area. The Mission Valley and Stadium Conglomerate formations are considered to have moderate to high paleontological resource sensitivity. The metasedimentary portion of the Santiago Peak Volcanics formation has produced fossils in the past and is considered to have high resource sensitivity. The metavolcanic portion of the Santiago Peak Volcanics formation has marginal paleontological resource sensitivity. The Peninsular Ranges Batholith formation has zero paleontological resource sensitivity due to its igneous origin and is not known to contain fossils (Deméré and Walsh 1993).

3.2.13 Agricultural Resources

The Slaughterhouse Terminal Reservoir facility would be located within 1 mile of Grazing Land (CDC 2003).

3.2.14 Recreation

Although this project is located approximately 1 mile west of San Vicente Reservoir, operated by the City of San Diego as a park, the Slaughterhouse Terminal Reservoir project site is on private property.

3.3 NCDP FRS – #3

3.3.1 Land Use Description

This project would be located in the northern portion of San Diego County, northeast of Vista, adjacent to the Water Authority’s existing Weese WTP in the unincorporated community of Bonsall (see **Figure 2-3**) (SDCWA 2002a). The project site is located about 0.75 mile south of Gopher Canyon Road in a rural setting characterized by scattered rural residential and agricultural land uses along with large vacant/undeveloped parcels of land (SANDAG 1997).

Land disturbance in the area consists mainly of rural residential, agricultural with some existing utilities including the First Aqueduct; the NCDP, a 1 mg FRS; and the Weese WTP. The majority of the drainage for the project location is open space or undeveloped.

3.3.2 Water Resources

This project would be located at an elevation of approximately 980 feet within the Bonsall HSA which drains part of the Lower San Luis HA within the San Luis Rey Hydrologic Unit (HU) (see **Figure 5-1**) (San Diego County 2003b). Folds and faults of the Merriam Mountains trending northwestward characterize the project area.

Surface runoff from the project location would drain southwest to the South Fork of Gopher Canyon. Gopher Canyon is an intermittent tributary to the San Luis Rey River and their confluence is approximately 3.5 miles northwest of the project location. The San Luis Rey River is identified as impaired on the California impaired water bodies list for the lower 13 miles for chloride and total dissolved solids (TDS) (SWRCB 2003).

Existing beneficial designated uses for Gopher Canyon and the South Fork of Gopher Canyon include agriculture, industrial service supply, contact and non-contact recreation, and warm freshwater and wildlife habitat (RWQCB 1994; San Diego County 2003b). These two water bodies have been exempted for municipal or domestic water supply under State Board Resolution 88-63 (SWRCB 1988). The Rainbow Municipal Water District boundary encompasses the proposed NCDP FRS location. There are no significant water storage reservoirs located downstream of the project location on the San Luis Rey River (SDCWA 2000).

The project site is not located within an alluvial groundwater basin.

3.3.3 Biological Resources

The project would be constructed adjacent to the existing Weese WTP. This area is highly disturbed and would be considered Developed Lands due to the mixture of agricultural orchards and existing industrial land uses (SANDAG 1997). Native vegetation is expected to be negligible due to the high level of soil disturbance and a mixture of non-native grassland. Noxious weeds are anticipated to dominate the landscape. The overall quality of habitat is diminished due to the high amount of bare ground and, therefore, only generalists and urban-adapted wildlife species are likely to exist on the site.

3.3.4 Traffic and Transportation

General roadway access to this project site is limited to Gopher Canyon Road. Access from Gopher Canyon Road to the project site is from either Twin Oaks Valley Road or El Paseo to Silverleaf Lane.

General access to Gopher Canyon Road would be from the west via SR 76 (Mission Avenue) to S13 (East Vista Way) or from the east via the I-15 intersection at Gopher Valley Road. The distance from SR 78 to the NCDP FRS project site is approximately 4.5 miles. The distance from the I-15 interchange to the project site is about 4 miles.

No other airports or railroad lines are within a 10-mile radius of this project site.

3.3.5 Noise

The project site is in a rural area. The only major noise source near the project site is the Weese WTP, approximately 500 to 1,000 feet to the east and on the other side of a hill.

3.3.6 Air Quality

This project would be located in the SDAB. The SDAB is under the jurisdiction of the SDAPCD. Of the six air pollutants regulated by the U.S. EPA and eight regulated by CARB, only one of the regulated pollutants, PM₁₀, occurs in a concentration sufficient to violate State standards. The current Federal PM₁₀ standards were met, but because the State standards have been exceeded every year from 1997 through 2002, San Diego County is designated as a nonattainment area for CAAQS (CARB 2003).

3.3.7 Utilities and Public Services

The proposed NCDP FRS project site is in the unincorporated community of Bonsall. Rainbow Municipal Water District would provide any on-site water service. SDG&E would provide any electrical power and natural gas.

North County FPD would provide fire services to the project site. The first responding station would be Station #5, approximately 4 miles northwest of the project site (North County FPD 2003). The San Diego County Sheriff's Department would provide police protection for the project site. The Bonsall Storefront satellite office is the nearest sheriff's office (Bonsall 2003).

There are no schools within a 1-mile radius of the project site. The nearby residential developments are served by the Bonsall Union School District (City of San Diego 2003a).

3.3.8 Aesthetics

This project would be located near an existing 1 mg FRS and the Weese WTP. The project site is located in a rural setting characterized by scattered rural residential and agricultural land uses along with large vacant/undeveloped parcels of land.

3.3.9 Geology and Soils

This site is located in the Peninsular Ranges region within Mesozoic volcanic rocks. The site is not located near any known faults and the seismic hazard is low (0.2 to 0.3 g) over the next 50 years (WGCEP 1995).

The predominant soil at the North County project site is the Auld soil series (USDA 1973). The Auld series consists of well-drained clays that are underlain by metavolcanic rocks. These soils exist in upland areas and have slopes ranging from 5 to 30 percent. Auld series soils have high

expansive properties, moderate erodibility, a high plasticity index (35 to 45), a high liquid limit (50 to 60), and have soil-slip susceptibilities that are low. In a representative profile, the surface-layer is reddish brown, with neutral to mildly alkaline clay to a depth of 37 inches. The deeper layers are moderately alkaline, calcareous clay that are yellow to reddish brown. The soils may extend to a depth of about 54 inches.

3.3.10 Cultural Resources

The North County region is within the traditional territory of the ancient San Dieguito people and the Kumeyaay of more recent times (2,000 years ago). The Luiseño Indians were still settled in permanent villages at the time of the Spanish Conquest (500 years ago) and Mexican settlement (200 years ago). The Luiseños were hunters and food gatherers until the Franciscan friars at nearby Mission San Luis Rey de Francia taught them farming and other trades (Carter 2000).

The proposed NCDP FRS would be constructed on disturbed land. No prehistoric or historic artifacts are anticipated in the project area.

3.3.11 Public Safety and Hazardous Materials

This project site is within the developed envelope of the NCDP and the Weese WTP. The site is near a ridgeline, which has been leveled during previous construction. The area surrounding the project site contains slopes of varying degrees of steepness. The project site is not within any flood zone but the canyon areas to the west of the project site could convey any uncontrolled stormwater runoff from the project site to Gopher Canyon and from there onto the San Luis Rey River. Although there are agricultural crops nearby, the North County FPD identifies the area as wildland (North County FPD 2003). The project site with its surrounding native vegetation would have a fire hazard severity classification of high.

There are no known hazardous materials or waste sites present on the project site.

3.3.12 Paleontological Resources

This project is located in the Peninsular Ranges region. The Peninsular Ranges Batholith formation is known to exist in this area (San Diego County 1999a). This formation's composition ranges from granite to gabbro. Because of its igneous origin, it is considered to have zero paleontological resource sensitivity and not known to contain fossils (Deméré and Walsh 1993).

3.3.13 Agricultural Resources

The NCDP FRS would be located within 0.125 mile of Unique Farmland and Farmland of Local Importance (CDC 2003). There is an FRS currently located on this site. The construction, operation and maintenance of a second FRS would not result in a negative impact to either type of farmland.

3.3.14 Recreation

There are no parks, recreation centers, or designated open space areas near this project site. However, a radio-controlled model airplane field is located to the northwest of the project site, off of Twin Oaks Valley Road.

3.4 MISSION TRAILS FRS II – #4

3.4.1 Land Use Description

This project would be located on northwestern edge of the 5,800 acre MTRP near the existing Mission Trails FRS, just east of the residential community of Tierrasanta in the City of San Diego (see **Figure 2-4**). Land disturbance is minimal in the park. The project site is along a ridge top on the southwestern flank of Fortuna Mountain, characterized by expansive open space crossed by trails and dirt roads used primarily by park visitors. The buried Second Aqueduct crosses this portion of MTRP and includes a few vent structures and valve housings that are visible on the surface. The existing Mission Trails FRS is a buried structure that has been covered with soil and revegetated to complement the surrounding open space and natural vegetation. One small building in a fenced enclosure is the only visible feature of the existing FRS.

3.4.2 Water Resources

This project would be within the Mission San Diego HSA in the Lower San Diego HA of the San Diego HU (see **Figure 5-1**) (San Diego County 2003a). The project location is within the Mission Trails Open Space Park on the southwest flank of Fortuna Mountain in the City of San Diego. Runoff from the project area would flow into any of three unnamed intermittent drainages that drain south-southwest to the San Diego River.

The Mission Trails FRS II site is downstream of the Slaughterhouse Terminal Reservoir and the Santee HSA. There are no major water storage reservoirs downstream of the Mission Trail FRS II project location to the Pacific Ocean. Large intermittent drainages in the vicinity of the project site include the San Diego River, Oak Canyon, and Sycott Wash.

The Lower San Diego River is on the California impaired water bodies list as impaired by fecal coliform, low dissolved oxygen, phosphorus and TDS. In addition, Famosa Slough and Channel within the Mission San Diego HSA is also listed as impaired due to TDS concentrations and the Pacific Shoreline in the San Diego HU is impaired for bacteria indicators. There are no beneficial uses identified for the unnamed tributaries within MTRP (SWRCB 2003).

The project site is not located within an alluvial groundwater basin.

3.4.3 Biological Resources

The proposed Mission Trails FRS II would be constructed within the West Fortuna region of the MTRP. This subregion of the park contains a variety of vegetation communities including chaparral, riparian, grasslands, oak woodland, and Diegan coastal sage scrub. Due to the uniqueness of its large size and proximity to the San Diego metropolitan area, the MTRP is one of the largest and most diverse urban parks in the country. The diverse terrain, including mountains, canyons, and lakes, contains both open space and a number of recreational activities. Plant and wildlife species are diverse and a number of special-status plant and wildlife species occur throughout the park including the California gnatcatcher and least Bell's vireo.

3.4.4 Traffic and Transportation

The main roadway access to the project site would be from Mission Gorge Road via SR 52 to the north, SR 125 to the east, or I-8 to the south.

The most likely southern to southeastern route to the Mission Trails FRS II project would be from I-8 to SR 125 and then east on SR 52 to the Mission Gorge Road off-ramp. The western route to the site would be from I-15 to SR 52 to the Mission Gorge Road off-ramp. Direct access to the site would be from a series of unimproved maintenance roads along the existing pipeline route within the MTRP.

The Marine Corps Air Station Miramar is approximately 2 miles northwest of the project site. No railroad lines are located in the vicinity of the Mission Trails FRS II project.

3.4.5 Noise

The FRS II facility and the proposed tunnel and vent demolition sites are all within the MTRP. Due to the size of this park, the noise level will reflect a rural environment except toward the north where noise levels from SR 52 could overwhelm natural noise levels.

3.4.6 Air Quality

This project would be located in the SDAB. The SDAB is under the jurisdiction of the SDAPCD. Of the six air pollutants regulated by the U.S. EPA and eight regulated by the CARB, only one of the regulated pollutants, PM₁₀, occurs in a concentration sufficient to violate State standards. The current Federal PM₁₀ standards were met, but because the State standards have been exceeded every year from 1997 through 2002, San Diego County is designated as a nonattainment area for CAAQS (CARB 2003).

3.4.7 Utilities and Public Services

The City of San Diego Water Department would provide any on-site water service to this project site. SDG&E would provide any electrical power and natural gas.

Fire services to the project site would be provided by the City of San Diego Fire Department. The first responding station would be Fire Station #39, approximately 2.2 miles southwest from the project site (City of San Diego 2003b). Police protection for the site would be provided by

the City of San Diego Police Department. The Tierrasanta Boulevard storefront police substation is the closest station to the project site, approximately 2.1 miles to the northeast (City of San Diego 2003c).

The nearest residential development is approximately 0.5 mile to the west of the site. San Diego City Schools serve the Tierrasanta area. The nearest school is approximately 1.1 miles southwest of the project site (City of San Diego 2003a).

3.4.8 Aesthetics

This project site is located on a ridge top characterized by expansive open space with natural grass and shrub vegetation. Man-made modifications to this site include various dirt trails and roads, an existing building adjacent to the existing Mission Trails FRS, and various vent and valve housings associated with the buried Second Aqueduct. Although this project site is approximately 0.5 mile from the Tierrasanta residential neighborhood, it is obscured from view by adjacent topography.

3.4.9 Geology and Soils

This site is located in the Coastal Plains region in an area of Mesozoic volcanic and Eocene sedimentary rocks (sandstone, shale, conglomerate, moderately to well consolidated). A Quaternary fault (displacement within the last 1.6 million years) is mapped about 2 miles west of this site. This fault is part of the northernmost extension of the La Nacion Fault Zone, which is estimated to have a maximum likely quake magnitude of 6.2 to 6.7 (Deméré 1997). The seismic hazard at this location is low (0.2 to 0.3 g) over the next 50 years (WGCEP 1995).

The predominant soil at the Mission Trails project is the Redding series (USDA 1973). The Redding series consists of well drained, undulating to steep gravelly loams that have a gravelly clay subsoil and a hardpan. Redding series soils have high expansive properties, severe erodibility, low plasticity (5 to 10), a low liquid limit (15 to 30), and low to moderate soil-slip susceptibility. These soils are derived from old gravelly alluvial material and have slopes of 2 to 30 percent.

3.4.10 Cultural Resources

The Mission Trails FRS II would be located in MTRP, which marks the location where Spaniards constructed a dam across the San Diego River and linked the resulting reservoir with the Mission San Diego de Alcalá via a 6-mile aqueduct. "Old Mission Dam" was the first irrigation and domestic water system ever built by Europeans in the Far West (CERES 2003b).

Approximately 80 percent of a 4-square-mile study area centered on the project site has been investigated by previous block and linear surveys. These studies have documented a low- to moderate-density of prehistoric milling stations, artifact scatters, and isolated finds. Only four historic sites have been reported in this area, and these are located near the edges of the project study area. The area of proposed construction for the FRS is an area that has been surveyed and has low site density, while some of the proposed vent and tunnel portal construction sites are in areas of higher site density.

3.4.11 Public Safety and Hazardous Materials

This project site is located on a fairly level area along the western boundary of MTRP; however, the site is adjacent to an unnamed stream corridor, which has steep slopes and, therefore, may be subject to the City of San Diego's erosion control policies. The site is not within any known flood zone. However, it is possible that without controls, stormwater runoff from the project site could be directed toward the stream.

Based on a range of San Diego City Fire Department classifications for the Tierrasanta community, the project site's fire hazard severity classification would be high (City of San Diego 2003a).

The proposed project area is currently open space, and there is no known hazardous waste or materials present on-site. The Tierrasanta community was once used as a military training area including firing ranges. The City of San Diego suggests a possibility of the presence of unexploded ordnance in the area, which includes the project site (City of San Diego 2003d).

3.4.12 Paleontological Resources

The project is located in the Coastal Plains region. The Pomerado Conglomerate, Stadium Conglomerate, and Mission Valley formations are known to exist in this area (San Diego County 1999). The Pomerado Conglomerate is considered to have moderate paleontological resource sensitivity because of its unknown potential to contain fossils. The Stadium Conglomerate and Mission Valley formations are considered to have moderate to high paleontological resource sensitivity. These formations have both produced fossil remains in the past and may potentially contain fossils in this project area (Deméré and Walsh 1993).

3.4.13 Agricultural Resources

The Mission Trails FRS II would be located within 0.5 mile of Grazing Land (CDC 2003). There is an FRS currently located on this site; therefore, the area is currently disturbed.

3.4.14 Recreation

This project would be located in MTRP. The project site is located on a ridge top characterized by expansive open space crossed by trails and dirt roads used primarily by park visitors. A hike-in picnic area and a parking lot are planned within the project area; however, construction of the FRS will take place prior to the planned developments (Brian F. Mooney Associates 1991).

3.5 RESTORE UNTREATED WATER DELIVERY IN LMSE – #5

3.5.1 Land Use Description

This project is the conversion of the existing LMSE Pipeline and is dependent on the completion of the new pipeline described in Project #12. The LMSE is an existing pipeline starting in the

unincorporated communities of Winter Gardens and Lakeside. The pipeline is buried in road rights-of-way running south then southwest to Sweetwater Reservoir. The pipeline transits the unincorporated communities of Winter Gardens, Bostonia, Lakeside, Rancho San Diego and Spring Valley. In addition, the LMSE Pipeline also transits a “panhandle” portion of El Cajon. To accomplish the conversion, piping modifications to reconnect the line at the Lakeside Control Structure and the newly constructed Otay 14 FCF, as well as deactivation of the Otay No. 8 FCF would be required. The Lakeside Control Structure is located near the corner of Industry Road and Channel Road, Otay 14 FCF is located in open parcel south of Chase Avenue and east of Jamacha Road, and Otay No. 8 is located north of the Sweetwater Reservoir near Jamacha Boulevard (see **Figure 2-6**). This project will only be completed if Project #12 is constructed. Since no changes would occur to the LMSE Pipeline, and Otay No. 8 would be deactivated, but not removed, only settings related to the modifications at the Lakeside Control Structure and Otay 14 are discussed here.

The Lakeside Control Structure, Otay 14 FCF, and the proposed pipeline route are within the developed communities of Lakeside, Cottonwood and Rancho San Diego, which include residential, commercial, and industrial buildings with associated landscaping.

3.5.2 Water Resources

The existing LMSE extends within the Jamacha and Hillsdale HSAs of the Middle Sweetwater HA of the Sweetwater HU (see **Figure 5-1**) (San Diego County 2003a). Both the Jamacha and Hillsdale HSAs are tributaries to the Sweetwater River. Runoff associated with construction of the north-south segment of the LMSE would drain to the south to an unnamed intermittent drainage parallel to SR 54. Runoff from the southwest segment of the LMSE, flowing south through the low-lying area of Monte Vista Ranch, would drain down-gradient directly to the Sweetwater River or the Sweetwater Reservoir. The Sweetwater River flows southwesterly to the Sweetwater Reservoir, the major water storage component downstream of the project area. The LMSE project is located within the Otay Water District boundary.

There are no segments listed on the California impaired water bodies list on the Sweetwater River (SWRCB 2003). The unnamed tributary draining project area in the Hillsdale HSA has the following existing designated beneficial uses that are in attainment: municipal and domestic supply, agriculture, industrial service supply, industrial process supply, contact and non-contact recreation, and warm freshwater and wildlife habitat (RWQCB 1994; San Diego County 2003a).

The project is not located within an alluvial groundwater basin.

3.5.3 Biological Resources

The existing LMSE Pipeline is an underground pipeline that was constructed within the SR 54 right-of-way. The road right-of-way includes areas where the original vegetation has been entirely or mostly removed by development or other intensive disturbance activities, and is typically dominated by a mixture of ruderal species. Developed areas border a significant amount of the right-of-way including residential homes and commercial and industrial businesses. The landscaping in these developed areas includes ornamental trees and shrubs.

The existing Lakeside Control Structure is located on a large developed pad within an industrial area. Modifications to this facility are not anticipated to cause any impact to biological resources. The existing Otay 14 FCF is located within a small open-space tract surrounded by a cul-de-sac of single-family residential homes near East Chase Avenue and Jamacha Road. A small urban drainage exists on the western portion of this tract and a small patch of tree habitat and non-native grassland characterize the existing habitats. This suburban area should support a higher diversity of both plant and wildlife species.

3.5.4 Traffic and Transportation

The major access to this project will be Jamacha Road (SR 54). SR 54 is a major north-south commuter and local traffic route for residents in the area. Access to SR 54 will be either from SR 94 (Martin Luther King Junior Freeway) or I-8.

3.5.5 Noise

Modification activities associated with this project will occur at existing Water Authority facilities adjacent to SR 54. The noise levels at these sites will be dominated by traffic on SR 54.

3.5.6 Air Quality

This project would be located in the SDAB. The SDAB is under the jurisdiction of the SDAPCD. Of the six air pollutants regulated by the U.S. EPA and eight regulated by the CARB, only one of the regulated pollutants, PM₁₀, occurs in a concentration sufficient to violate State standards. The current Federal PM₁₀ standards were met, but because the State standards have been exceeded every year from 1997 through 2002, San Diego County is designated as a nonattainment area for CAAQS (CARB 2003).

3.5.7 Utilities and Public Services

Only the utility and public services associated with the Lakeside Control Structure and Otay 14 connecting points are discussed here.

Padre Dam Municipal Water District would provide water service for the Lakeside Control Structure connection and the Otay Water District would serve the Otay 14 connection. SDG&E would provide any electrical power and natural gas; however, no gas service requirement is anticipated.

The Lakeside Control Structure is served by the Lakeside FPD. The nearest and first responding station would be Station #1, approximately 0.5 mile southwest of the facility. The Otay 14 Structure is served by the San Miguel FPD. The closest station is approximately 1.3 miles south of the facility (Lakeside FPD 2003).

The San Diego County Sheriff's Department would provide police protection for both the Lakeside and Otay facilities as well as the pipeline. The Lakeside facility is within the Santee District of the Department's Southern Command area. The Otay facility is in the Lemon Grove District.

The Lakeside facility is served by the Lakeside Union School District. Within 1 mile of the facility there is one elementary school and one middle school located to the south of the facility. The Otay facility is within the Cajon Valley Union School District. Within a 1-mile radius of the Otay facility there is one elementary school and one middle school. Both schools are south and east of the Otay facility. All of the proposed project components are within the Grossmont Union High District. El Capitan High School is approximately 1 mile east of the Lakeside Control Structure and Valhalla High School is approximately 0.5 mile southeast of the Otay facility (City of San Diego 2003a).

3.5.8 Aesthetics

This project includes modifications to existing facilities and an existing buried pipeline within an urban area that is not visible to observers.

3.5.9 Geology and Soils

This site is located in the Peninsular Ranges region. Geology at this location is primarily Mesozoic granitic rocks of the Southern California Batholith (Deméré 1997a). A pre-Quaternary fault (no evidence of displacement within the last 1.6 million years) is mapped about 1 mile north of this site (Deméré 1997b). The seismic hazard at this location is low (0.2 to 0.3 g) over the next 50 years (WGCEP 1995).

Soils at this location consist of the Fallbrook-Vista and Cienaba-Fallbrook associations (USDA 1973). They consist of sandy loams with slopes varying from 9 to 75 percent. The soils have a low to moderate shrink-swell characteristic and are severely erodible.

3.5.10 Cultural Resources

The Encina and Carlsbad regions are within the original territory of the Luiseno people, from 1000 years ago to the present (Carter 2000). The types of sites associated with Native Americans found in the area include lithic scatters and village sites (EDAW 2002). There is also a potential for historic sites within the project area. Much of the region was once part of the pasture lands supporting the Mission San Diego de Alcalá, then a vast Mexican land grant cattle ranch called Rancho Agua Hedionda, and ultimately a strong coastal community noted for rapid growth. Though the surrounding region has a high potential for cultural resources sites, this project would be constructed within the developed footprint of the EWPCF. This project site is unlikely to possess any significant cultural resources. The location of desalinated water conveyance facilities will require careful examination for potential cultural resources, especially where they cross undisturbed areas.

3.5.11 Public Safety and Hazardous Materials

Review of the County's geohazards map indicates that no geological hazards are identified along the pipeline route (San Diego County 2003c).

The fire hazard for developed areas is lower than native vegetated wildlands. The fire hazard for these structures would be no different than that of the existing surrounding developments and is assumed to be moderate.

The Otay 14 site is within open space and no known hazardous materials or waste have been stored or used on the site.

3.5.12 Paleontological Resources

This project is located in the Peninsular Ranges region. The Peninsular Ranges Batholith formation exists in this area (San Diego County 1999). This formation's composition ranges from granite to gabbro (Kennedy 1975). Because of its igneous origin, it is considered to have zero paleontological resource sensitivity and not known to contain fossils (Deméré and Walsh 1993).

3.5.13 Agricultural Resources

This project site would be located within Urban and Built-up Land (CDC 2003).

3.5.14 Recreation

There are several unmanaged city open space areas along Jamacha Road just south of Hillsdale Road. There are no parks, recreation centers, or designated open space areas along Jamacha Road or Brabham Street.

3.6 SECOND CROSSOVER PIPELINE – #6

3.6.1 Land Use Description

The proposed Second Crossover Pipeline would extend from the unincorporated community of Twin Oaks southeast to Hubbard Hill in Escondido (see **Figure 2-7**) (SDCWA 2002a). Land uses along the proposed pipeline route include rural residential, low-density residential, agriculture, and natural open space (SANDAG 1997). The pipeline route would cross under and then parallel I-15 south of the Deer Springs Road exit. Twin Oaks has a rural character and features considerable agricultural land uses producing flowers, nursery plants, fruit and avocados. Terrain in the Twin Oaks Valley is relatively steep with prominent ridgelines and hills dotted with scattered rural residences. To the east of I-15, the pipeline route crosses scattered rural and low-density residential land uses and agricultural lands, such as avocado orchards. Residential land use density increases as the pipeline route approaches Escondido (SANDAG 1997).

3.6.2 Water Resources

The proposed Second Crossover Pipeline would extend east from the First Aqueduct within the Twin Oaks HSA of the San Marcos HA, southeast through the Merriam Mountains into the Escondido HSA of the Escondido Creek HA (See **Figure 5-1**) (San Diego County 2003a). Both HSAs are located within the Carlsbad HU. Runoff from construction of the segment that bisects the Twin Oaks HSA would drain in the general southwest direction in the Siphon Vista Canal and/or unnamed intermittent streams that are tributary to either Buena Creek or San Marcos Creek. Reidy Canyon is the only significant intermittent drainage in the Escondido HSA. Reidy Canyon, a tributary to Escondido Creek, is discussed in the Hubbard Hill FRS project description.

There are no streams within the Carlsbad HU identified as impaired on the California impaired water bodies list (SWRCB 2003). Existing designated beneficial uses of the unnamed intermittent streams tributary to San Marcos Creek include agriculture, contact and non-contact recreation, and warm freshwater and wildlife habitat (RWQCB 1994; San Diego County 2003a). Refer to the Hubbard Hill FRS - #1 project description for beneficial uses designated for Reidy Canyon.

The Crossover Pipeline is partially located within the Vallecitos Water District, the Valley Center Municipal Water District, and the Rincon Del Diablo Municipal Water District.

The project is not located within an alluvial groundwater basin.

3.6.3 Biological Resources

The existing Crossover Pipeline right-of-way includes a diverse mixture of native vegetation communities (SANDAG 1997). The valleys include orchards and nurseries. A significant amount of undisturbed and open space land is located within the Merriam Mountains. Historically, this mountain range was comprised of narrow corridors of riparian forest, woodlands and scrub along the primary drainages; grasslands along the valley bottoms; gently sloping hills transitioning into coastal sage and chaparral scrubs in the upland areas; and groves of oak woodlands within moister areas. Existing native vegetation communities primarily include upland vegetation consisting of coastal sage scrub and chaparral, smaller areas of oak woodlands and riparian forest. Non-native habitats include non-native grasslands and disturbed agricultural and developed residential areas.

3.6.4 Traffic and Transportation

I-15 and SR 78 provide the main access to the Hubbard Hill area. Access from I-15 would be to the North Centre City Parkway or directly from I-15 to East El Norte Parkway. For the North City Centre Parkway route, vehicles would travel along North Centre City Parkway to West El Norte Parkway, to North Ash Street, and to Hubbard Avenue. Vehicles using the West El Norte Parkway to the Hubbard Hill route would exit to North Ash Street. Access from SR 78 would be at the East Washington Avenue and North Ash Street intersection to Hubbard Avenue.

From Hubbard Hill, the proposed pipeline route would follow North Ash Street crossing over to Jesmond Dene Road near North Broadway. The pipeline would then parallel Jesmond Dene Road until reaching I-15. Access to the pipeline right-of-way from this location would be along Champagne Boulevard which parallels I-15 for a distance of about 1 mile.

Near the Deer Springs Road and I-15 off-ramp, the pipeline alignment could be bored under I-15 and follow Deer Springs Road for approximately 0.75 mile until going cross-country to the crossover interconnection near SR 76. Possible access routes to the pipeline along this cross-country route would be North Twin Oaks Valley Road, East Vista Way, and possibly Gopher Canyon Road. SR 76 would provide access to the interconnection point from the North, at the Twin Oaks Valley Diversion Structure.

There are no airports near the proposed project site. However, there is an AT&SF spur route that ends in downtown Escondido south of the eastern area of the proposed pipeline route.

3.6.5 Noise

The Second Crossover Pipeline extends from north Escondido at Hubbard Hill in the east to the north of Vista near SR 76 (Mission Road). The Hubbard Hill area is surrounded by single-family residents with no major noise sources in the area. Therefore, the noise levels at this location would reflect the residential nature of the area. However, as the pipeline extends from Hubbard Hill, roadways and other developmental areas (e.g., commercial and industrial sites) would provide elevated noise levels along the pipeline route. I-15 would be the major noise source as the pipeline right-of-way nears and follows this freeway. Once the proposed pipeline route leaves I-15 and precedes cross-country to the crossover junction near SR 76, the noise level would reflect the rural and sparsely inhabited noise environment of the area.

3.6.6 Air Quality

This project would be located in the SDAB. The SDAB is under the jurisdiction of the SDAPCD. Of the six air pollutants regulated by the U.S. EPA and eight regulated by the CARB, only one of the regulated pollutants, PM₁₀, occurs in a concentration sufficient to violate state standards. The current Federal PM₁₀ standards were met, but because the State standards have been exceeded every year from 1997 through 2002, San Diego County is designated as a nonattainment area for CAAQS (CARB 2003).

3.6.7 Utilities and Public Services

With the possible exception of the two connecting points, the proposed Second Crossover Pipeline would not require any on-site water services. For the Hubbard Hill connection, the Escondido Water District would provide water service and the other connection would be served by the Vallecitos Water District. SDG&E would provide any electrical power and natural gas.

The proposed pipeline route would cross service areas of the Escondido Fire Department, the San Marcos FPD, and the Deer Springs FPD (City of Escondido 2003a). Within Escondido, the fire station that would respond first to fire emergencies would be Fire Station #3, approximately 1 mile northwest of the project site. The second responding station would be Fire Station #2,

approximately 1.8 miles southwest from the proposed project site. For the project area within the County jurisdiction, fire and emergency response would be provided from either the San Marcos FPD or from Deer Springs FPD Station #2 (San Diego County 2003c).

The pipeline route crosses between Escondido and County jurisdictions. The Escondido Police Department would provide police protection within Escondido. Police headquarters and a substation are approximately 2 miles south of the Hubbard Hill connection. The San Diego County Sheriff's Department would provide police protection for the portion of the pipeline route that is within the County. Portions of the proposed project are within the San Marcos District of the Department's Northern Command area (San Diego County 2003d).

With exception of the area around the Hubbard Hill connection, there are no schools within 1 mile of the pipeline route. While the pipeline itself is within the Escondido Union High School District, the area near the pipeline route is also served by the Bonsall Union, San Marcos Unified, and Vista Unified School Districts (City of San Diego 2003a).

3.6.8 Aesthetics

The proposed pipeline route crosses both undeveloped lands and lands modified by agricultural use and residential development.

3.6.9 Geology and Soils

This site is located in the Peninsular Ranges region. Geology in this area is primarily Mesozoic granitic rocks, metasedimentary rocks (e.g., quartzite) of the Bedford Canyon formation, and localized San Marcos gabbro (Deméré 1997a). A pre-Quaternary fault (no evidence of displacement within the last 1.6 million years) is mapped about 2 miles north of this site (Deméré 1997b). The seismic hazard at this location is low (0.2 to 0.3 g) over the next 50 years (WGCEP 1995).

Stone and rock is mined less than 1 mile north of this site at the North Twin Oaks Quarry (CDMG 1991).

The soils along this pipeline route consist of Ramona-Placentia, Fallbrook-Vista, Las Posas, and Cienaba-Fallbrook associations (USDA 1973). They are mostly sandy loams on slopes varying from 9 to 75 percent. The shrink-swell behavior varies from low to high depending on specific site conditions. The erodibility is severe and some areas exhibit a low soil-slip susceptibility.

3.6.10 Cultural Resources

In the general vicinity of the proposed Second Crossover Pipeline, stone tools and other early artifacts associated with ancient Native Americans, known as the San Dieguito people, have been discovered. The San Dieguito people occupied the Escondido region approximately 10,000 years ago. Escondido Creek and portions of present-day northern and north-central Escondido were the sites of permanent villages and campsites for the Luiseño Indians. In the 19th century, much of the Escondido area was part of a large Mexican land grant ranch.

Previous investigations in the vicinity of the proposed Second Crossover Pipeline have been few in number and limited in extent. Prehistoric sites have been reported in the Twin Oaks Valley and along the southwest slopes of the Mirriam Mountains. The site density has been low in surveyed areas and the sites lack integrity and significance.

3.6.11 Public Safety and Hazardous Materials

The proposed Second Crossover Pipeline route would cross the service area of the Escondido Fire Department and the Deer Springs FPD (City of Escondido 2003b). The pipeline route would transit open space areas with native vegetation, as well as developed areas, both within the Escondido and along the I-15 corridor. The developed areas are primarily residential.

Within Escondido, the proposed pipeline would cross an area near the Hubbard Hill connection identified in the Escondido General Plan as having granitic soils; however, the County's geohazards map indicates that no geologic hazards are present. In addition, the proposed pipeline route would cross an area identified as a flood hazard in the vicinity of Jesmond Dene Road. Review of the County geohazards mapping indicates that the proposed pipeline route through the County does not cross any geological or flooding hazards (San Diego County 2003b).

While the proposed pipeline does not cross any high fire hazard zones within Escondido, portions of the pipeline route within undeveloped areas of the County have a high fire hazard classification.

Portions of the pipeline route would be within developed areas within Escondido and along the I-15 corridor where hazardous materials may have been used or stored.

3.6.12 Paleontological Resources

This project is located in the Peninsular Ranges region. The Peninsular Ranges Batholith formation is known to exist in this area (San Diego County 1999). This formation's composition ranges from granite to gabbro (Kennedy 1975). Because of its igneous origin, it is considered to have zero paleontological resource sensitivity and not known to contain fossils (Deméré and Walsh 1993).

3.6.13 Agricultural Resources

The Second Crossover Pipeline would be located within 0.125 mile of Unique Farmland and Farmland of Local Importance (CDC 2003). It would also be located within 0.25 mile of Farmland of Statewide Importance. There is a pipeline currently located along the proposed corridor for this site. This area is currently disturbed.

3.6.14 Recreation

No parks, recreational facilities, or designated open space areas are located in the vicinity of this project area.

3.7 SAN DIEGO 24/25/26 FCF – #7

3.7.1 Land Use Description

The existing FCF (5A/5B/5C) is located in the Scripps Miramar Ranch Community of the City of San Diego. The proposed San Diego 24/25/26 FCF would be constructed in the same location, just south of Lake Miramar on the south side of Scripps Lake Drive in the Scripps Miramar Ranch Community in the City of San Diego (see **Figure 2-8**) (SDCWA 2002a). Miramar Lake is an important recreational resource for city residents. Boating, fishing, walking, jogging, rollerblading, and picnicking are all popular uses of the lake and surrounding parklands. The Miramar WTP is located on the north side of Scripps Lake Drive, south of the lake to the northeast of this project site. Mixed commercial, industrial, light industrial, and office land uses are located to the west and south of the project site. Low- to medium-density residential land uses are located to the east and the Scripps Ranch Public Library is located to the west.

3.7.2 Water Resources

The proposed location for the San Diego 24/25/26 FCF is in the Miramar Reservoir HA within the Peñsaquitos HU (see **Figure 5-1**) (San Diego County 2003a). Miramar Reservoir is just to the north of the facility. This project would be constructed at an elevation of approximately 520 feet. Depending on project specific details, runoff from construction of the project may drain into the Miramar Reservoir and subsequently into Carroll Canyon, which receives outflow from the reservoir.

Miramar Reservoir is not listed on the California impaired water bodies list. However, the Pacific Ocean shoreline (Torrey Pines State Beach at Del Mar), which is in the Miramar Reservoir HA, is listed as impaired by bacteria indicators due to urban runoff/storm sewers and unknown nonpoint and point source pollution (SWRCB 2003). Existing designated beneficial uses for Miramar Reservoir include municipal and domestic supply, industrial service supply, contact and non-contact water recreation, warm freshwater and wildlife habitat, and hydropower generation. Carroll Canyon supports existing designated beneficial uses that include agriculture; industrial service supply; non-contact water recreation; warm freshwater and wildlife habitat; and rare, threatened or endangered species habitat (RWQCB 1994; San Diego County 2003a). There are no other major water storage components downstream of Miramar Reservoir until the Pacific Ocean (SDCWA 2000). Miramar Reservoir is located within the Water Authority service area or member agency boundary.

The project is not located within an alluvial groundwater basin.

3.7.3 Biological Resources

Miramar Reservoir is a very popular recreational area that is largely urbanized with some remnant but highly fragmented coastal sage scrub along the upper margins of the north, east, and southeastern property boundary.

The area proposed for construction is dominated by ornamental shrub and tree plantings that align the road and sidewalk. Additionally, a small urban stormwater detention pond is located south of the existing FCF, and is utilized by localized waterfowl, primarily mallards.

3.7.4 Traffic and Transportation

The proposed San Diego 24/25/26 FCF project site is located east of Mira Mesa and south of Lake Miramar. The main highway in the region is I-15, approximately 0.5 mile west of the project area. I-15 is a major north-south route from San Diego to the San Bernardino area. The main off-ramp from I-15 to the site is Mira Mesa Boulevard. Access to the project from Mira Mesa Boulevard would be east to Scripps Ranch Boulevard and then southbound on Scripps Ranch Boulevard to Scripps Lake Drive.

The Marine Corps Air Station Miramar is located approximately 4 miles southwest of the San Diego 24/25/26 FCF project site. No railroad lines are located in the vicinity of the project site.

3.7.5 Noise

This project would be located east of Mira Mesa, within 0.5 mile of I-15 and south of Lake Miramar. I-15 is the dominant noise source in the project area. Traffic on Scripps Lake Drive and machinery noise would provide an incremental increase in the noise environment at the site.

3.7.6 Air Quality

This project would be located in the SDAB. The SDAB is under the jurisdiction of the SDAPCD. Of the six air pollutants regulated by the U.S. EPA and eight regulated by the CARB, only one of the regulated pollutants, PM₁₀, occurs in a concentration sufficient to violate State standards. The current Federal PM₁₀ standards were met, but because the State standards have been exceeded every year from 1997 through 2002, San Diego County is designated as a nonattainment area for CAAQS (CARB 2003).

3.7.7 Utilities and Public Services

On-site water service for the proposed San Diego 24/25/26 FCF would be provided by the City of San Diego Water Department. SDG&E would provide electrical and natural gas services.

The City of San Diego Police Department would provide police services. The FCF is within the City's Northeastern Division and the nearest station is approximately 2.5 miles west of the existing FCF (City of San Diego 2003c). The City of San Diego Fire Department would provide fire service. The nearest station is Station #37, approximately 0.5 mile east of the FCF (City of San Diego 2003b).

The FCF is within the San Diego City School District. Within a 1-mile radius of the FCF there are two schools, Miramar Ranch Elementary to the east and Scripps Ranch High School located to the west (City of San Diego 2003a).

3.7.8 Aesthetics

This project site is located in a visually obscured location on a topographic bench below Scripps Lake Drive. It would be visible from a few adjacent properties from the south.

3.7.9 Geology and Soils

This site is located in the Coastal Plains region in an area of Eocene sedimentary rocks (sandstone, shale, conglomerate, moderately to well consolidated) (CGS 2003). This project site is not located near any known faults and the seismic hazard is low (0.2 to 0.3 g) during the next 50 years (Deméré 1997b; WGCEP 1995).

Soils at this site are Redding-Urban Land complex and consist of gravelly loam (USDA 1973). They are found on slopes varying from 9 to 30 percent, are highly expansive, and severely erodible.

3.7.10 Cultural Resources

This FCF project would be located within the traditional territory of the Luiseño tribe, from 1,000 years ago to the present (Carter 2000). Many of the archaeological sites for the vicinity of this project are found near lakes, creeks and rivers. The types of sites found in the area include lithic scatters and Native American village sites. There is also a potential for historic sites within the project area. This facility would replace an existing facility closely connected to the Miramar WTP; therefore, it is in a heavily disturbed area.

3.7.11 Public Safety and Hazardous Materials

A review of the City of San Diego and County geohazard maps indicates no geological or flooding hazards present in the location of the proposed San Diego 24/25/26 FCF (San Diego County 2003b).

During current or past operations, hazard materials may have been used, or stored, at the existing San Diego 5A/5B/5C FCF; however, the site is not known as a hazardous waste site.

3.7.12 Paleontological Resources

This project is located in the Coastal Plains region. The Stadium Conglomerate and Santiago Peak Volcanics formations are known to exist in this area (San Diego County 1999). The Stadium Conglomerate has produced various fossils in the past and is considered to have moderate to high paleontological resource sensitivity. Therefore, fossils may potentially exist in this area. The metasedimentary portion of the Santiago Peak Volcanics formation has produced fossils in the past and is considered to have high resource sensitivity. The metavolcanic portion of the Santiago Peak Volcanics formation has marginal paleontological resource sensitivity.

3.7.13 Agricultural Resources

This project site would be located within Urban and Built-up land (CDC 2003). No impacts to agricultural resources are anticipated due to implementation of this project.

3.7.14 Recreation

Miramar Lake is an important recreational resource for city residents. Boating, fishing, walking, jogging, rollerblading, and picnicking are all popular uses of this lake and surrounding parklands. Access to the lake is via Scripps Lake Drive, located just south of the lake.

3.8 SAN DIEGO 12 FCF EXPANSION – #8

3.8.1 Land Use Description

This project would be constructed adjacent to the existing Alvarado WTP in the La Mesa community of eastern San Diego, just south of Lake Murray (see **Figure 2-9**) (SANDAG 1997). Lake Murray comprises the southern end of MTRP and is a popular recreational resource for area residents who use the park and reservoir for walking, jogging, rollerblading, boating, fishing, and picnics. The Alvarado WTP is located at the south end of the reservoir just off Lake Murray Boulevard. The San Diego 12 FCF would be expanded within the fenced boundary of the WTP. Apart from Lake Murray and MTRP, other adjacent land uses include low- and medium-density residential communities and scattered commercial businesses to the east, west, and south.

3.8.2 Water Resources

The existing San Diego 12 FCF is in the Mission San Diego HSA within the Lower San Diego HA in the San Diego HU (see **Figure 5-1**) (San Diego County 2003a). Runoff from construction of the project at an elevation of approximately 540 feet would drain northward to Lake Murray. Reservoir outflow is through Alvarado Canyon, a tributary to the San Diego River.

Lake Murray is not identified as an impaired water body on the California impaired water bodies list (SWRCB 2003). Refer to the project description for the Mission Trails FRS II (Project #4) for additional 303(d) listed streams downstream from this project area on the San Diego River within the Lower San Diego HA.

Existing designated beneficial uses for Lake Murray include municipal and domestic supply, industrial service supply, contact and non-contact water recreation, warm and cold freshwater habitat, wildlife habitat and hydropower generation (RWQCB 1994; San Diego County 2003a).

Other than Lake Murray, there are no major water storage reservoirs located downstream of the facility area. Lake Murray is located within the City of San Diego member agency boundary (SDCWA 2000).

The project site is not located within an alluvial groundwater basin.

3.8.3 Biological Resources

The vicinity of the proposed San Diego 12 FCF Expansion is highly disturbed. Plant and wildlife resources are anticipated to be negligible. A golf course borders a large portion of the northwest and north boundary of the reservoir and some areas of remnant coastal sage scrub occur on the west and east margins of the property.

3.8.4 Traffic and Transportation

I-8 is the main regional highway south of the San Diego 12 FCF Expansion site. I-8 is a major east-west transportation route from the greater San Diego area to Arizona. Other main regional highways near the project site would be I-15, approximately 4 miles west, and SR 125 about 3 miles east. I-15 and SR 125 are north-south roadways.

Direct access to the project site from I-8 would be the Lake Murray Boulevard off-ramp. The distance from I-8 to the site is approximately 0.4 mile.

The Marine Corps Air Station Miramar is approximately 8 miles northwest of the project site. No railroad lines are located in the vicinity of the San Diego 12 FCF Expansion project.

3.8.5 Noise

This proposed facility involves the construction of a pump station on the north side of Lake Murray Boulevard, a major arterial in the area. Additionally, the project site is approximately 0.4 mile north of I-8. As a result, these two roadways are the dominant noise sources at the site and in the area of the proposed facility.

3.8.6 Air Quality

This project would be located in the SDAB. The SDAB is under the jurisdiction of the SDAPCD. Of the six air pollutants regulated by the U.S. EPA and eight regulated by the CARB, only one of the regulated pollutants, PM₁₀, occurs in a concentration sufficient to violate State standards. The current Federal PM₁₀ standards were met, but because the State standards have been exceeded every year from 1997 through 2002, San Diego County is designated as a nonattainment area for CAAQS (CARB 2003).

3.8.7 Utilities and Public Services

Any water service to the San Diego 12 FCF Expansion facility would be provided by the City of San Diego Water Department. SDG&E would provide electrical and natural gas services.

The City of San Diego Police Department would provide police services. The nearest station is approximately 2 miles north of the existing FCF (City of San Diego 2003c). The City of San Diego Fire Department would provide fire service. The nearest station is Station #31, approximately 8.5 miles west of the FCF (City of San Diego 2003b).

The area surrounding the proposed San Diego 12 FCF Expansion facility is served by both City of San Diego and La Mesa Spring Valley School Districts, as well as the Grossmont Union High School District. Within a 1-mile radius of the FCF, there are three elementary schools and one high school (City of San Diego 2003a).

3.8.8 Aesthetics

From a visual perspective, this small facility site is located in a heavily modified urban setting adjacent to an existing WTP.

3.8.9 Geology and Soils

This site is located in the Coastal Plains region. Geology at this location is primarily Eocene sedimentary rocks (sandstone, shale, conglomerate, moderately to well consolidated) (CGS 2003). A Quaternary fault (displacement within the last 1.6 million years) is mapped about 2 miles west of this site. This fault is part of the La Nacion Fault Zone, which is estimated to have a maximum likely quake magnitude of 6.2 to 6.7 (Déméré 1997b). The seismic hazard at this location is low (0.2 to 0.3 g) over the next 50 years (WGCEP 1995).

Soils at this site consist of the Redding-Urban Land and Diablo-Urban Land associations. They exist on slopes varying from 2 to 15 percent and exhibit a high shrink-swell behavior. The Diablo soils have liquid limit of 50 to 65 percent and a plasticity index of 30 to 40 percent. The soil-slip susceptibility is low (USDA 1973).

3.8.10 Cultural Resources

This proposed site is within the traditional territory of the Luiseño tribe, from 1,000 years ago to the present (Carter 2000). Many of the archaeological sites for the vicinity of this facility are found near lakes, creeks and rivers. The types of sites found in the area include lithic scatters and Native American village sites (EDAW 2002). There is also a potential that historic sites exist within the project area. The close vicinity of the MTRP may suggest a moderately high potential for the discovery of prehistoric and historic cultural resources. Though the surrounding region has a potential for cultural resources sites, the area of the proposed San Diego 12 FCF Expansion is already built-out. This highly disturbed site is not likely to contain any significant prehistoric or historic resources.

3.8.11 Public Safety and Hazardous Materials

The existing San Diego 12 FCF site is not identified on any of the City or County geohazard maps. The proposed expansion site is outside of the 100-year flood plain and Lake Murray's inundation zone (San Diego County 2003e).

During current or past operations of the existing San Diego 12 FCF, hazardous materials may have been used at the site; however, the site is not listed as a hazardous waste site.

3.8.12 Paleontological Resources

This project is located in the Coastal Plains region. The Mission Valley and Stadium Conglomerate formations are known to exist in this area (San Diego County 1999). The Stadium Conglomerate and Mission Valley formations are considered to have moderate to high paleontological resource sensitivity. These formations have both produced various fossil remains in the past and may potentially contain fossils in the facility area (Deméré and Walsh 1993).

3.8.13 Agricultural Resources

This site would be located within Urban and Built-up land (CDC 2003).

3.8.14 Recreation

Lake Murray comprises the southern end of MTRP and is a popular recreational resource for area residents who use the park and reservoir for walking, jogging, rollerblading, boating, fishing, and picnicking. The facility is located in a restricted area that does not permit recreation.

3.9 LOWER OTAY PUMP STATION – #9

3.9.1 Land Use Description

The proposed Lower Otay Pump Station would be located near the south end of Otay Reservoir, which is in a remote area near the eastern boundary of Chula Vista (see **Figure 2-10**) (SDCWA 2002a). The project site is located adjacent to the existing Lower Otay WTP at the end of Wueste Road. Lower Otay Reservoir provides recreational opportunities including boating, fishing, and picnicking. Land uses adjacent to the proposed pump station site and existing WTP are primarily undeveloped vacant lands (SANDAG 1997). The ARCO Olympic Training Center, near the western shore of the reservoir on Olympic Parkway, is located about 1 mile north of the project site and two prisons are located about 2 miles to the south of the proposed site off of Alta Road.

3.9.2 Water Resources

The Lower Otay Pump Station would be within the Otay HU at an approximate elevation of 400 feet. Runoff from construction of this project would drain northeast to the Lower Otay Reservoir in the Savage HSA of the Dulzura HA (see **Figure 5-1**) (San Diego County 2003a).

Currently, the Lower Otay Reservoir supports municipal and domestic supply, agriculture, industrial service and process supply, contact and non-contact water recreation, cold and warm freshwater habitat, and wildlife habitat designated beneficial uses. Existing beneficial uses designated for the Otay River include agriculture, non-contact recreation, warm freshwater habitat, wildlife habitat and rare, threatened or endangered species habitat (RWQCB 1994; San Diego County 2003a).

The Lower Otay Reservoir is the terminal end of the Second Aqueduct, and is the southern-most storage system within the County. At full storage capacity, the reservoir occupies approximately 1,100 surface acres and stores up to 49,500 ac-ft. There are no water storage reservoirs below the Lower Otay Reservoir on the Otay Reservoir (SDCWA 2000). The proposed facility location is within the Otay Water District boundary.

The Lower Otay Pump Station site is located at the head of the Otay Valley basin.

3.9.3 Biological Resources

The Lower Otay Reservoir is used for bass fishing and waterfowl hunting. This area of the County is largely undeveloped and is predominantly a mixture of coastal sage scrub and chaparral vegetation communities that transition into the foothills of the San Ysidro Mountains. It is important to note that the Lower Otay Reservoir is designated as an “out parcel” of the Otay Ranch segment of the Multiple Species Conservation Program (MSCP) (San Diego County 1997).

3.9.4 Traffic and Transportation

General roadway access to the proposed Lower Otay Pump Station is limited to the north via Telegraph Canyon Road/Otay Lakes Road or Olympic Parkway to Wueste Road. Wueste Road circumnavigates the western, southern, and eastern sides of the reservoir. The major highway nearest the proposed facility site is I-805 or Jacob Dekema Freeway, approximately 5.5 miles to the west.

An extension of SR 125 is under construction approximately 2 miles west of the proposed site. Completion of the SR 125 extension is anticipated some time in 2004. This extension would likely provide better access to the site than SR 905 or I-805.

The Brown Field Municipal Airport is located approximately 3 miles southwest of the Lower Otay Pump Station and the Aeropuerto de Tijuana is located approximately 4 miles southwest of the proposed project site in Mexico (San Diego International Airport 2003). No railroad lines are located in the vicinity of the proposed site.

3.9.5 Noise

The major noise sources in the area would be Brown Field Municipal Airport and Aeropuerto de Tijuana, approximately 3 and 4 miles, respectively, from the proposed site. The daytime noise level in this area would be dependent on the noise from these airports over the general rural noise levels of 35 to 40 decibels on the A-weighted scale (dBA) (San Diego County 1980).

3.9.6 Air Quality

This project would be located in the SDAB. The SDAB is under the jurisdiction of the SDAPCD. Of the six air pollutants regulated by the U.S. EPA and eight regulated by the CARB, only one of the regulated pollutants, PM₁₀, occurs in a concentration sufficient to violate State

standards. The current Federal PM_{10} standards were met, but because the State standards have been exceeded every year from 1997 through 2002, San Diego County is designated as a nonattainment area for CAAQS (CARB 2003).

3.9.7 Utilities and Public Services

The Lower Otay Reservoir is owned and operated by the City of San Diego Water Department. However, the area along the west side of the reservoir is in Chula Vista and the remaining surrounding area is unincorporated County. While the proposed pump station would be within Chula Vista's jurisdiction, any new associated facilities could be constructed within the jurisdiction of either Chula Vista or San Diego County. The City of San Diego Water Department would provide any on-site water service. SDG&E would provide electrical and natural gas services.

With the exception of the western side of the reservoir, which is Chula Vista, police services would be provided by the San Diego Sheriff's Department (San Diego County 2003d). The nearest station is the Imperial Beach Substation in Imperial Beach. In addition, the San Diego Municipal Code provides authority for enforcement by Water Department employees. Rangers have the authority to issue citations. Ranger enforcement emphasis is on boating safety and Fish and Game Code violations. For that portion along the western shore of the reservoir police protection would be provided by the Chula Vista Police Department (San Diego County 2003c). Fire protection would be provided by Chula Vista. The closest station is Station #4, approximately 1.8 miles west of the project site.

The area surrounding the proposed pump station is served by the San Ysidro School District and by the Sweetwater Union High School District. There are no schools within a 1-mile radius of the proposed pump station (City of San Diego 2002a).

3.9.8 Aesthetics

From a visual perspective, this project site is located adjacent to an existing WTP. This small project facility may be visible to boaters on Lower Otay Reservoir and a limited number of recreational users in this remote area.

3.9.9 Geology and Soils

This site is located at the upper end of Otay Valley in the Coastal Plains region. Quaternary alluvium, sandstone, shale, conglomerate, and granitic basement rocks are all mapped in this area (CGS 2002). A pre-Quaternary fault is mapped less than 1 mile south of this site, and the La Nacion Fault zone runs about 4 miles to the west (Deméré 1997b). The seismic hazard at this location is low (0.2 to 0.3 g) over the next 50 years (WGCEP 1995).

Soils at this site are mostly Huerhuero consisting of clay and sandy loams on slopes varying from 9 to 30 percent (USDA 1973). They have a high shrink-swell behavior and are severely erodible.

3.9.10 Cultural Resources

The proposed Lower Otay Pump Station site is within the traditional territory of the Luiseño tribe, from 1,000 years ago to the present (Carter 2000). Many of the archaeological sites in the vicinity of this project are found near lakes, creeks and rivers. The types of sites found in the area include lithic scatters and Native American village sites. There is also a potential for historic sites within the area (EDAW 2002). The western side of the project area has been investigated by several small block surveys, crossed by linear surveys, and included within planning studies. These studies have documented a moderately high density of small cultural resource sites and isolates. However, except for the historic water filtration plant, most of the sites recorded in the proposed project area have been isolated finds or small sites that have not been recommended as potentially significant.

3.9.11 Public Safety and Hazardous Materials

The project site is not identified on any of the City or County geohazard maps and the site is outside of the 100-year flood plain and Lower Otay Reservoir inundation zone (San Diego County 2003e).

The proposed pump station site is currently in open space land and no known hazardous materials have been used or stored at the site.

3.9.12 Paleontological Resources

This project is located in the Coastal Plains region. Otay and Santiago Peak Metavolcanics formations are known to exist in the area (San Diego County 1999). The Otay formation has produced fossil remains in the past and is considered to have moderate to high paleontological resource sensitivity for the lower gritstone and the upper sandstone portions, respectively. The metasedimentary portion of the Santiago Peak Volcanics formation has produced fossils in the past and is considered to have high resource sensitivity. The metavolcanic portion of the Santiago Peak Volcanics formation has marginal paleontological resource sensitivity (Deméré and Walsh 1993).

3.9.13 Agricultural Resources

The Lower Otay Pump Station would be located within 0.125 mile of Grazing Land (CDC 2003).

3.9.14 Recreation

The proposed Lower Otay Pump Station would be located near the south end of Lower Otay Reservoir. The Lower Otay Reservoir is noted for its bass fishing. Waterfowl hunting, boating, and picnicking are also popular recreational activities. Access to Lower Otay reservoir is via Wueste Road.

3.10 CONVERT PIPELINE 3 TO UNTREATED WATER FROM CROSSOVER TO MIRAMAR – #10

3.10.1 Land Use Description

This project would be located on vacant land just west of I-15 and south of Mercy Road in the Mira Mesa community of San Diego (see **Figure 2-10**) (SDCWA 2002a). Existing Water Authority vent structures are present at this site. This project concerns only modifications to the Twin Oaks Valley Diversion Structure and the Miramar Vents because the rehabilitation of Pipelines 3 and 4 is part of the current CIP. The Twin Oaks Valley Diversion Structure is located in an unincorporated section of San Diego County east of Vista. The structure is near the intersection of Twin Oaks Valley Road and Calle De Cristo. The Miramar Vents are located south of Mercy Road in the community of Miramar Ranch. There are low- to-medium density residential land uses located to the north and west of this project site and medium-density residential land uses on Mercy Road at I-15 to the northeast (SANDAG 1997).

3.10.2 Water Resources

The Miramar Vents are located at an elevation of 820 feet at the watershed boundary of the Poway and Miramar Reservoir HSAs within the Peñsaquitos HU (see **Figure 5-1**) (San Diego County 2003a). Drainage from construction of the project would most likely occur to the west into an unnamed intermittent tributary to Los Peñsaquitos Creek. If runoff did occur to the northeast, it would drain in intermittent streams to Cypress Canyon then to Los Peñsaquitos Creek. Depending on the actual location of land disturbance, runoff may also occur to the southwest to Carroll Canyon, the intermittent channel that receives outflow from Miramar Reservoir.

Downstream of the Miramar Vents area, the Los Peñsaquitos Lagoon is listed as impaired for sedimentation and siltation on the California impaired water bodies list from nonpoint and point source pollution (SWRCB 2003). Other listed impaired water bodies for the Miramar Reservoir HSA were previously discussed for the San Diego 24/25/26 FCF (see Project #7).

Existing beneficial uses designated for Los Peñsaquitos Creek include agriculture, industrial service supply, non-contact recreation, and warm freshwater and wildlife habitat. Cypress Canyon supports the same designated beneficial uses of Los Peñsaquitos Creek with the exception of the industrial service supply (RWQCB 1994; San Diego County 2003a). Designated beneficial uses for Carroll Canyon were discussed for the San Diego 24/25/26 FCF project.

There are no major water storage reservoirs downstream of the Miramar Vents area on Los Peñsaquitos Creek or on Carroll Canyon (SDCWA 2000).

The construction area of the Twin Oaks Valley Diversion Structure project would be at an approximate elevation of 1,020 feet within the Twin Oaks HSA of the San Marcos HA within the Carlsbad HU (see **Figure 5-1**) (San Diego County 2003a). Construction runoff would drain in the general southwest direction in unnamed intermittent streams that are tributary to Buena Creek.

There are no streams identified as impaired on the California impaired water bodies list within the Carlsbad HU (SWRCB 2003). Existing designated beneficial uses downstream of the project location on Buena Creek include municipal and industrial supply, agriculture, contact and non-contact recreation, and warm freshwater and wildlife habitat (RWQCB 1994; San Diego County 2003a).

There are no major water storage reservoirs downstream of the Twin Oaks Valley Diversion Structure. The Diversion Structure would be located within the Vallecitos Water District (SDCWA 2000).

No alluvial groundwater basins are present at either of the sites.

3.10.3 Biological Resources

Activities associated with the proposed facility would occur within designated rights-of-way or on existing components, so no new disturbance is anticipated. Both the Twin Oaks Valley Diversion Structure and the Miramar Vents are located within an urban developed area where non-native grasslands occur.

3.10.4 Traffic and Transportation

Construction of the proposed Miramar Vents would be located in northeast Mira Mesa and northeast of Lake Miramar. The main highway in the region is I-15, approximately 0.25 mile east of the proposed project area. I-15 is a major north-south route from San Diego to the San Bernardino area.

The Miramar site can be reached from two I-15 exits. The northern approach is at the Scripps Poway Parkway/Mercy Road off-ramp. Access to the site would be west on Mercy Road. The facility would be accessed either by an unimproved road from Mercy Road or from an unimproved road from Black Mountain Road, which is a north-south roadway west of the site. The southern approach would be the Mira Mesa Boulevard off-ramp. Project related traffic would proceed west on Mira Mesa Boulevard and north on Black Mountain Road. Traffic would then proceed to the proposed site on an unimproved road east from Black Mountain Road.

The Marine Corps Air Station Miramar is located approximately 5 miles southwest of the proposed site. No railroad lines are located in the vicinity of this project.

General roadway access to the Twin Oaks Valley Diversion Structure site is from I-15 to the east of the site. Access from I-15 would be either from Gopher Canyon Road to the north or Deer Springs Road/Mountain Meadow Road (S12) to the south of the site. Deer Springs Road is west of I-15, and Mountain Meadow Road is to the east of I-15.

Access from I-15 is west on Gopher Canyon to Twin Oaks Valley Road. Project related traffic would turn south onto Twin Oaks Valley Road and travel approximately 3 miles to the Satin Doll Lane. Satin Doll Lane provides direct access to the project site. An alternative route to the

Gopher Canyon Road would be from the west via SR 76 (Mission Avenue) to S13 (East Vista Way). The distance from SR 78 to the Twin Oaks Valley Road turnoff is approximately 4 miles.

Access from I-15 to the south would be at the Deer Springs Road intersection. Project traffic would proceed west on Deer Springs Road until reaching Twin Oaks Valley Road, a distance of almost 2 miles. Traffic would then turn north onto Twin Oaks Valley Road and travel approximately 3.5 miles to Satin Doll Lane and the Twin Oaks Valley Diversion Structure site.

No airports or railroad lines are within a 10-mile radius of this site.

3.10.5 Noise

The Miramar Vents would be located in northeastern Mira Mesa within 0.25 mile of I-15 and northwest of Lake Miramar. I-15 will be the dominant noise source in this area.

The Twin Oaks Valley Diversion Structure would be located to the north of San Marcos and to the east of the City of Vista in a general rural environment. A commercial/industrial area is located approximately 0.5 mile to the southeast of this site, and a residential area is located about 0.75 mile to the southwest. Activities in the commercial/industrial area would be the most likely noise source in the area that could influence the general rural noise environment at this site.

3.10.6 Air Quality

This project would be located in the SDAB. The SDAB is under the jurisdiction of the SDAPCD. Of the six air pollutants regulated by the U.S. EPA and eight regulated by the CARB, only one of the regulated pollutants, PM₁₀, occurs in a concentration sufficient to violate State standards. The current Federal PM₁₀ standards were met, but because the State standards have been exceeded every year from 1997 through 2002, San Diego County is designated as a nonattainment area for CAAQS (CARB 2003).

3.10.7 Utilities and Public Services

This project would not require any on-site water services. Vallecitos Water District would provide water service for the Twin Oaks Valley connection and the City of San Diego Water District would serve the Miramar Vents. SDG&E would provide any electrical power and natural gas; however, no gas service requirement is anticipated.

The San Diego County Sheriff's Department would provide police protection for the Twin Oaks Valley facility (San Diego County 2003d). The City of San Diego Police Department would provide police services to the Miramar Vent (City of San Diego 2003c).

The Deer Springs FPD provides fire service to the Twin Oaks Valley Diversion Structure from Station #2, approximately 3.5 miles south of the site (Gregg 2003). The City of San Diego Fire Department provides fire service to the Miramar Vents. The nearest station is Station #40, approximately 1.5 miles north of the site (City of San Diego 2003b).

The Escondido Union School District and the Escondido Union High School District serve the area around the Twin Oaks Valley facility, but no schools are within a 1-mile radius of the facility. The area around the Miramar Vents are served by the San Diego City School District to the south and by the Poway Unified School District to the north. Only one school is within a 1-mile radius of the FCF: Poway's Canyon View Elementary which is north of the vents (City of San Diego 2003a).

3.10.8 Aesthetics

The Twin Oaks Valley Diversion Structure is located in a rural setting that has been modified with Vallecitos Water District facilities and Water Authority facilities and structures associated with the Twin Oaks Valley Diversion Structure FRS and the Second Aqueduct.

The Miramar Vents are located on Miramar Hill, a prominent landmark in the Mira Mesa community. Man-made disturbance to this hill includes roads and a few existing Water Authority vent structures. The project site is visible to both nearby residential areas and motorists on I-15.

3.10.9 Geology and Soils

The Miramar Vents are located in the Coastal Plains region. Geology at this location is primarily Mesozoic volcanics and Eocene sedimentary rocks (sandstone, shale, conglomerate, moderately to well consolidated) (CGS 2002). A Quaternary fault is mapped about 2.5 miles west of this site, and the seismic hazard is low (0.2 to 0.3 g) over the next 50 years (Deméré 1997b; WGCEP 1995).

Soils along the pipeline route consist of the Ramona-Placentia, Fallbrook-Vista, Las Posas, Cienaba-Fallbrook, and Exchequer associations (USDA 1973). They consist mostly of sandy and clayey loams on slopes varying from 2 to 75 percent. These soils have a low to high shrink-swell behavior, depending on specific site conditions, and are severely erodible. Some areas exhibit high soil-slip susceptibility.

The Twin Oaks Valley Diversion Structure is located in the Peninsular Ranges region. Geology in this location consists of Mesozoic granitic rocks, metasedimentary rocks (e.g., quartzite) of the Bedford Canyon formation, and localized San Marcos gabbro (CGS 2002). A pre-Quaternary fault (no evidence of displacement within the last 1.6 million years) is mapped about 2 miles north of this site (Deméré 1997). The seismic hazard at this location is low (0.2 to 0.3 g) over the next 50 years (WGCEP 1995).

This project passes near the North Twin Oaks Quarry where stone and rock are mined (CDMG 1991).

Las Posas soils exist at this site on slopes of 9 to 65 percent. The soils consist of a fine sandy loam that have a high shrink-swell behavior and moderate to severe erodibility. The soil liquid limit and plasticity index are high for these soils (USDA 1973).

3.10.10 Cultural Resources

This project is within the traditional territory of the Luiseño tribe, from 1,000 years ago to the present (Carter 2000). Many of the archaeological sites in the vicinity of this project are found near lakes, creeks and rivers. The types of sites found in the area include lithic scatters and Native American village sites. There is also a potential for historic sites within the area. Though the surrounding region has a potential for cultural resources sites, activities associated with the project would likely occur within a designated right-of-way or on existing components, so new disturbance is not anticipated. Both the Twin Oaks Valley Diversion Structure and the Miramar Vent connection are located within an urban developed area. These heavily disturbed areas are not likely to contain any significant prehistoric or historic resources.

3.10.11 Public Safety and Hazardous Materials

Although it is within a developed parcel, the Twin Oaks Valley Diversion Structure is surrounded by undeveloped open space. The project site is not within any flood zone, or any identified geohazard zone. As a wildland area with surrounding native vegetation, the fire hazard severity classification around this structure would be high (San Diego County 2003e).

The Miramar Vents are within an open space corridor of the Mira Mesa/Miramar Ranch North community of San Diego. The open space area is a mixture of scrub landscape and native vegetation (San Diego County 2003e). Based on the vegetation mix and the regional climate, fire hazard for this area would be high.

During current or past operations of the Twin Oaks Valley Diversion Structure and the Miramar Vents, hazardous materials may have been used. However, neither of these sites is listed as a hazardous waste site. In addition, existing residential, commercial and industrial activities surrounding the project area may use or store hazardous materials, or have used or stored hazardous materials in the past.

3.10.12 Paleontological Resources

The Miramar Vents are located in the Coastal Plains region. Santiago Peak Volcanics formation is known to exist in this area (San Diego County 1999). The metasedimentary portion of the Santiago Peak Volcanics formation has produced fossils in the past and is considered to have high resource sensitivity. The metavolcanic portion of the Santiago Peak Volcanics formation has marginal paleontological resource sensitivity.

The Twin Oaks Valley Diversion Structure is located in the Peninsular Ranges region. The Peninsular Ranges Batholith formation is known to exist in this project area (San Diego County 1999). This formation's composition ranges from granite to gabbro. Because of its igneous origin, it is considered to have zero paleontological resource sensitivity and not known to contain fossils (Deméré and Walsh 1993).

3.10.13 Agricultural Resources

The Miramar vents are located in Grazing Land, and surrounded by Urban and Built-up Land (CDC 2003). The Twin Oaks Valley facility is located within Farmland of Local Importance, with Unique Farmland and Farmland of Statewide Importance in the immediate vicinity.

3.10.14 Recreation

Some of the northernmost Miramar Vents are adjacent to Canyon Hills Resource – Based Community Park, owned by the City of San Diego. Ridgewood Park is located approximately 1.5 miles to the northeast of the vents. There are no parks, recreation centers, or designated open space areas located near the Twin Oaks Valley Diversion Structure site.

3.11 PADRE DAM PUMP STATION EXPANSION – #11

3.11.1 Land Use Description

This project would be located in the unincorporated community of Lakeside to the west of Lake Jennings near the intersection of Lake Jennings Park Road and El Monte Road at the existing Padre Dam Pump Station (see **Figure 2-5**) (SDCWA 2002a). Adjacent land uses consist of a large electrical substation immediately to the east, low- to medium-density residential development to the west along Lake Jennings Park Road, a small commercial center at the northwest corner of Lake Jennings Park Road and El Monte Road, an aggregate mine and sand pit less than 1 mile to the north, and undeveloped vacant land to the east of the electrical substation (SANDAG 1997).

3.11.2 Water Resources

This pump station expansion project would be constructed at an elevation of approximately 480 feet within the Santee HSA of the Lower San Diego HA in the San Diego HU (see **Figure 5-1**) (San Diego County 2003a). Runoff from the project construction would drain north to the San Diego River.

There are no California impaired water bodies listed downstream of the project location in the Santee HSA (SWRCB 2003). Existing beneficial uses on the San Diego River include municipal and domestic supply, agriculture, industrial service and process supply, contact and non-contact water recreation, warm and cold freshwater habitat and wildlife habitat (RWQCB 1994; San Diego County 2003a).

There are no major water storage reservoirs downstream of the project area on the main stem of the San Diego River (SDCWA 2000). The project location is within the Padre Dam Municipal Water District.

3.11.3 Biological Resources

This project would be within an area dominated by residential and commercial development. This general area is highly disturbed and does not appear to contain any remnant native vegetation. Wildlife species occurring within this area would be primarily generalists and vegetation would most likely consist of ruderal species.

3.11.4 Traffic and Transportation

Major access roads to this project would be I-8 to the south or SR 67 to the northwest. Lake Jennings Park Road is a northwest to southwest arterial highway that connects I-8 and SR 67. This project site would be at the intersection of Lake Jennings Park Road and El Monte Road.

The Padre Dam Pump Station Expansion site is located in the San Diego River Valley Basin.

Except for Gillespie Field near El Cajon, no other airports are within a 10-mile radius of the proposed site. Additionally, no railroad lines are located in the vicinity of this project.

3.11.5 Noise

This project would be adjacent to Lake Jennings Park Road. The area to the north of the site is undeveloped, but the southern portion is residential. Consequently, the major noise source in the area is traffic along Lake Jennings Park Road.

3.11.6 Air Quality

This project would be located in the SDAB. The SDAB is under the jurisdiction of the SDAPCD. Of the six air pollutants regulated by the U.S. EPA and eight regulated by the CARB, only one of the regulated pollutants, PM₁₀, occurs in a concentration sufficient to violate State standards. The current Federal PM₁₀ standards were met, but because the State standards have been exceeded every year from 1997 through 2002, San Diego County is designated as a nonattainment area for CAAQS (CARB 2003).

3.11.7 Utilities and Public Services

Any on-site water service to this project would be provided by the Helix Water District. SDG&E would provide electrical and natural gas services.

The new Padre Dam Pump Station would be served by the Lakeside FPD (Lakeside FPD 2003). The closest and first responding station would be Station #3, approximately 1.5 miles southeast of the facility. The San Diego County Sheriff's Department provides police protection for the Padre Dam Pump Station (San Diego County 2003d).

The area surrounding the pump station is served by the Lakeside Union School District for elementary and middle schools and by the Grossmont Union High District. Within 1 mile of the facility are Lido Park Elementary located to the west and Tierra Del Sol Middle School located

to the southwest of the facility. In addition, El Capitan High School is approximately 1 mile west of the existing pump station (City of San Diego 2003a).

3.11.8 Aesthetics

This project would be located at the existing Padre Dam Pump Station. The project would be visible to adjacent residential development and motorists on Lake Jennings Park Road.

3.11.9 Geology and Soils

This project site is located in the Peninsular Ranges region. Geology at this location consists of pre-Cenozoic metasedimentary and metavolcanic rocks that may include slate, quartzite, hornfels, chert, phyllite, schist, and gneiss (Deméré 1997a). This site is not located near any known faults and the seismic hazard is low (0.2 to 0.3 g) over the next 50 years (Deméré 1997b; WGCEP 1995). Sand and gravel is mined at the Mission Valley Mine and the Lakeside Sand Pit less than 1 mile north of these sites.

Placentia and Huerhuero are the predominant soils at this site (USDA 1973). They consist of sandy loams and exist on 5 to 9 percent slopes. The shrink-swell behavior is high and the erodibility is severe.

3.11.10 Cultural Resources

This project is within the traditional territory of the Luiseño tribe, from 1,000 years ago to the present (Carter 2000). Many of the archaeological sites for the vicinity of this proposed facility are found near lakes, creeks and rivers. The types of sites found in the area include lithic scatters and Native American village sites (EDAW 2002). There is also a potential for historic sites to exist within the project area. Though the surrounding region has a potential for cultural resources sites, this project is an expansion of an existing facility immediately adjacent to a heavily trafficked road. This heavily disturbed area is not likely to contain any significant prehistoric or historic resources.

3.11.11 Public Safety and Hazardous Materials

This project site is not identified on any of the City or County geohazard maps and the site is outside of the 100-year flood plain, and the Lake Jennings Inundation Zone (San Diego County 2003e).

During current or past operations of the existing pump station, hazardous materials may have been used. However, it is not listed as a hazardous waste site. In addition, existing residential, commercial and industrial activities surrounding the project area may use or store hazardous materials or may have used or stored hazardous materials in the past.

3.11.12 Paleontological Resources

As stated above, this project is located in the Peninsular Ranges region. The Lusardi, Santiago Peak Volcanics, and Peninsular Ranges Batholith formations are known to exist in this area (San Diego County 1999). The Lusardi formation is considered to have moderate paleontological resource sensitivity because of its unknown potential to contain fossils. The metasedimentary portion of the Santiago Peak Volcanics formation has produced fossils in the past and is considered to have high resource sensitivity. The metavolcanic portion of the Santiago Peak Volcanics formation has marginal paleontological resource sensitivity.

The Peninsular Ranges Batholith formation's composition ranges from granite to gabbro (Kennedy 1975). Because of its igneous origin, it is considered to have zero paleontological resource sensitivity and not known to contain fossils (Deméré and Walsh 1993).

3.11.13 Agricultural Resources

This project site would be located within 1 mile of Grazing Land, but the project footprint is located in Urban and Built-up Land (CDC 2003).

3.11.14 Recreation

Although this project is located approximately 0.5 mile west of Lake Jennings Park, operated by Lakeside, this project site is on private property.

3.12 PIPELINE FROM OTAY FCF 14 TO REGULATORY RESERVOIR – #12

3.12.1 Land Use Description

This project is a new pipeline with a route parallel to a segment of the existing LMSE Pipeline. The proposed new pipeline route would extend through the unincorporated communities of Cottonwood and Rancho San Diego south of El Cajon and east of La Mesa. The existing LMSE Pipeline was buried within the Jamacha Road (SR 54) right-of-way (SDCWA 2002a). The new pipeline would begin at the Otay 14 FCF near the intersection of Jamacha Road and Chase Avenue, continue south along Jamacha Road, turn west along Brabham Road and connect again with Jamacha Road, ending at the Regulatory Reservoir Complex just south of Fury Lane near the Cuyamaca College in the community of Rancho San Diego (see **Figure 2-6**). Land uses along Jamacha Road include various low- to medium-density residential developments and commercial businesses, some vacant lands, and an aggregate mining and cement batching operation located on the west side of Jamacha Road just south of Hillsdale Avenue (SANDAG 1997). Along Brabham Street, medium-density residential land uses are found along the north side of the street, while the Rancho San Diego Public Library and Valhalla High School are located on its south side (San Diego County 2001).

3.12.2 Water Resources

This proposed pipeline would be at an approximate elevation of 520 feet in the Hillsdale HSA within the Middle Sweetwater HA of the Sweetwater HU (see **Figure 5-1**) (San Diego County 2003a). Runoff from project construction would drain southwest to an unnamed intermittent tributary to the Sweetwater Reservoir.

There are no segments on the Sweetwater River listed as impaired on the California impaired water bodies list (SWRCB 2003). The unnamed tributary draining the project area in the Hillsdale HSA has the following existing designated beneficial uses that are in attainment: municipal and domestic supply, agriculture, industrial service supply, industrial process supply, contact and non-contact recreation, and warm freshwater and wildlife habitat (RWQCB 1994; San Diego County 2003a).

As discussed for Project #5, the Sweetwater River flows southwest to the Sweetwater Reservoir, the major water storage component downstream of the project area. This project is within the Otay Water District boundary (SDCWA 2000).

This project site is not located within an alluvial groundwater basin.

3.12.3 Biological Resources

The existing LMSE Pipeline is an underground pipeline that was constructed within the SR 54 right-of-way. The road right-of-way in the segment where Project #12 would be constructed includes areas where the original vegetation has been entirely or mostly removed by development or other intensive disturbance activities, and is typically dominated by a mixture of ruderal species. Developed areas border a significant amount of the right-of-way including residential homes and commercial and industrial businesses (SANDAG 1997). The landscaping in these developed areas includes ornamental trees and shrubs. A large, mostly undeveloped hill west of the proposed site is an open space area that may retain some degree of native but highly fragmented vegetation communities.

The existing Otay 14 FCF is located within a small open-space tract surrounded by a cul-de-sac of single-family residential homes near East Chase Avenue and Jamacha Road. A small urban drainage exists on the western portion of this tract and a small patch of tree habitat and non-native grassland characterize the existing habitats. This suburban area should support a higher diversity of both plant and wildlife species.

3.12.4 Traffic and Transportation

The major southern and northern access to this project site would be SR 54 (South Bay Freeway/Jamacha Road). From the south, project related traffic would continue north on SR 54 until it reaches East Chase Avenue. At East Chase Avenue, traffic would turn east and then south onto Fair Glen Road. From the north, traffic would continue south and turn left onto East Chase Avenue and south onto Fair Glen Road. SR 54 can also be accessed from the south by using SR 94 (Martin Luther King Freeway). Northern access to SR 54 would be from I-8.

The Gillespie Field Airport is located approximately 3 to 6 miles north of this project site. No railroad lines are located in the vicinity of this project site.

3.12.5 Noise

This project would be located near a developed area in southeastern El Cajon in a residential and commercial area. The major noise source would be vehicle traffic on Jamacha Road, a major roadway in the area. This roadway is within a few hundred feet of Project #12.

3.12.6 Air Quality

This project would be located in the SDAB. The SDAB is under the jurisdiction of the SDAPCD. Of the six air pollutants regulated by the U.S. EPA and eight regulated by the CARB, only one of the regulated pollutants, PM₁₀, occurs in a concentration sufficient to violate State standards. The current Federal PM₁₀ standards were met, but because the State standards have been exceeded every year from 1997 through 2002, San Diego County is designated as a nonattainment area for CAAQS (CARB 2003).

3.12.7 Utilities and Public Services

The proposed pipeline would not require any on-site water services. Any on-site water service for the Otay 14 connection would be provided by the Otay Water District. SDG&E would provide any electrical power and natural gas; however, no gas service requirement is anticipated.

The Otay 14 facility and the pipeline would be served by the San Miguel FPD. The closest station would be Station #22, approximately 1.3 miles south of the Otay facility, with the pipeline route coming within a 0.1 mile of the station (San Diego County 2003c). The San Diego County Sheriff's Department (Lemon Grove District) would provide police protection for the pipeline (San Diego County 2003d).

The pipeline route is within the Cajon Valley Union School District. Within a 1-mile radius of the Otay facility there is one elementary and one middle school. Both schools are south and east of the Otay facility. Some project components are within the Grossmont Union High District; Valhalla High School is approximately 0.5 mile southeast of the Otay facility (City of San Diego 2003a).

3.12.8 Aesthetics

This project would feature a buried pipeline within an urban area along a route that would not be visible to observers following its completion.

3.12.9 Geology and Soils

This site is located in the Peninsular Ranges region (Deméré 1997a). Geology at this location is primarily Mesozoic granitic rocks of the Southern California Batholith. A pre-Quaternary fault

(no evidence of displacement within the last 1.6 million years) is mapped about 1 mile north of this site (Deméré 1997b). The seismic hazard at this location is low (0.2 to 0.3 g) over the next 50 years (WGCEP 1995).

Soils at this location consist of the Fallbrook-Vista and Cienaba-Fallbrook associations (USDA 1973). They consist of sandy loams with slopes varying from 9 to 75 percent. The soils have a low-to-moderate shrink-swell characteristic and are severely erodible.

3.12.10 Cultural Resources

This project site is within the traditional territory of the Luiseño tribe, from 1,000 years ago to the present (Carter 2000). Many of the archaeological sites for the vicinity of this proposed facility are found near creeks and rivers. The types of sites found in the area include lithic scatters and Native American village sites. There is also a potential for historic sites within the project area (EDAW 2002). Much of the region was once part of the pasture land supporting the Mission San Diego de Alcalá, then vast Mexican land grant cattle ranches and ultimately a strong agrarian community noted for rapid growth. Though the surrounding region has a high potential for cultural resources sites, most of the ground disturbing activity associated with this project will take place within the right-of-way of Jamacha Road. This heavily disturbed area is not likely to contain any significant prehistoric or historic resources.

3.12.11 Public Safety and Hazardous Materials

Review of the County's geohazards map indicates that no geological hazards are present at either the Otay FCF 14 site, or along the pipeline route. Both the FCF and pipeline route are outside of the 100-year flood plain (San Diego County 2003e).

The Otay 14 FCF and the proposed pipeline route are within the developed communities of Cottonwood and Rancho San Diego, which include buildings and landscaping. The fire ignition hazard for developed areas is substantially lower than native vegetated wildlands. The fire hazard is assumed to be moderate (City of San Diego 2003b).

The Otay 14 FCF is within open space and no known hazardous materials or waste have been stored or used on the site. The proposed pipeline route would follow the existing LMSE Pipeline; it is possible that hazardous materials have been used or stored at the residential and commercial uses in the vicinity of the route.

3.12.12 Paleontological Resources

This project is located in the Peninsular Ranges region (San Diego County 1999). The Peninsular Ranges Batholith formation is known to exist in this area. This formation's composition ranges from granite to gabbro (Kennedy 1975). Because of its igneous origin, it is considered to have zero paleontological resource sensitivity and is not known to contain fossils (Deméré and Walsh 1993).

3.12.13 Agricultural Resources

This project site would be located within Urban and Built-up Land (CDC 2003).

3.12.14 Recreation

The project site is located in unmanaged city open space within a residential development. No parks, recreation centers, or designated open space areas are located near this project site.

3.13 POWAY PUMP STATION AND TREATED WATER CONNECTION – # 13

3.13.1 Land Use Description

The proposed Poway Pump Station and Treated Water Connection site would be located adjacent to the First Aqueduct, just west of the existing Berglund WTP operated by the City of Poway (SDCWA 2002a). The nearest intersection is Espola Road and Lake Poway Road, approximately 0.5 mile west of Lake Poway (see **Figure 2-11**). Land uses in this area include the Lake Poway Recreation Area about 0.5 mile to the east, which offers fishing, boating, sailing, hiking, camping, picnicking, volleyball, and softball. Land use to the north, south, and west of this site is predominantly low density residential (SANDAG 1997). Other land uses in the vicinity include Poway High School, which is located approximately 0.5 mile south of the project site on Espola Road, and the Blue Sky Ecological Reserve, which is located to the north adjacent to Espola Road (San Diego County 2001; SANDAG 1997).

3.13.2 Water Resources

This project site is within the Green HSA in the Hodges HA of the San Dieguito HU (see **Figure 5-1**) (San Diego County 2003a). The site is at an approximate elevation of 780 feet. Runoff from construction of the project would drain northwesterly to an unnamed intermittent tributary that continues about 5 miles northwest to the southeastern arm of Lake Hodges.

There are no streams within the Green HSA identified as impaired on the California impaired water bodies list (SWRCB 2003). Designated beneficial uses for the unnamed intermittent streams in the Green HSA include municipal and domestic supply, agriculture, industry service supply, industrial process supply, contact and non-contact water recreation, warm freshwater habitat and wildlife habitat (RWQCB 1994; San Diego County 2003a).

Lake Hodges is the primary water storage reservoir on the San Dieguito River along with the Sutherland Reservoir upstream of the project location and San Dieguito downstream of the project location (SDCWA 2000). The project location is within Poway member agency boundary.

The project site is not located within an alluvial groundwater basin.

3.13.3 Biological Resources

The proposed pump station would be located near Lake Poway Road within an area dominated by single-family residential homes (SANDAG 1997). This general area is highly disturbed and does not appear to contain any remnant native vegetation. Wildlife species occurring within this area would be primarily generalists and vegetation would most likely consist of ruderal species. It is important to note that the proposed site is within 1.5 miles of the Blue Sky Ecological Reserve.

3.13.4 Traffic and Transportation

The major access route to this site would be from I-15 to the west. Traffic from I-15 would exit from I-15 at Rancho Bernardo Road and travel east for approximately 2.5 to 3 miles. At this point, Rancho Bernardo Road ends connecting with Espola Road, a regional north south arterial in the area. Project related traffic would continue south on Espola Road for about 0.5 mile until reaching the Lake Poway Road intersection. Traffic would then turn east onto Lake Poway Road for approximately 0.25 mile until reaching the proposed site.

No airports or railroad lines are located in the vicinity of this project site.

3.13.5 Noise

This project site is approximately 0.6 mile west of Lake Poway in a residential area with some commercial activities to the east of the site. The primary noise source near the site would be traffic on Espola Road.

3.13.6 Air Quality

This project would be located in the SDAB. The SDAB is under the jurisdiction of the SDAPCD. Of the six air pollutants regulated by the U.S. EPA and eight regulated by the CARB, only one of the regulated pollutants, PM₁₀, occurs in a concentration sufficient to violate State standards. The current Federal PM₁₀ standards were met, but because the State standards have been exceeded every year from 1997 through 2002, San Diego County is designated as a nonattainment area for CAAQS (CARB 2003).

3.13.7 Utilities and Public Services

Any on-site water service for this proposed pump station would be provided by the City of Poway Water Department. SDG&E would provide any electrical power and natural gas; however, no gas service requirement is anticipated.

The Poway Fire Department would provide fire protection to the pump station. The closest station would be Station #52, approximately 1.25 miles north of the pump station facility (FireSafe 2003). The San Diego County Sheriff's Department (Poway District) would provide police protection for the Pump Station (San Diego County 2003d).

The project site is within the Poway Unified School District (City of San Diego 2003a). There are two schools within a 1-mile radius of the proposed pump station site; one elementary school to the northwest, and one high school to the south.

3.13.8 Aesthetics

This project site is located on a currently undeveloped parcel of land that is visible to motorists and pedestrians on Lake Poway Road and adjacent residences.

3.13.9 Geology and Soils

This site is located in the Peninsular Ranges region. Geology at this location is primarily Mesozoic granitic rocks of the Southern California Batholith (Deméré 1997a). A short pre-Quaternary fault is mapped about 3 miles southeast of this site. The seismic hazard at this location is low (0.2 to 0.3 g) over the next 50 years (WGCEP 1995).

Vista and Fallbrook soils exist at this site (USDA 1973). They consist of coarse sandy loam on slopes of 9 to 30 percent. The shrink-swell potential is low to moderate and the erodibility is moderate for Vista and severe for Fallbrook soils.

3.13.10 Cultural Resources

This project is within the traditional territory of the Luiseño tribe, from 1,000 years ago to the present (Carter 2000). The types of sites found in the area include lithic scatters and Native American village sites (EDAW 2002). There is also a potential for historic sites within the project area. Though the surrounding region has a potential for cultural resources sites, this project would be constructed in a built-up residential area near an existing WTP. This heavily disturbed area is not likely to contain any significant prehistoric or historic resources.

3.13.11 Public Safety and Hazardous Materials

Review of the County's geohazards map indicates that no geological hazards are present at this proposed pump station site. The project site is outside of the 100-year flood plain and is not within any inundation zone (San Diego County 2003e).

The proposed site is in the developed portion of Poway, which includes buildings and landscaping. Poway's General Plan does not specifically identify the area for fire hazard, and the fire ignition hazard for developed areas is substantially lower than native vegetated wildlands (City of Poway 2002). Fire hazard is assumed to be moderate.

The project site is not known to have had hazardous materials or waste stored or used on the site. However, the surrounding residential and commercial area has been developed and it is possible that hazardous materials have been used or stored in the vicinity of the project site.

3.13.12 Paleontological Resources

This project is located in the Peninsular Ranges region. The Peninsular Ranges Batholith formation is known to exist in this area (San Diego County 1999). This formation's composition ranges from granite to gabbro. Because of its igneous origin, it is considered to have zero paleontological resource sensitivity and not known to contain fossils (Deméré and Walsh 1993).

3.13.13 Agricultural Resources

This project would be located within 1 mile of Grazing Land, but the project footprint is located in Urban and Built-up Land (CDC 2003).

3.13.14 Recreation

There are no parks, recreation centers, or designated open space areas located in the immediate vicinity of this project site. The Lake Poway recreation area is located approximately 0.5 mile to the east, and offers fishing, boating, sailing, hiking, camping, picnicking, volleyball and softball activities.

3.14 ESCONDIDO-VISTA WTP CONNECTION – #14

3.14.1 Land Use Description

This project includes three components, which would all be constructed in northeastern Escondido:

- a) A new pipeline would be constructed from the proposed Second Crossover Pipeline (Project #6) to the eastern side of Lake Dixon, utilizing the proposed structure at Hubbard Hill (Project #1) (SDCWA 2002a). Refer to project specific setting discussions for Project #1 and #6. Land uses along the proposed pipeline route include residential subdivisions to the south, orchards to the southeast, and native vegetation communities to the north (SANDAG 1997);
- b) A conversion of the existing Escondido-Vista pipeline, which would require modifications at the Escondido-Vista WTP located near the eastern base of Lake Dixon. Lake Dixon provides recreational opportunities to local residents including fishing, boating, camping, and hiking; and
- c) A new pump station, which would be constructed near Hubbard Hill, would require piping to connect to the proposed Hubbard Hill FRS (Project #1). Refer to project specific setting discussions for Project #1.

The Second Crossover Pipeline (Project #6) and Hubbard Hill FRS (Project #1) are pre-requisites for this project (SDCWA 2002a) (see **Figure 2-1**).

3.14.2 Water Resources

All the components of this project would be located in the Escondido HSA of the Escondido Creek HA in the Carlsbad HU (see **Figure 5-1**) (San Diego County 2003a). Runoff from construction of the project adjacent to Lake Dixon would drain directly into the lake.

Lake Dixon is not identified as an impaired water body on the California impaired water bodies list (SWRCB 2003). Existing beneficial uses designated for Lake Dixon include municipal and domestic supply, agriculture, contact and non-contact water recreation, warm and cold freshwater habitat and wildlife habitat (RWQCB 1994; San Diego County 2003a). Impaired segments and existing beneficial uses within the Escondido Creek HA on Escondido Creek are discussed in the Project #1 description.

Lake Dixon is a water storage reservoir created by the impoundment of an unnamed intermittent tributary to Escondido Creek. There are no major water storage reservoirs on Escondido Creek downstream of Lake Dixon. Lake Wohlford is a reservoir on Escondido Creek upstream of the project location (SDCWA 2000). The project is located within the Rincon Del Diablo Municipal Water District.

The project site is not located within an alluvial groundwater basin.

3.14.3 Biological Resources

The Escondido-Vista WTP site is a highly disturbed industrial complex that is generally devoid of any vegetation communities. The proposed pump station would be built near Hubbard Hill and the proposed pipeline segment would initiate at Hubbard Hill (elevation 1,080 feet) and traverse a mixture of urban/developed areas (primarily residential subdivisions), agricultural orchards, and native vegetation communities before terminating at Lake Dixon (elevation 1,030 feet) (SANDAG 1997). The boundary area of Lake Dixon is undeveloped and contains a large area of coastal sage scrub habitat. In addition, an unnamed intermittent drainage that may contain riparian woodland elements may be potentially crossed near the residential subdivisions located on Firethorn Glen and Vintage Place.

3.14.4 Traffic and Transportation

I-15 is the main regional highway to the west of this project site and SR 78 is the main roadway to the south of the site. Major access to the Escondido-Vista WTP would be from SR 78 to S6 (East Valley Parkway/Valley Center Road). I-15 is approximately 3 miles west of Lake Dixon.

The main local access to the pipeline route would be East El Norte Parkway. El Norte Parkway is a major east-west roadway. Access to the new pipeline route from Lake Dixon to the Hubbard Hill FRS would be by local roads from either I-15 or SR 78. Access to the Lake Dixon side of the pipeline route would be from East El Norte Parkway to La Honda Drive. The Hubbard Hill FRS access route would be from East El Norte Parkway, to North Ash Street, and to Hubbard Avenue. Possible access routes between Lake Dixon and Hubbard Hill would be Vintage Place, Loreto Glen, or Centennial Way.

Access to the Escondido-Vista WTP would be from East Valley Parkway/Valley Center Road to Filtration Plant Road. This access route would also be used for the northern portion of the pipeline from the WTP to the Second Crossover Pipeline (Project #6) approximately 0.5 mile south of the WTP. Access to the Second Crossover Pipeline interconnection would be from East Washington Avenue to East Norte Hill Place or Stoneybrae Place.

There is no airport near this project site. However, there is an AT&SF spur route that ends in downtown Escondido south of the proposed project site.

3.14.5 Noise

This project setting and subsequent noise setting is diverse. The noise environment for this project would include rural locations, quiet residential areas, and alignments near major local roadways. Noise levels near Lake Dixon would reflect rural environmental noises. Noise levels along the pipeline route would vary from rural noises near Lake Dixon to light industrial noises and residential noise near Hubbard Hill.

3.14.6 Air Quality

This project would be located in the SDAB. The SDAB is under the jurisdiction of the SDAPCD. Of the six air pollutants regulated by the U.S. EPA and eight regulated by the CARB, only one of the regulated pollutants, PM₁₀, occurs in a concentration sufficient to violate State standards. The current Federal PM₁₀ standards were met, but because the State standards have been exceeded every year from 1997 through 2002, San Diego County is designated as a nonattainment area for CAAQS (CARB 2003).

3.14.7 Utilities and Public Services

The City of Escondido Water Department would provide any on-site water service to this proposed site. SDG&E would provide any electrical power and natural gas.

The Escondido Fire Department would provide fire services to this project. The first responding station would be Fire Station #2, approximately 1.5 miles southwest of the Escondido-Vista WTP (City of Escondido 2003b). Police protection for this project would be provided by the Escondido Police Department. A police substation is located approximately 1.75 miles west of the WTP (City of Escondido 2003a).

The Escondido Union School District and Escondido Union High School District serve the area surrounding this project site (City of San Diego 2003a). Currently, there are two elementary schools within a 1-mile radius of the project site.

3.14.8 Aesthetics

Modifications to the existing WTP near the base of Lake Dixon Dam would generally not be visible to the public. Immediately after construction, the right-of-way of the new pipeline would

be visible to observers in the vicinity where it crosses over ridges and other exposed areas due to gaps in the vegetation. Please refer to the discussion of aesthetics for Project #1 for project components that would be located at Hubbard Hill.

3.14.9 Geology and Soils

This site is located in the Peninsular Ranges region. Geology at this location is primarily Mesozoic granitic rocks and Jurassic shale, sandstone, conglomerate, chert, slate, and limestone (Deméré 1997a). This project site is not located near any known faults and the seismic hazard is low (0.2 to 0.3 g) over the next 50 years (WGCEP 1995).

Vista soils exist at this site and consist of coarse sandy loam on slopes of 9 to 30 percent (USDA 1973). The shrink-swell potential is low and the erodibility is moderate.

3.14.10 Cultural Resources

All the components of this project are within the traditional territory of the Luiseño tribe, from 1,000 years ago to the present (Carter 2000). Many of the archaeological sites in the vicinity of this project are found near lakes, creeks and rivers. The types of sites found in the area include lithic scatters and Native American village sites (EDAW 2002). There is also a potential for historic sites within the project area. Though the surrounding region has a potential for cultural resources sites, two of the elements of this project would be alterations to existing structures.

3.14.11 Public Safety and Hazardous Materials

A review of the County's geohazards map indicates that no geological hazards are present at this proposed site. However, the Escondido General Plan does identify the area as having grading constraints because of granitic soils. In addition, the areas surrounding the project site are identified in the General Plan as being constrained because of steep slopes. While the project site is outside of the 100-year flood plain, its location near the base of the Lake Dixon Dam places the site within the Lake's inundation zone (San Diego County 2003e).

The project site is in Escondido. The Escondido General Plan indicates that the project site is not within the fire hazard zone of the city (City of Escondido 2003b).

The project would expand the capacity of the Escondido WTP; water treatment includes the use, and storage of chemicals that are considered hazardous on the site. While the WTP would generate hazardous materials, it is not considered a hazardous waste site (Department of Toxic Substances Control [DTSC] 2003). In addition, the area surrounding the WTP and along the pipeline route has been developed and it is, therefore, possible that hazardous materials have been used or stored at the residential and commercial uses in the vicinity.

3.14.12 Paleontological Resources

This project is located in the Peninsular Ranges region. The Peninsular Ranges Batholith formation is known to exist in this area (San Diego County 1999). This formation's composition

ranges from granite to gabbro. Because of its igneous origin, it is considered to have zero paleontological resource sensitivity and not known to contain fossils (Deméré and Walsh 1993).

3.14.13 Agricultural Resources

This project site would be located over 1 mile away from any Farmland of Local Importance or Unique Farmland (CDC 2003). The pipelines associated with the site would be located within 0.5 mile of Unique Farmland and Farmland of Local Importance.

3.14.14 Recreation

La Honda Road provides access to Lake Dixon, which provides recreational opportunities to local residents including fishing, boating, camping, and hiking. Several picnic areas are located on the northwest side of the lake; campsites are located on the southern shore. No other parks, recreation centers, or designated open space areas are located in the vicinity of this project site.

3.15 OLIVENHAIN WTP - 50 MGD EXPANSION – #15A

3.15.1 Land Use Description

This project would be located in a rural area to the west of the community of Del Dios and Lake Hodges below Olivenhain Dam and adjacent to the new Olivenhain WTP, which are both presently under construction as part of the Water Authority's ESP (see **Figure 2-12**) (SDCWA 2002a). Land uses in this vicinity are primarily vacant, with scattered rural residences and park lands (SANDAG 1997). The Olivenhain Reservoir will serve as a future recreation resource for regional residents. In addition, the 750-acre Elfin Forest Recreational Preserve is located to the northwest adjacent to Olivenhain Reservoir.

3.15.2 Water Resources

This project would be located in a low-lying area west of Lake Hodges within the San Elijo HSA of the Escondido Creek HA in the Carlsbad HU (see **Figure 5-1**) (San Diego County 2003a). Construction would occur at an approximate elevation of 880 feet. Runoff from construction would drain northwest in an unnamed intermittent tributary to Escondido Creek.

There are no segments within the San Elijo HSA listed as impaired on the California impaired water bodies list (SWRCB 2003). Impaired segments of Escondido Creek HA located downstream of the project location and designated beneficial uses that exist on Escondido Creek were discussed in the water resources description for Project #1.

There are no major water storage reservoirs downstream on Escondido creek from the project location. The project location is within the Olivenhain Municipal Water District (SDCWA 2000).

The project is not located within an alluvial groundwater basin.

3.15.3 Biological Resources

This proposed WTP expansion would be built adjacent to the Olivenhain WTP, which occurs within an unnamed canyon west of Lake Hodges Reservoir. The project footprint would occur within a highly disturbed site that likely contains remnant patches of non-native grassland. The areas to the north and south of the canyon are largely undisturbed and contain large tracts of coastal sage scrub and chaparral habitats (SANDAG 1997).

The 750-acre open-space Elfin Forest Recreational Reserve is located northwest of the Olivenhain WTP. This reserve is a natural resources management and recreational area operated by the Olivenhain Municipal Water District, in cooperation with the BLM. The reserve provides for the development of regional water supply reserves while protecting oak riparian, oak woodland, coastal sage scrub and chaparral communities.

3.15.4 Traffic and Transportation

The main highway in the vicinity of this proposed facility is I-15 or Escondido Freeway, approximately 4 miles east of the project site. General local access routes to the site are West Valley Parkway/Del Dios Highway (S6) or West Valley Rancho Parkway. Local roadways to the site would be via S6 to either Harmony Grove Road or Mt. Israel Road to Via Ambiente (see **Figure 1-16**).

No airfields or railroad lines are near this project site.

3.15.5 Noise

This proposed site is in a rural undisturbed area with scattered single-family residences located on large tracts of land throughout the area. The Olivenhain Reservoir is also in the vicinity. The noise level in this area would reflect noises found in a rural setting.

3.15.6 Air Quality

This project would be located in the SDAB. The SDAB is under the jurisdiction of the SDAPCD. Of the six air pollutants regulated by the U.S. EPA and eight regulated by the CARB, only one of the regulated pollutants, PM₁₀, occurs in a concentration sufficient to violate State standards. The current Federal PM₁₀ standards were met, but because the State standards have been exceeded every year from 1997 through 2002, San Diego County is designated as a nonattainment area for CAAQS (CARB 2003).

3.15.7 Utilities and Public Services

Olivenhain Municipal Water District provides any on-site water service to the new Olivenhain WTP. SDG&E would provide any electrical power and natural gas.

Fire services for the Olivenhain WTP would be provided by mutual agreement of the Rancho Santa Fe FPD and Elfin Forest/Harmony Grove FPD. The Rancho Santa Fe FPD has two stations in the area. The station closest to the WTP is approximately 1.5 miles from the project

site (FireSafe 2003). The San Diego County Sheriff's Department (San Marcos District) would provide police protection for the WTP (San Diego County 2003d).

There are no schools within a 1-mile radius of this proposed site (City of San Diego 2003a). The elementary and middle schools that serve the surrounding area are within the Escondido Union, Poway Unified and Rancho Santa Fe School Districts. High schools are within the Escondido Union High School, San Dieguito Union High School and Poway Unified School Districts (City of San Diego 2003a).

3.15.8 Aesthetics

This project would be located in a remote location adjacent to the new WTP, below the Olivenhain Dam, and would only be visible to visitors to the dam and WTP and a few rural residences in the area.

3.15.9 Geology and Soils

This site is located near the boundaries of the Coastal Plains and Peninsular Ranges regions. Geology at this site consists of Mesozoic volcanic and metavolcanic rocks bordering Mesozoic granitic rocks of the Peninsular Range Batholith (Deméré 1997a). A pre-Quaternary fault (no evidence of displacement within the last 1.6 million years) is mapped about 2 miles north of this site (Deméré 1997b). The seismic hazard at this location is low (0.2 to 0.3 g) over the next 50 years (WGCEP 1995).

Cienaba and San Miguel-Exchequer soils are found at this site (USDA 1973). They consist of rocky, silty, sandy loam on 9 to 75 percent slopes. Cienaba soils have a low shrink-swell behavior while San Miguel-Exchequer soils have high expansive properties. The erodibility is severe for both soil types.

3.15.10 Cultural Resources

This project is within the traditional territory of the Luiseño tribe, from 1,000 years ago to the present (Carter 2000). Many of the archaeological sites in the vicinity of this proposed facility are found near lakes, creeks and rivers. The types of sites found in the area include lithic scatters and Native American village sites (EDAW 2002). There is also a potential for historic sites within the project area. Though the surrounding region has a potential for cultural resources sites, this project would be an expansion of an existing WTP in a heavily disturbed canyon. This area is not likely to contain any significant prehistoric or historic resources.

3.15.11 Public Safety and Hazardous Materials

A review of the County's geohazards map indicates that no geological hazards are present at the proposed WTP expansion site. The WTP site is outside of the 100-year flood plain and is not within any inundation zone (San Diego County 2003e).

This proposed site is graded and adjacent to an existing facility; the surrounding area is undeveloped open space. Given the climate and the amount of native vegetation present, the fire hazard for the area would be considered high.

This project would expand the capacity of the Olivenhain WTP; water treatment includes the use, and storage, of chemicals that are considered hazardous on the site. While the WTP would generate hazardous materials, it is not considered a hazardous waste site (DTSC 2003).

3.15.12 Paleontological Resources

This project is located in the Peninsular Ranges region. Santiago Peak Volcanics and Peninsular Ranges Batholith formations are known to exist in this area (San Diego County 1999). Because of the Peninsular Ranges Batholith formation's igneous origin, it is considered to have zero paleontological resource sensitivity and not known to contain fossils (Kennedy 1975). The metasedimentary portion of the Santiago Peak Volcanics formation has produced fossils in the past and is considered to have high resource sensitivity (Kennedy 1975). The metavolcanic portion of the Santiago Peak Volcanics formation has marginal paleontological resource sensitivity (Kennedy 1975). Further study is needed to determine whether this formation is metavolcanic or metasedimentary; however, both may potentially contain fossils in this area.

3.15.13 Agricultural Resources

This project site would be located over 2 miles away from any Farmland of Local Importance or Unique Farmland (CDC 2003).

3.15.14 Recreation

The Olivenhain Reservoir will serve as a future recreation resource for regional residents. However, recreational activities are limited to picnicking, hiking, horseback riding, and bicycling (Ogden 1996). No access to the shoreline will be permitted. Some disturbance to trails would occur during construction of this project. In addition, the 750-acre Elfin Forest Recreational Preserve is located to the northwest adjacent to Olivenhain Reservoir.

3.16 WEESE WTP – 50 MGD EXPANSION – #15B

3.16.1 Land Use Description

The proposed Weese WTP expansion would be located in the unincorporated community of Bonsall, about 0.75 mile south of Gopher Canyon Road (see **Figure 2-3**) (SDCWA 2002a). The project site is located in a rural setting characterized by scattered rural residential and agricultural land uses along with large vacant/undeveloped parcels of land (SANDAG 1997). The City of Oceanside currently owns and operates the existing 25 mgd Weese WTP.

3.16.2 Water Resources

This WTP expansion project would be located within the Bonsall HSA of the Lower San Luis HA within the San Luis Rey HU (see **Figure 5-1**) (San Diego County 2003a). The project,

constructed at an elevation of approximately 960 feet, would drain southwest to the South Fork of Gopher Canyon or to the north to Gopher Canyon. Gopher Canyon is an intermittent tributary to the San Luis Rey River and their confluence is approximately 3.5 miles northwest of the project location.

The San Luis Rey River is identified as impaired on the California impaired water bodies list for the lower 13 miles for chloride and TDS (SWRCB 2003). Existing designated beneficial uses for Gopher Canyon and the South Fork of Gopher Canyon include agriculture, industrial service supply, contact and non-contact recreation, and warm freshwater and wildlife habitat (RWQCB 1994; San Diego County 2003a). These two water bodies have been exempted for municipal or domestic water supply under California State Board Resolution 88-63 (SWRCB 1988).

This project is within the Rainbow Municipal Water District boundary. There are no significant water storage reservoirs located downstream of the project location on the San Luis Rey River (SDCWA 2000).

The project site is not located within an alluvial groundwater basin.

3.16.3 Biological Resources

The proposed expansion of the Weese WTP would occur within the highly disturbed existing facilities footprint. The site is contained within a rural-agricultural interface and the adjacent areas that border the north, west, and east of the existing plant contain agricultural orchards (SANDAG 1997). These orchards typically contain single species trees, planted uniformly and intensely managed. Conversely, the area to the south contains some remnant coastal sage scrub and chaparral habitats.

3.16.4 Traffic and Transportation

General roadway access to this site is limited to Gopher Canyon Road. Access from Gopher Canyon Road to the proposed site is from either Twin Oaks Valley Road or El Paseo to Silverleaf Lane.

General access to Gopher Canyon Road would be from the west via SR 76 (Mission Avenue) to S13 (East Vista Way) or from the east via the I-15 intersection at Gopher Valley Road. The distance from SR 78 to this proposed site is approximately 4.5 miles. The distance from the I-15 interchange to the proposed site is about 4 miles.

No airports or railroad lines are within a 10-mile radius of the proposed site.

3.16.5 Noise

The proposed WTP expansion site is surrounded by a rural undisturbed area. The only major noise source is the Weese WTP.

3.16.6 Air Quality

This project would be located in the SDAB. The SDAB is under the jurisdiction of the SDAPCD. Of the six air pollutants regulated by the U.S. EPA and eight regulated by the CARB, only one of the regulated pollutants, PM₁₀, occurs in a concentration sufficient to violate State standards. The current Federal PM₁₀ standards were met, but because the State standards have been exceeded every year from 1997 through 2002, San Diego County is designated as a nonattainment area for CAAQS (CARB 2003).

3.16.7 Utilities and Public Services

The Rainbow Municipal Water District provides any on-site water service to the existing Weese WTP. SDG&E provides any electrical power and natural gas.

North County FPD provides fire services to the existing Weese WTP. The first responding station is Station #5, approximately 4 miles northwest of the proposed project site (North County FPD 2003). The San Diego County Sheriff's Department (Fallbrook District) would provide police protection for the proposed facility (San Diego County 2003d).

There are no schools within a 1-mile radius of the proposed site (City of San Diego 2003a).

3.16.8 Aesthetics

From a visual perspective, this project site is located adjacent to an existing WTP in an inconspicuous rural setting. The project would be visible to a limited number of rural residences, farms, and visitors in this area.

3.16.9 Geology and Soils

This site is located in the Peninsular Ranges region within Mesozoic volcanic rocks (Deméré 1997a). The site is not located near any known faults and the seismic hazard is low (0.2 to 0.3 g) over the next 50 years (WGCEP 1995).

This site contains Las Posas soils consisting of fine sandy loam with slopes varying from 30 to 65 percent (USDA 1973). The shrink-swell behavior is high with the liquid limit being 50 to 60 percent and the plasticity index 20 to 30 percent. The erodibility is severe.

3.16.10 Cultural Resources

The general region of this project is within the traditional territory of the ancient San Dieguito people and the Kumeyaay of more recent times (2,000 years ago). The Luiseño Indians were still settled in permanent villages at the time of the Spanish Conquest (500 years ago) and Mexican settlement (200 years ago) (Carter 2000). The types of sites found in the area include lithic scatters and Native American village sites. There is also a potential for historic sites within the project area. Though the surrounding region has a potential for cultural resources sites, this

project is an expansion of an existing WTP within the highly disturbed existing facilities footprint. This heavily disturbed area is not likely to contain any significant prehistoric or historic resources.

3.16.11 Public Safety and Hazardous Materials

The proposed site is within the developed parcel of the Weese WTP near a ridgeline which has been leveled during previous construction. A review of the County's geohazards map indicates that no geological hazards are present at the proposed WTP site (San Diego County 2003e). The project site is not within any flood zone. Although there are agricultural crops nearby, the North County FPD identifies the area as wildland (North County FPD 2003). Even with the nearby tree crops, the project site, with its surrounding native vegetation, would have a fire hazard severity classification of High.

This project would expand the capacity of the Weese WTP; water treatment includes the use, and storage of chemicals that are considered hazardous. While the WTP generates hazardous materials, it is not considered a hazardous waste site (DTSC 2003).

3.16.12 Paleontological Resources

This project is located in the Peninsular Ranges region. The Peninsular Ranges Batholith formation is known to exist in this project area (Deméré and Walsh 1993). This formation's composition ranges from granite to gabbro (Kennedy 1975). Because of its igneous origin, it is considered to have zero paleontological resource sensitivity and not known to contain fossils (Deméré and Walsh 1993).

3.16.13 Agricultural Resources

This project would be located within 1 mile of Unique Farmland, Farmland of Local Importance, and Farmland of Statewide Importance (CDC 2003). The actual project footprint would not overlap any agricultural land.

3.16.14 Recreation

There are no parks, recreation centers, or designated open space areas near this project site.

3.17 RED MOUNTAIN WTP - NEW 50 MGD PLANT – #15C

3.17.1 Land Use Description

This project would be located near the community of Fallbrook, roughly 1 mile west of I-15 and north of Mission Road, adjacent to the Red Mountain Reservoir (see **Figure 2-13**) (SDCWA 2002a). Land uses in this rural setting include undeveloped vacant lands to the north and east; public lands administered by the BLM to the northeast and west on Red Mountain; Red Mountain Reservoir, scattered rural residences and agricultural lands to the south (SANDAG 1997).

3.17.2 Water Resources

This project would be constructed at an approximate elevation of 1,060 feet adjacent to Red Mountain Reservoir, a small surface water impoundment. The project location is within the Bonsall HSA in the Lower San Luis HA of the San Luis Rey HU (see **Figure 5-1**) (San Diego County 2003a). Runoff from the project site would drain to the southwest to an unnamed intermittent tributary that joins the San Luis Rey River 6 miles south of the project area.

The San Luis Rey River is identified as impaired on the California impaired water bodies list for the lower 13 miles for chloride and TDS (SWRCB 2003). Existing designated beneficial uses for Gopher Canyon and the South Fork of Gopher Canyon include agriculture, industrial service supply, contact and non-contact recreation, and warm freshwater and wildlife habitat (RWQCB 1994; San Diego County 2003a). These two water bodies have been exempted for municipal or domestic water supply under California State Board Resolution 88-63 (SWRCB 1988).

The project location is within the Fallbrook Public Utility boundary. There are no significant water storage reservoirs located downstream of the project location on the San Luis Rey River (SDCWA 2000).

The project site is not located within an alluvial groundwater basin.

3.17.3 Biological Resources

The proposed facility site is located in the Red Mountain region, which has relatively steep and varied topography with a site elevation of approximately 1,060 feet. The site contains very little woody vegetation and is characterized by chaparral and coastal sage scrub habitats. Characteristic habitats in the region include riparian habitat associated with both the Santa Margarita River and Rainbow Creek drainages north of the site, and a dense and extensive area of chaparral and coastal sage scrub on the north-facing slope immediately due north of the facility site (SANDAG 1997).

Various levels of disturbance exist within the project footprint including those resulting from various off-road vehicle access to the existing Red Mountain above-ground reservoir.

3.17.4 Traffic and Transportation

The main roadway access to this site would be from I-15, approximately 0.6 mile to the east. Project related traffic to the site would exit I-15 onto East Mission Road (S13) and travel about 1 mile until reaching Red Mountain Heights Drive. Traffic would turn right onto Red Mountain Heights Drive for 0.6 mile to the proposed Red Mountain WTP.

The Fallbrook Community Airport is approximately 5 miles southwest of this project site. No railroad lines are located in the vicinity of the proposed facility.

3.17.5 Noise

This project would be constructed in a general rural environment with development to the south and east. However, the main noise source in the vicinity of the proposed Red Mountain WTP would be I-15, approximately 0.6 mile to the east. Heavy traffic volume on I-15 would generate noise levels that influence the general rural noise environment at this project site.

3.17.6 Air Quality

This project would be located in the SDAB. The SDAB is under the jurisdiction of the SDAPCD. Of the six air pollutants regulated by the U.S. EPA and eight regulated by the CARB, only one of the regulated pollutants, PM₁₀, occurs in a concentration sufficient to violate State standards. The current Federal PM₁₀ standards were met, but because the State standards have been exceeded every year from 1997 through 2002, San Diego County is designated as a nonattainment area for CAAQS (CARB 2003).

3.17.7 Utilities and Public Services

The Fallbrook Public Utility District would provide on-site water service to this project. SDG&E would provide electrical and natural gas services; however, no need for gas service is anticipated.

The North County FPD would provide fire protection (North County FPD 2003). The nearest station is approximately 2 miles north and west of the proposed WTP site. The second station is approximately 3.5 miles west of the WTP site. In addition, there is a California Department of Forestry and Fire Protection (CDF) station approximately 0.75 mile south of the proposed WTP that could also assist in fire fighting (San Diego County 2003f). The San Diego County Sheriff's Department (Fallbrook District) would provide police protection for the WTP (San Diego County 2003d).

There are no schools within a 1-mile radius of the proposed WTP (City of San Diego 2003a).

3.17.8 Aesthetics

This project would be located adjacent to Red Mountain Reservoir and although it is located in a rural area, it would be highly visible from recreational users of public land on Red Mountain.

3.17.9 Geology and Soils

This site is located in the Peninsular Ranges region. Geology at this location is Mesozoic gabbro and dark dioritic rocks (CGS 2002). A pre-Quaternary fault (no evidence of displacement within the last 1.6 million years) is mapped about 2 miles south of this site and the Holocene (displacement within the last 10,000 years) Elsinore Fault zone passes about 6 miles northeast of the site (Deméré 1997b). The seismic hazard at this location is moderate (0.3 to 0.4 g but bordering the 0.4 to 0.5 g zone) over the next 50 years (WGCEP 1995).

Las Posas soils in this area consist of fine sandy loam with slopes varying from 30 to 65 percent. The shrink-swell behavior is high with the liquid limit being 50 to 60 percent and the plasticity index 20 to 30 percent. The erodibility is severe (USDA 1973).

3.17.10 Cultural Resources

This project is within the traditional territory of the Luiseño tribe, from 1,000 years ago to the present (Carter 2000). The types of sites found in the area include lithic scatters and Native American village sites. There is also a potential for historic sites within the project area.

3.17.11 Public Safety and Hazardous Materials

This proposed WTP site would be located on an existing padded site of engineered-fill adjacent to the Red Mountain Reservoir. A review of the County's geohazards map indicates that no geological hazards are present at the proposed WTP site. The WTP site is outside of the 100-year flood plain and is not within any inundation zone (San Diego County 2003e).

The proposed WTP site is graded and adjacent to an existing facility; however, the area surrounding this developed envelope is undeveloped open space. Given the climate and the amount of native vegetation present, the fire hazard for the area would be considered high.

Although the site is graded, no known hazardous materials have been used or stored on the site.

3.17.12 Paleontological Resources

This project is located in the Peninsular Ranges region. The Peninsular Ranges Batholith formation is known to exist in this project area (San Diego County 1999). This formation's composition ranges from granite to gabbro (Kennedy 1975). Because of its igneous origin, it is considered to have zero paleontological resource sensitivity and not known to contain fossils (Deméré and Walsh 1993).

3.17.13 Agricultural Resources

The Red Mountain WTP Expansion would be located within 1 mile of Unique Farmland and Farmland of Local Importance (CDC 2003). The actual project footprint would not overlap any agricultural land.

3.17.14 Recreation

Public land administered by the BLM is located to the west on Red Mountain and to the northeast. Red Mountain Reservoir, operated by the community of Fallbrook, is adjacent to the project site. Red Mountain Reservoir is closed to the public for recreational uses (Sumnor 2003).

3.18 DIVERSION STRUCTURE WTP – NEW 100 MGD PLANT – #15D

3.18.1 Land Use Description

The proposed Diversion Structure WTP would be built adjacent to the existing Twin Oaks Valley FRS and Crossover Pipeline complex, located north of San Marcos in Twin Oaks Valley (see **Figure 2-3**) (SDWCA 2002a). Aside from the existing FRS and pipeline-related vents and structures, land uses in this area include rural residential, low-density residential, agriculture, and natural open space. Twin Oaks Valley has a distinct rural character and features considerable agricultural land use—producing flowers, nursery plants, fruit and avocados to the south and east of this project site. Undeveloped steep terrain covered with native chaparral vegetation is present immediately to the west of this project site (SANDAG 1997).

3.18.2 Water Resources

The construction area of this project would be at an approximate elevation of 1,020 feet within the Twin Oaks HSA of the San Marcos HA within the Carlsbad HU (see **Figure 5-1**) (San Diego County 2003a). Construction runoff would drain in the general southwest direction in unnamed intermittent streams that are tributary to Buena Creek.

There are no streams identified as impaired on the California impaired water bodies list within the Carlsbad HU (SWRCB 2003). Existing designated beneficial uses downstream of the project location on Buena Creek include municipal and industrial supply, agriculture, contact and non-contact recreation, and warm freshwater and wildlife habitat (RWQCB 1994; San Diego County 2003a).

There are no major water storage reservoirs downstream of the project location. The Diversion Structure WTP would be located within the Vallecitos Water District (SDCWA 2000).

No alluvial groundwater basins are present at any of the proposed WTP sites.

3.18.3 Biological Resources

The proposed site is located at the northern extent of Twin Oaks Valley, which is surrounded by the Merriam Mountains range. Topography at the project site is relatively flat with site elevation ranging from 1,000 feet to 1,100 feet. The existing Twin Oaks Diversion Structure site is highly disturbed and the Water Authority-owned parcel has been cleared of scrub habitat. A mixture of non-native grasses and forbs dominate this area and the Water Authority frequently clears the vegetation within the property site.

Several project specific components of Option 1 would be constructed on the north, bordering a privately-owned parcel. This parcel contains a mixture of cleared scrub habitat and an agricultural orchard. All project specific components of Options 2 through 5 would be constructed within the Water Authority owned property.

3.18.4 Traffic and Transportation

General roadway access to this proposed site is from I-15 to the east of the site. Access from I-15 would be either from Gopher Canyon Road to the north or Deer Springs Road/Mountain Meadow Road (S12) to the south of the site. Deer Springs Road is west of I-15, and Mountain Meadow Road is to the east of I-15.

Access from I-15 is west on Gopher Canyon to Twin Oaks Valley Road. Project related traffic would turn south onto Twin Oaks Valley Road and travel approximately 3 miles to the Satin Doll Lane. Satin Doll Lane provides direct access to the project site. An alternative route to the Gopher Canyon Road would be from the west via SR 76 (Mission Avenue) to S13 (East Vista Way). The distance from SR 78 to the Twin Oaks Valley Road turnoff is approximately 4 miles.

Access from I-15 to the south would be at the Deer Springs Road intersection. Project traffic would proceed west on Deer Springs Road until reaching Twin Oaks Valley Road, a distance of almost 2 miles. Traffic would then turn north onto Twin Oaks Valley Road and travel approximately 3.5 miles to Satin Doll Lane and the proposed Diversion Structure WTP project site.

No airports or railroad lines are within a 10-mile radius of this proposed project site.

3.18.5 Noise

The proposed Diversion Structure WTP would be located to the north of San Marcos and to the east of the City of Vista in a general rural environment. A commercial/industrial area is located approximately 0.5 mile to the southeast of this site, and a residential area is located about 0.75 mile to the southwest. However, activities in the commercial/industrial area would be the most likely noise source in the area that could influence the general rural noise environment at this proposed project site.

3.18.6 Air Quality

This project would be located in the SDAB. The SDAB is under the jurisdiction of the SDAPCD. Of the six air pollutants regulated by the U.S. EPA and eight regulated by the CARB, only one of the regulated pollutants, PM₁₀, occurs in a concentration sufficient to violate State standards. The current Federal PM₁₀ standards were met, but because the State standards have been exceeded every year from 1997 through 2002, San Diego County is designated as a nonattainment area for CAAQS (CARB 2003).

3.18.7 Utilities and Public Services

The Vallecitos Water District would provide any on-site water service to the Diversion Structure WTP. SDG&E would provide any electrical power and natural gas.

Fire protection for the WTP would be from Deer Springs FPD Station #2, approximately 3.5 miles south of the site (Gregg 2003). The San Diego County Sheriff's Department (San Marcos District) would provide police protection for the WTP (San Diego County 2003d).

The WTP facility is within the Escondido Union and the Escondido Union High School Districts, but no schools are within a 1-mile radius of the facility (City of San Diego 2003a).

3.18.8 Aesthetics

The proposed Diversion Structure WTP would be built in a rural setting that is already heavily modified with numerous Water Authority facilities and structures.

3.18.9 Geology and Soils

This site is located in the Peninsular Ranges region. Geology in this location area consists of Mesozoic granitic rocks, metasedimentary rocks (e.g., quartzite) of the Bedford Canyon formation, and localized San Marcos gabbro (CGS 2002). A pre-Quaternary fault (no evidence of displacement within the last 1.6 million years) is mapped about 2 miles north of this site (Deméré 1997b). The seismic hazard at this location is low (0.2 to 0.3 g) over the next 50 years (WGCEP 1995).

This project passes near the North Twin Oaks Quarry where stone and rock is mined (CDMG 1991).

Las Posas soils exist at this site on slopes of 9 to 65 percent. The soils consist of a fine sandy loam that have a high shrink-swell behavior and moderate to severe erodibility. The soil liquid limit and plasticity index are high for these soils (USDA 1973).

3.18.10 Cultural Resources

This project is within the traditional territory of the Luiseño tribe, from 1,000 years ago to the present (Carter 2000). The types of sites found in the area include lithic scatters and Native American village sites (EDAW 2002). There is also a potential for historic sites within the project area. Though the surrounding region has a potential for cultural resources sites, the proposed Diversion Structure WTP would be built in a rural setting that is already heavily modified with numerous Water Authority facilities and structures. This heavily disturbed area is not likely to contain any significant prehistoric or historic resources. Previous investigations in the project vicinity have been few in number and limited in extent. Prehistoric sites have been reported in the Twin Oaks Valley and along the southwest slopes of the Mirriam Mountains. The site density has been low in surveyed areas and the sites lack integrity and significance. Most of the proposed construction area has been surveyed, and these surveys found no cultural resources.

3.18.11 Public Safety and Hazardous Materials

The proposed Diversion Structure WTP includes three potential siting options. A review of the County's geohazards map indicates that no geological hazards are present at any of the proposed

WTP sites. All of the proposed WTP sites are outside of the 100-year flood plain and are not within any inundation zone (San Diego County 2003e).

Some of the proposed WTP sites are graded and adjacent to an existing facility; however, the area surrounding this developed area is undeveloped open space, given the climate and the amount of native vegetation present the fire hazard for the area would be considered high.

No known hazardous materials used or stored on the proposed WTP sites (DTSC 2003).

3.18.12 Paleontological Resources

This project is located in the Peninsular Ranges region. The Peninsular Ranges Batholith formation is known to exist in this project area (San Diego County 1999). This formation's composition ranges from granite to gabbro. Because of its igneous origin, it is considered to have zero paleontological resource sensitivity and not known to contain fossils (Deméré and Walsh 1993).

3.18.13 Agricultural Resources

The footprint of Option 1 of the Diversion Structure WTP would be located on Farmland of Local Importance (CDC 2003). It would also be located within 0.25 mile of Unique Farmland. The exact acreage of agricultural land that could be affected is not known at this time.

3.18.14 Recreation

There are no parks, recreation centers, or designated open space areas near this project site.

3.19 ADDITIONAL SAN VICENTE DAM RAISE BEYOND ESP – #16

3.19.1 Land Use Description

San Vicente Dam and Reservoir, owned and operated by the City of San Diego, are located north of the community of Lakeside off of SR 67 (see **Figure 2-2**). The reservoir is an important recreational resource for city residents. Boating and fishing are popular uses of the lake. Land use in the vicinity of the dam is essentially undeveloped parkland. Farther south, where San Vicente Creek enters the Moreno Valley and SR 67 corridor, land uses include large-scale aggregate mining, agriculture, and low-density residential development.

3.19.2 Water Resources

The drainage area for the San Vicente Reservoir is the Fembrook HSA of the San Vicente HA in the San Diego HU (see **Figure 5-1**) (San Diego County 2003a). Raising the dam beyond the ESP would not affect surface waters within the Fembrook HSA, but would reduce the outflow to San Vicente Creek—a tributary to the San Diego River. San Vicente Creek is within the Santee HSA of the Lower San Diego HA, also in the San Diego HU.

There are no waters within the Santee HSA identified as impaired on the California impaired water bodies list where the project may affect surface waters (SWRCB 2003). The following existing beneficial uses are in attainment on San Vicente Creek: industrial service supply, contact and non-contact recreation, and warm freshwater and wildlife habitat (RWQCB 1994; San Diego County 2003a).

There are no major water storage reservoirs located downstream of San Vicente Reservoir on the San Diego River. The project location is not within the Water Authority's service area or member agency boundary (SDCWA 2000).

3.19.3 Biological Resources

Vegetation mapping was conducted for the San Vicente Reservoir component of the ESP by Pacific Southwest Biological Services, Incorporated (1993). The area proposed for inundation under the ESP would affect seven vegetation communities including Diegan sage scrub, southern mixed chaparral, coastal and valley freshwater marsh, coast live oak woodland, eucalyptus grove, mule-fat scrub, and urban/disturbed area. Pacific Southwest Biological Services (1993) identified 1 amphibian, 2 reptile, 9 mammal, and 67 bird species occurring throughout the project study sites. It is envisioned that these seven habitat types would also be affected by the additional storage capacity. Lastly, numerous special-status plant and wildlife species occur or may potentially occur throughout the seven vegetative communities (Pacific Southwest Biological Services 1993).

Numerous intermittent drainages that may qualify as waters of the United States occur within the deep canyons and foothill drainages that surround the San Vicente Reservoir. These drainages are either unvegetated, but contain indicators of wetland hydrology including channel scouring, drift lines, and inundation; or are sparsely vegetated with a combination of upland and/or wetland plant species. Three categories of these waters may occur in proximity to the reservoir including unconsolidated stream/rivers, low-lying areas within intermittent drainages that may support wetland and/or riparian vegetation, and small seasonal wetlands.

3.19.4 Traffic and Transportation

Roadway access to the San Vicente Dam is limited to SR 67 which is a general north-south route in central San Diego County. The project area can be accessed from the south via I-8 and SR 67. Access from I-8 to SR 67 is via several freeway off-ramps at Lake Jennings Park Road and Los Choches Road in the area of El Cajon. Access to SR 67 to the north is from Ramona or from I-15 through Poway using S4 (Poway Road) or Scripps Poway Parkway. I-15 is about 8 miles west of SR 67.

Direct access to this project site is from Vigilante Road to Moreno Avenue to Foster, a local headquarters for operation of the dam. The road from Foster to the top of the dam is a narrow one-way asphalt road. The distance from Foster to the project site is about 0.3 mile.

Except for Gillespie Field near El Cajon and Ramona Landing Field at Ramona, no other airports are within a 10-mile radius of the project site. Additionally, no railroad lines are located in the vicinity of the San Vicente Dam.

3.19.5 Noise

This project site overlooks the City of San Diego's San Vicente Site Management Complex as well as portions of Moreno Valley and SR 67. Although the project is in a generally rural and undisturbed area, the reservoir is open to the public. As a result, noise levels would be influenced by recreational boating and fishing on the reservoir. Otherwise, the noise levels at this project site would reflect the general rural nature of the environment.

3.19.6 Air Quality

This project would be located in the SDAB. The SDAB is under the jurisdiction of the SDAPCD. Of the six air pollutants regulated by the U.S. EPA and eight regulated by the CARB, only one of the regulated pollutants, PM₁₀, occurs in a concentration sufficient to violate State standards. The current Federal PM₁₀ standards were met, but because the State standards have been exceeded every year from 1997 through 2002, San Diego County is designated as a nonattainment area for CAAQS (CARB 2003).

3.19.7 Utilities and Public Services

The San Vicente Reservoir is operated by the City of San Diego Water Department. Any on-site water would be provided by the City. SDG&E would provide any electrical power and natural gas.

The San Diego County Sheriff's Department (Santee District) would provide police protection for the area surrounding the reservoir (San Diego County 2003d). In addition, the San Diego Municipal code provides authority for enforcement by Water Department employees. Rangers have the authority to issue citations. Ranger enforcement emphasis is on boating safety and Fish and Game Code violations. Fire services to the project site would be provided by the Lakeside FPD (Lakeside FPD 2003). The closest responding station is approximately 3 miles from the proposed site.

There are no schools within a 1-mile radius of the Dam or the San Vicente shoreline (San Diego County 2002).

3.19.8 Aesthetics

The visual setting for this project includes the Upper Moreno Valley, which features steep rocky slopes and the existing San Vicente Dam, which is a dominant man-made feature in this area. Roads serving both the existing dam and the boat ramp area to the west are additional man-made features that attract attention to viewers of this project site. Due to topographic screening, this site would only be visible to a limited number of residents in the community of Lakeside.

3.19.9 Geology and Soils

The San Vicente Reservoir is located in the Peninsular Ranges region in granitic terrain of the Southern California Batholith (Deméré 1997a). This project site is not located near any known faults and the seismic hazard is low (0.2 to 0.3 g) over the next 50 years (WGCEP 1995).

The soils surrounding San Vicente Reservoir include Cieneba-Fallbrook and Friant-Escondido associations. These soils are fine to coarse sandy loams and exist on slopes ranging from 9 to 75 percent. The shrink-swell behavior is low and the erodibility is severe. Soils near the northwestern part of the reservoir have a moderate soil-slip susceptibility (USDA 1973).

3.19.10 Cultural Resources

The San Vicente Reservoir region is within the traditional territory of the ancient San Dieguito people and the Kumeyaay of more recent times (2,000 years ago). The Luiseño and San Pasqual Indians were still settled in permanent villages at the time of the Spanish Conquest (500 years ago) and Mexican settlement (200 years ago) (Carter 2003). Many of the archaeological sites for the vicinity of this project are found near lakes, creeks and rivers. Sites that are known to contain rocks or boulders with natural features that have been ascribed to female puberty rites or to fertility rituals were encountered at San Vicente during the previous cultural resources surveys for Water Authority projects (EDAW 2002; Ogden 1996). Because of the geological setting, such sites are located within boulder outcrops that generally occur east of I15. Prehistoric bedrock milling and processing sites have been reported in the areas surveyed around the San Vicente Reservoir, and additional sites of this type may be present. The San Vicente area contains the remains of the small community of Foster. Much of the prehistoric and historic resources of the San Vicente region were obliterated with the construction of the dam and subsequent flooding into the reservoir in 1943 (Ogden 1996). Still, there is a potential for cultural resources within the project area.

3.19.11 Public Safety and Hazardous Materials

A review of the County's geohazards map indicates that no geological hazards are present either at the dam or along the shoreline of the reservoir. Although the dam itself and the shoreline are not within a flood plain, the area below the dam is within the dam's inundation zone and current shoreline areas of the reservoir would be inundated as a result of the proposed project (San Diego County 2003a). This would include the boating facility on the western shore.

With the exception of the dam, the boating facility, and a small electrical facility, the area surrounding the San Vicente Reservoir is undeveloped open space. Given the climate, the slopes away from the reservoir and the amount of native vegetation present, the fire hazard for the area would be considered high.

Most of the area surrounding the dam and reservoir is open space with no known hazardous materials present. However, the boating facility located on the western shore of the reservoir has restroom and food services facilities. These facilities may have used and stored cleaners, solvents and other items used in the maintenance of the facilities that may be hazardous. In

addition, the restroom building and electrical facility, which would need to be relocated, may contain materials (i.e., asbestos building materials, septic or sewage storage tank, and electrical transformers containing oil) that would be considered hazardous.

3.19.12 Paleontological Resources

This project is located in the Peninsular Ranges region. The Peninsular Ranges Batholith formation is known to exist in this area (San Diego County 1999). This formation's composition ranges from granite to gabbro (Kennedy 1975). Because of its igneous origin, it is considered to have zero paleontological resource sensitivity and not known to contain fossils (Deméré et al. 1993).

3.19.13 Agricultural Resources

The proposed raising of the San Vicente Dam would facilitate the rise of water levels into Grazing Land to the west, northwest of the reservoir (CDC 2003). The exact acreage of agricultural land that could be affected is not known at this time.

3.19.14 Recreation

San Vicente Dam and Reservoir is an important recreational resource for area residents and visitors. Boating and fishing are popular uses of the lake. San Vicente Reservoir is one of the two reservoirs in San Diego County that permit bodily contact with water. The southwest end of the reservoir boasts three boat launch areas, a marina, and parking facilities. Entry to the reservoir is limited to one access road, Moreno. In addition, there is a picnic area near the concession stand (Ogden 1996).

3.20 SEAWATER DESALINATION PLANT AT ENCINA (INITIAL 50 MGD) – #17

3.20.1 Land Use Description

3.20.1.1 Desalination Plant

The proposed desalination plant would be located in Carlsbad adjacent to and within the fenced boundary of the Encina Power Station (see **Figure 2-14**) (SDCWA 2002b). The project site is located adjacent to Agua Hedionda Lagoon and is approximately 0.33 mile east of the Pacific Ocean. Land uses in the vicinity of this project include the large power plant complex and an associated tank farm; Agua Hedionda Lagoon to the north; Carlsbad State Beach to the west along Carlsbad Boulevard; Cannon Park to the south at the corner of Cannon Road and Carlsbad Boulevard; and railroad tracks, I-5, and agricultural lands to the east. Residential land uses are present south of Cannon Road along Carlsbad Boulevard approximately 0.5 mile south of the proposed seawater desalination plant site (SANDAG 1997).

3.20.1.2 Desalinated Water Conveyance Facilities

DWCF would carry water from the Encina Seawater Desalination Plant site in Carlsbad to the Second Aqueduct for distribution to member agencies served by that regional facility. Product water may also be conveyed to local distribution points for the City of Carlsbad, City of Oceanside, and Vista Irrigation District. A future engineering feasibility study and the project-specific environmental review process would determine the exact configuration of the project. Elements likely to be included in the conveyance system include a large pump station on or near the plant site, a large pipeline crossing Carlsbad, and a possible intermediate pump station. The routes and locations of the desalinated water conveyance facilities are not known at this time; therefore, related local environmental settings for the facilities are not presented below.

3.20.2 Water Resources

The proposed Seawater Desalination Plant at Encina and associated DWCF would be located within the Los Monos HSA in the Agua Hedionda HA of the Carlsbad HU (see **Figure 5-1**) (San Diego County 2003a). Runoff would drain into the Agua Hedionda lagoon and then to the Pacific Ocean.

Agua Hedionda Creek, the inflow source for the Agua Hedionda Lagoon, is identified as impaired on the California impaired water bodies list by high total dissolved solids due to urban runoff/storm sewers and unknown nonpoint and point source pollution (SWRCB 2003). The lagoon is also listed as impaired for bacteria indicators due to nonpoint and point source pollution.

Existing designated beneficial uses for Agua Hedionda Lagoon are extensive and include: industrial service supply; non-contact and contact water recreation; commercial and sport fishing; estuarine habitat; wildlife and rare, threatened or endangered species habitat; marine habitat; aquaculture; migration of aquatic organisms; spawning, reproduction, and/or early development; and shellfish harvesting (RWQCB 1994; San Diego County 2003a).

3.20.3 Biological Resources

The site of the proposed seawater desalination plant contains a significant amount of soil disturbance and vegetation is mostly limited to ornamental shrub and tree landscaping. There is a small amount of existing vegetation characteristic of a freshwater wetland onsite in the drainage canal that drains runoff from Cannon Lake into the outer basin of the Agua Hedionda Lagoon. Habitat types within the intertidal and nearshore environments would range from highly scoured exposed hard bottom and intermittent sand covered low and high relief substrate and marine species that are able to persist in the high-energy surfzone and nearshore environment. The intertidal zone also supports common rocky intertidal assemblages of plants and invertebrates including snails, limpets and barnacles. In some areas along the San Diego coastline, the subtidal rocky substrate is relatively uncolonized by marine organisms due to their location in a high wave energy zone with intermittent sand burial. Further offshore, beyond the surfzone, the open coastal environs would include low and high relief ephemeral hard bottom sea floor substrate. Subtidal reefs off the San Diego coastline are known to support an assemblage

of surfgrass, giant kelp, understory kelps and other macroalgae. Surfgrass can be nursery habitat for juvenile lobsters and provides habitat for a number of invertebrates and fish. Common shallow water habitat fish species in the nearshore may include California halibut, barred sand bass, stingray, various perch, topsmelt and northern anchovy.

3.20.4 Traffic and Transportation

The proposed desalination plant would be constructed at the Encina Power Station, approximately 0.2 mile west of I-5. The site may be directly accessed from Cannon Road to the south or Carlsbad Boulevard (South Coast Highway) to the west. Traffic to the site from I-5 would exit at Cannon Road and travel west. Cannon Road is a border between the existing power plant and a residential neighborhood to the south. An alternate route to the site would be southbound on Carlsbad Boulevard.

The McClellan-Palomar Airport is approximately 3.5 miles east of the Encina Power Station. The AT&SF railroad closely parallels the project site to the east.

3.20.5 Noise

As this project would involve the construction of a desalination plant adjacent to and within the fenced boundary of the Encina Power Station, the noise environment would therefore be dominated by the surrounding noise sources including power plant operations.

3.20.6 Air Quality

This project would be located in the SDAB. The SDAB is under the jurisdiction of the SDAPCD. Of the six air pollutants regulated by the U.S. EPA and eight regulated by the CARB, only one of the regulated pollutants, PM_{10} , occurs in a concentration sufficient to violate State standards. The current Federal PM_{10} standards were met, but because the State standards have been exceeded every year from 1997 through 2002, San Diego County is designated as a nonattainment area for CAAQS (CARB 2003).

3.20.7 Utilities and Public Services

Any on-site water service would be provided by the seawater desalination plant or Carlsbad Municipal Water District. SDG&E would provide any electrical power and natural gas.

The Carlsbad Fire Department would provide fire protection to the seawater desalination project. The closest station is approximately 1.75 miles north of the project site (San Diego County 2003f). The Carlsbad Police Department would provide police protection to this project site (City of Carlsbad 2003).

Carlsbad Unified School District serves the area surrounding the proposed seawater desalination project. There is one school, Jefferson Elementary, which is within a 1-mile radius of the project site (City of San Diego 2003a).

3.20.8 Aesthetics

The visual setting for this project is dominated by the existing power plant complex and fuel tanks. For motorists and pedestrians on Carlsbad Boulevard, the primary vantage point for the proposed seawater desalination facility would be visible in the middle ground perspective, above and beyond the open waters of Agua Hedionda Lagoon.

3.20.9 Geology and Soils

The proposed seawater desalination plant would be located in the Coastal Plain region on a narrow deposit of Quaternary alluvium surrounded by Pleistocene marine deposits (Deméré 1997a). The depth of this alluvium is not known, but shallow groundwater levels from the adjacent Pacific Ocean may pose some risk of liquefaction in this area. The seismic hazard at this location is moderate (0.2 to 0.3 g over the next 50 years) (WGCEP 1995). However, the Rose Canyon Fault passes this project site location about 6 miles off the coast (Deméré 1997b). The site consequently borders a higher seismic hazard zone (0.3 to 0.4g over the next 50 years) (WGCEP 1995).

Marina soils exist at this site. These soils consist of loamy coarse sand on slopes ranging from 2 to 9 percent. The shrink-swell behavior is low and the erodibility is severe (USDA 1973).

3.20.10 Cultural Resources

The Encina and Carlsbad regions are within the original territory of the Luiseno people, from 1,000 years ago to the present (Carter 2000). The types of sites associated with Native Americans found in the area include lithic scatters and village sites (EDAW 2002). There is also a potential for historic sites within the project area. Much of the region was once part of the pasture lands supporting the Mission San Diego de Alcalá, then a vast Mexican land grant cattle ranch called Rancho Agua Hedionda, and ultimately a strong coastal community noted for rapid growth. Though the surrounding region has a high potential for cultural resources sites, this project would be constructed within the fuel oil storage tank farm segment of the power plant complex. The location of desalinated water conveyance facilities will require careful examination for potential cultural resources, especially where they cross undisturbed areas.

3.20.11 Public Safety and Hazardous Materials

A review of the County's geohazards map indicates that no geological hazards are present at this project site. The site is not within any flood zone (San Diego County 2003a).

The fire hazard at this site is assumed to be moderate.

This project would be built on the site of an operating power plant. Plant operations include the use, and storage, of chemicals that are considered hazardous. While power plant operations generate hazardous materials, it is not considered a hazardous waste site (DTSC 2003).

3.20.12 Paleontological Resources

This project area is located in the Coastal Plains region (San Diego County 1999). The Unnamed Marine Terrace Deposits and Bay Point formations are known to exist in this project area. These formations have produced many marine invertebrate fossils in the past (Deméré and Walsh 1993). The area is considered to have moderate to high paleontological resource sensitivity and may potentially contain fossils.

3.20.13 Agricultural Resources

This project site would be located within Urban and Built-up Land, not within designated agricultural lands.

3.20.14 Recreation

Carlsbad State Beach is located to the northwest of this project and west of Carlsbad Boulevard. No public access facilities (parking areas, showers, restrooms, etc.) associated with Carlsbad State Beach are located in this project area. Cannon Park is located 0.5 mile south of the site at the corner of Cannon Road and Carlsbad Boulevard. Several bike trails and parcels of designated open space land exist near the project site (City of Carlsbad 2003).

3.21 EXPAND EXISTING OR SITE NEW SEAWATER DESALINATION PLANT – #18

3.21.1 Seawater Desalination Site Option for Phases II and III: San Onofre – at San Onofre Nuclear Generating Station – #18a

3.21.1.1 Land Use Description

This project would be located adjacent to existing San Onofre Nuclear Generating Station (SONGS) structures (see **Figure 2-15**). SONGS facilities are located both east and west of I-5 in northwestern San Diego County. West of I-5 and adjacent to the Pacific Ocean, land uses in the vicinity of this project include the large power plant complex; San Onofre State Beach to the north and south; AT&SF Railroad tracks extending north-south on the eastern boundary of the site; and I-5 extending north-south to the east. East of I-5, the primary land use is the Camp Joseph H. Pendleton Marine Corps Base (Camp Pendleton). Land use at the project site, and extending northwest along I-5, is classified as Public Utility. Residential land uses are present east of I-5 within the Camp Pendleton Base, approximately 0.5 mile to 3 miles east of the proposed seawater desalination plant site (SANDAG 1997).

3.21.1.2 Water Resources

This project would be located within the San Onofre Valley HSA in the San Onofre HA of the San Juan HU (see **Figure 5-1**) (San Diego County 2003a). Runoff in the area would drain westward into the San Onofre Creek and then to the Pacific Ocean.

There are no waters within the San Onofre Valley HSA identified as impaired on the California impaired water bodies list where the project may affect surface waters (SWRCB 2003). Beneficial uses of the San Onofre Creek include municipal and domestic supply; agriculture; contact and non-contact water recreation; wildlife; rare, threatened, and endangered species habitat; marine habitat; migration of aquatic organisms; and spawning, reproduction, and/or early development (RWQCB 1994; San Diego County 2003a).

3.21.1.3 Biological Resources

The proposed project facility would be constructed adjacent to the existing SONGS facilities. The area adjacent to the SONGS facilities west of I-5 consists of a combination of previously disturbed land and transitional coastal zone land that may include wetlands, seasonal marsh, salt marsh, and coastal foredunes.

The facilities east of I-5 primarily consist of previously disturbed land within the industrial complex and the bordering areas are dominated by a combination of largely intact coastal scrub and chaparral vegetation communities. The proposed site would likely be constructed in the former Unit 1 area where vegetation has been entirely or mostly removed by previous development or other intensive disturbance activities. Existing vegetation is most likely dominated by a mixture of ruderal species and site landscaping has added various ornamental trees and shrubs. Expansion into this area is not anticipated to cause any impacts to terrestrial biological resources.

The marine environment in proximity to the project area may support a high diversity of both aquatic and marine wildlife species including a kelp farm. Habitat types within the intertidal and nearshore environments would range from highly scoured exposed hard bottom and intermittent sand covered low and high relief substrate and marine species that are able to persist in the high-energy surfzone and nearshore environment. The intertidal zone also supports common rocky intertidal assemblages of plants and invertebrates including snails, limpets and barnacles. In some areas along the San Diego coastline, the subtidal rocky substrate is relatively uncolonized by marine organisms due to their location in a high wave energy zone with intermittent sand burial. Further offshore, beyond the surfzone, the open coastal environs would include low and high relief ephemeral hard bottom sea floor substrate. Subtidal reefs off the San Diego coastline are known to support an assemblage of surfgrass, giant kelp, understory kelps and other macroalgae. Surfgrass can be nursery habitat for juvenile lobsters and provides habitat for a number of invertebrates and fish. Common shallow water habitat fish species in the nearshore may include California halibut, barred sand bass, stingray, various perch, topsmelt and northern anchovy. A brine concentrate disposal study would be required to detail potential impacts on marine species before acquiring an NPDES permit.

3.21.1.4 Traffic and Transportation

The proposed San Onofre Desalination Plant would be located in the northwestern portion of San Diego County adjacent to the existing SONGS facilities located on both the west and east sides of I-5. I-5 (San Diego Freeway) represents the only major regional access route to the site.

Access to the SONGS facilities is from the Basilone Road/I-5 interchange. Traffic to the facilities on the eastern side of I-5 would travel east on Basilone Road, turning south on Beach Club Road to El Camino Real. Traffic would then proceed on El Camino Real to the site.

Traffic to the SONGS facilities west of I-5 would exit to the west of the Basilone Road/I-5 interchange and proceed south along Old Highway 101 to the project site (Basilone Road becomes Old Highway 101 west of I-5). This road runs along the northern side of SONGS and the proposed site.

The AT&SF railroad line parallels I-5 to the west. There are no other railroad lines or airports in the immediate vicinity of the project sites.

3.21.1.5 Noise

The proposed San Onofre Seawater Desalination Plant would be located within the footprint of SONGS facilities in a commercial/industrial complex.

I-5 extends between the eastern and western SONGS sites and would be the dominate noise source at both locations. Additionally, the AT&SF railroad line parallels the western side of I-5. The noise environment of both sites would be dominated by traffic on I-5 and noise generated within the commercial/industrial complex.

3.21.1.6 Air Quality

This project would be located in the SDAB. The SDAB is under the jurisdiction of the SDAPCD. Of the six air pollutants regulated by the U.S. EPA and eight regulated by the CARB, only one of the regulated pollutants, PM₁₀, occurs in a concentration sufficient to violate State standards. The current Federal PM₁₀ standards were met, but because the State standards have been exceeded every year from 1997 through 2002, San Diego County is designated as a nonattainment area for CAAQS (CARB 2003).

3.21.1.7 Utilities and Public Services

Camp Pendleton would provide any on-site water service to this project site. SDG&E would provide any electrical power and natural gas.

Fire services to the project area would be provided by 1 of the 10 fire stations located on Camp Pendleton (United States Marine Corps [USMC] 2003). Police services would be provided by the Encinitas Sheriff's Department (San Diego County 2003g).

No schools are located within a 1-mile radius of the project area (San Diego County 2002).

3.21.1.8 Aesthetics

From a visual perspective, this project would be located adjacent to a large existing power plant. Project facilities would be visible to visitors to the San Onofre State Beach, travelers on I-5, boaters in the Pacific Ocean and a limited number of residents on the base.

3.21.1.9 Geology and Soils

This site is located in the Coastal Plains region. In this region, Quaternary alluvium is underlain by marine and non-marine terrace deposits, which, in turn, are underlain by sandstone of the San Mateo formation. If thick and saturated, these alluvial soils may weaken and lose their cohesion, making them slip during the shaking of an earthquake. The north-south trending Christianitos Fault ends just north and east of this site location. This fault is mapped as pre-Quaternary and is assumed to be inactive. Four small, inactive faults were also mapped in the San Onofre Hill east of the project area (U.S. Nuclear Regulatory Commission 1981). The seismic hazard at this site is low (0.2 to 0.3 g) over the next 50 years. However, due to the active Newport-Inglewood-Rose Canyon Fault that exists about 5 miles offshore at this location, the site borders a zone of a higher relative seismic hazard (0.3 to 0.4 g over the next 50 years) (WGCEP 1995).

Carlsbad and Elder soils are present at this site. They include shaly, gravelly, sandy loams on slopes of 2 to 9 percent. They have a low shrink-swell behavior and moderate to severe erodibility characteristics.

3.21.1.10 Cultural Resources

SONGS is surrounded by San Onofre State Beach and Camp Pendleton. Once the territory of the native Luiseño people (1000 AD to present), this region was incorporated into the ranching land of the Spanish Mission San Luis Rey and later part of the Rancho Santa Margarita y Las Flores (Carter 2000). Cultural resources discovered in association with Native Americans in this region include lithic scatters and village sites (EDAW 2002). There is a potential for historic sites associated with the Mission, the Rancho and Camp Pendleton within the project area. Since the 1960s this region has also been a haven for champion surfers and bodyboarders (San Clemente 1996). Historic resources associated with this unique California industry may be present in the vicinity of this project. Though the surrounding region has a high potential for cultural resources sites, this project would most likely be constructed at or near SONGS, a built-out area that is unlikely to be the site of significant cultural resources. As this site is considered and the project moves forward, careful examination of the potential for cultural resources will be necessary.

3.21.1.11 Public Safety and Hazardous Materials

The proposed site is located adjacent to the existing SONGS facilities and hazardous materials or waste have been stored or used on these sites both east and west of I-5. The site, east of I-5 and adjacent to Camp Pendleton, is listed on the DTSC Hazardous Waste and Substances Sites (Cortese) List. The site west of I-5 is not on the Cortese List. This list is used to provide information about the location of hazardous materials release sites. Government Code section 65962.5 requires the California Environmental Protection Agency to develop an updated Cortese List annually (DTSC 2003).

The site is located within the 500-year flood zone (San Diego County 2003e). The San Diego County NPDES Stormwater Permit Map does not identify the site as an “Environmentally Sensitive” watershed area (San Diego County 2003b).

3.21.1.12 Paleontological Resources

The project sites are located in the Coastal Plains region (San Diego County 1999). Geologic formations that are known to exist in this project area include Unnamed Marine Terrace Deposits, Capistrano Formation, and Unnamed River Terrace Deposits. These formations have produced diverse fossil marine invertebrates and vertebrates and are considered to have moderate to high resource sensitivity (Deméré and Walsh 1993). There is a potential for the discovery of fossils at this project site.

3.21.1.13 Agricultural Resources

The project sites are located within Urban & Built-Up Land. There is a parcel of Prime Farmland approximately 0.75 mile north of the SONGS facilities east of I-5. Additionally, a parcel of Farmland of Statewide Importance exists approximately 1.5 miles to the northwest of the site, east of I-5 (CDC 2003).

3.21.1.14 Recreation

The San Onofre State Beach is located adjacent to the SONGS facilities west of I-5. This beach is a popular recreational resource for area residents who use the beach for surfing, camping, fishing, and biking.

3.21.2 Seawater Desalination Site Option for Phases II and III: Carlsbad – at Encina Power Station – #18b

This project would be an expansion of Project #17. Please refer to the local environmental setting for Project #17 for all resource settings (see **Figure 2-14**).

3.21.3 Seawater Desalination Site Option for Phases II and III: South Bay – at South Bay Power Plant – #18c

3.21.3.1 Land Use Description

This project would be located within the fenced boundary of the existing South Bay Power Plant (see **Figure 2-16**). The South Bay Power Plant is in the City of Chula Vista, west of I-5 and adjacent to the southern tip of the San Diego Bay. Land uses in the vicinity include the large power plant complex, and the Chula Vista Harbor and Marina to the north. Salt evaporation ponds exist to the south at the base of the Bay. Land use on this site is classified as Industrial/Public Utility. The San Diego and Arizona Eastern (SD&AE) Railroad parallels the eastern boundary of the project site, between the power plant and I-5. Medium-density residential development in the city of Chula Vista is present approximately 1 mile east of this site (i.e., on the eastern side of I-5) (SANDAG 1997).

3.21.3.2 Water Resources

This project would be located within the Telegraph HSA in the Lower Sweetwater HA of the Sweetwater HU (see **Figure 5-1**) (San Diego County 2003a). At an elevation of approximately 10 feet mean sea level, runoff would drain westward into the San Diego Bay.

Chula Vista Harbor, located just north of the project area, is identified as impaired on the California impaired water bodies list by bacteria indicators (SWRCB 2003). Existing beneficial uses within Telegraph HSA include agriculture, industrial, non-contact water recreation, warm water and wildlife habitat (RWQCB 1994; San Diego County 2003a).

3.21.3.3 Biological Resources

The South Bay Power Plant facility is located within a vast industrial complex that is bordered by additional industrial uses to the north, I-5 to the east, and the San Diego Bay to the west. The marine environment of San Diego Bay is comprised of various habitat types including open water, soft-bottom subtidal and intertidal areas, mudflats and human-induced disturbance including numerous breakers and a large salt evaporation pond complex. Habitat types within the intertidal and nearshore environments would range from highly scoured exposed hard bottom and intermittent sand covered low and high relief substrate and marine species that are able to persist in the high-energy surfzone and nearshore environment. The intertidal zone also supports common rocky intertidal assemblages of plants and invertebrates including snails, limpets and barnacles. In some areas along the San Diego coastline, the subtidal rocky substrate is relatively uncolonized by marine organisms due to their location in a high wave energy zone with intermittent sand burial. Further offshore, beyond the surfzone, the open coastal environs would include low and high relief ephemeral hard bottom sea floor substrate. Subtidal reefs off the San Diego coastline are known to support an assemblage of surfgrass, giant kelp, understory kelps and other macroalgae. Surfgrass can be nursery habitat for juvenile lobsters and provides habitat for a number of invertebrates and fish. Common shallow water habitat fish species in the nearshore may include California halibut, barred sand bass, stingray, various perch, topsmelt and northern anchovy. The proposed facility would likely be constructed within a previously disturbed area where vegetation has been entirely or mostly removed by development or other intensive disturbance activities. The landscaping within the industrial complex includes ornamental trees and shrubs. Plant and wildlife species utilizing and inhabiting this area would most likely consist of generalists.

The marine environment in proximity to the project area may support a high diversity of both aquatic and marine wildlife species. A brine concentrate disposal study would be required to detail potential impacts on marine species before acquiring an NPDES permit.

3.21.3.4 Traffic and Transportation

The proposed South Bay Desalination Plant would most likely be located in the southeastern corner of the San Diego Bay in the City of Chula Vista. The SD&AE Railroad line extends along the east side of the South Bay Power Plant site. The project site is approximately 0.2 mile west of I-5. I-5 would provide direct access to the site from the north or the south. Additionally, most major freeways in the southern San Diego region provide access to I-5.

Access to the project site from the north would be at the J Street off-ramp. Vehicles would proceed west on J Street, turning south on Bay Boulevard West. Access to the site from the south would be at the Palomar Street I-5 intersection. Traffic would proceed west on Palomar Street, turning north onto Bay Boulevard West to the project site.

3.21.3.5 Noise

The area to the north and east of the project site is commercial/industrial while the areas to the south and west contain salt ponds. However, the noise environment of this location would be dominated by traffic from I-5, trains on the SD&AE, and electrical generating equipment at the power plant.

3.21.3.6 Air Quality

This project would be located in the SDAB. The SDAB is under the jurisdiction of the SDAPCD. Of the six air pollutants regulated by the U.S. EPA and eight regulated by the CARB, only one of the regulated pollutants, PM₁₀, occurs in a concentration sufficient to violate State standards. The current Federal PM₁₀ standards were met, but because the State standards have been exceeded every year from 1997 through 2002, San Diego County is designated as a nonattainment area for CAAQS (CARB 2003).

3.21.3.7 Utilities and Public Services

The City of San Diego would provide any on-site water service to this project site. SDG&E would provide any electrical power and natural gas.

Fire services for the site would be provided by either Station #6 or Station #30, both of which are located within 4 miles of the site (San Diego County 2003f). Police services would be provided by the City of San Diego (San Diego County 2003g).

School services in the area are provided by the San Diego Unified School District (San Diego County 2002). Two elementary schools and one high school are within a 1-mile radius of the facility site.

3.21.3.8 Aesthetics

From a visual perspective, the seawater desalination plant would be built within an existing industrial area and would be visible to travelers on I-5, boaters using the Chula Vista Harbor and Marina, visitors to the Chula Vista Wildlife Reserve, and a limited number of residents in Chula Vista.

3.21.3.9 Geology and Soils

This site is located in the Coastal Plains region, where the Quaternary alluvium is underlain by marine and non-marine terrace deposits, which, in turn, are underlain by sandstone of the San

Mateo formation. If thick and saturated, these alluvial soils may weaken and lose their cohesion, making them slip during the shaking of an earthquake. This site is on the edge of the Rose Canyon Fault zone. It is generally accepted that the Rose Canyon Fault has been active in recent geologic times (Holocene) (Deméré 1997b). The seismic hazard at this site is moderate (0.3 to 0.4 g over the next 50 years) (WGCEP 1995).

3.21.3.10 Cultural Resources

Chula Vista and the location of the South Bay Power Plant were within the original territory of the Kumeyaay tribe of Native Americans (City of Chula Vista 2003). The types of sites associated with Native Americans in this region include lithic scatters and village sites (EDAW 2002). Following the arrival of Spanish explorers in 1542, the Chula Vista area was part of a Spanish land grant known as Rancho del Rey, and later Rancho de la Nación. Historic sites associated with decades of local history as ranching land, citrus orchards, kelp processing for explosives and war plane manufacturing may be present in the vicinity of the project area (Chula Vista 2003). However, this project would most likely be constructed within the developed envelope of the South Bay Power Plant complex. Heavily disturbed areas are not likely to contain any significant prehistoric or historic resources.

3.21.3.11 Public Safety and Hazardous Materials

The project site is located within the fenced boundary of the South Bay Power Plant where operations include the use, and storage, of chemicals that are considered hazardous. While power plant operations generate hazardous materials, the site is not listed on the Cortese List. This list is used to provide information about the location of hazardous materials release sites. Government Code section 65962.5 requires the California Environmental Protection Agency to develop an updated Cortese List annually (DTSC 2003).

The site is located within the 100-year flood zone (San Diego County 2003e). The San Diego County NPDES Stormwater Permit Map identifies the site as an “Environmentally Sensitive” watershed area (San Diego County 2003b).

3.21.3.12 Paleontological Resources

This site is located in the Coastal Plains region (San Diego County 1999). Geologic formations that are known to exist in this project area include the San Diego Formation, the Capistrano Formation and unnamed marine and river terrace deposits. Each of these formations have produced diverse fossil marine invertebrates and vertebrates and are considered to have moderate to high resource sensitivity (Deméré and Walsh 1993). Invertebrate fossils found in this region have included species of mollusks, echinoderms, and crustaceans. Besides these invertebrate fossils, the fossil bones and teeth of fish and marine mammals are found at many locations in the San Diego Formation. The marine mammals include several species of baleen whales, toothed whales, fur seals, walruses, and sea cows, many of which represent extinct species (Rugh 1998). There is a potential for the discovery of fossils at this project site.

3.21.3.13 Agricultural Resources

The project area is located within Urban & Built-Up Land. Parcels of Farmland of Local Importance are located approximately 1.5 miles to both the north and south of the project area (CDC 2003).

3.21.3.14 Recreation

A designated park area is located to the north and west of the project area. The Chula Vista Harbor is located approximately 0.25 mile northwest and the Chula Vista Wildlife Reserve is located 0.5 mile to the west of the project site.

3.21.4 Seawater Desalination Site Option for Phases II and III: Encina Water Pollution Control Facility – #18d

3.21.4.1 Land Use Description

This project would be located adjacent to the existing EWPCF (see **Figure 2-14**). The EWPCF is approximately 1.5 miles south of the Encina Power Station (see Project #17) along I-5. Land use at this site is Industrial/Public Utility with an estimated 21.5 acres of unused vacant land to the south of the EWPCF (SDCWA 2002). There is a small residential neighborhood south of Palomar Airport Road along Carlsbad Boulevard west of the EWPCF.

3.21.4.2 Water Resources

This project would be located within the Los Monos HSA in the Agua Hedionda HA of the Carlsbad HU (see **Figure 5-1**) (San Diego County 2003a). Runoff from construction of the project at an elevation of approximately 60 feet mean sea level would drain westward to the Pacific Ocean.

Agua Hedionda Creek, the inflow source for the Agua Hedionda Lagoon, is identified as impaired on the California impaired water bodies list by high TDSs due to urban runoff/storm sewers and unknown nonpoint and point source pollution (SWRCB 2003).

Existing beneficial uses for Agua Hedionda Lagoon include: industrial service supply; non-contact and contact water recreation; commercial and sport fishing; estuarine habitat; wildlife and rare, threatened or endangered species habitat; marine habitat; aquaculture; migration of aquatic organisms; spawning, reproduction and/or early development; and shellfish harvesting (RWQCB 1994; San Diego County 2003a).

3.21.4.3 Biological Resources

The project site topography is relatively flat and located near the Canyon de las Encinas watershed. The project footprint would occur within a highly disturbed portion of the site that is likely void of any vegetation communities.

The marine environment near the project area may support a high diversity of both aquatic and marine wildlife species including a kelp farm. Habitat types within the intertidal and nearshore environments would range from highly scoured exposed hard bottom and intermittent sand covered low and high relief substrate and marine species that are able to persist in the high-energy surfzone and nearshore environment. The intertidal zone also supports common rocky intertidal assemblages of plants and invertebrates including snails, limpets and barnacles. In some areas along the San Diego coastline, the subtidal rocky substrate is relatively uncolonized by marine organisms due to their location in a high wave energy zone with intermittent sand burial. Further offshore, beyond the surfzone, the open coastal environs would include low and high relief ephemeral hard bottom sea floor substrate. Subtidal reefs off the San Diego coastline are known to support an assemblage of surfgrass, giant kelp, understory kelps and other macroalgae. Surfgrass can be nursery habitat for juvenile lobsters and provides habitat for a number of invertebrates and fish. Common shallow water habitat fish species in the nearshore may include California halibut, barred sand bass, stingray, various perch, topsmelt and northern anchovy. A brine concentrate disposal study would be required to detail potential impacts on marine species before acquiring an NPDES permit.

3.21.4.4 Traffic and Transportation

The EWPCF is located in the City of Carlsbad due west of I-5. I-5 (San Diego Freeway) represents the only major regional access route to the site. Palomar Airport Road (S12) is a local east-west highway approximately 1 mile north of the project site.

Access to the site would be from I-5 interchanges north and south of the project site. The northern access would be at the Palomar Airport Road interchange. Traffic would then proceed west on Palomar Airport Road to Carlsbad Boulevard (S21). Traffic would then turn south on Carlsbad Boulevard to the project site.

The southern access route to the project site would be at the Poinsettia Lane/I-5 interchange. Traffic would proceed west on Poinsettia Lane, turning north onto Carlsbad Boulevard to the EWPCF location.

The SD&AE Railroad line generally parallels the western side of the facility site. Additionally, the McClellan-Palomar Airport is located approximately 4 miles to the west of the project site.

3.21.4.5 Noise

Land uses near the proposed site represents a mix of land use with areas to the east of I-5 comprising residential and areas to the north, south, and west comprising generally commercial/industrial. Therefore, the noise environment of this location would be dominated by traffic from I-5 as well as periodic train traffic noise along the SD&AE Railroad line.

3.21.4.6 Air Quality

This project would be located in the SDAB. The SDAB is under the jurisdiction of the SDAPCD. Of the six air pollutants regulated by the U.S. EPA and eight regulated by the CARB,

only one of the regulated pollutants, PM₁₀, occurs in a concentration sufficient to violate State standards. The current Federal PM₁₀ standards were met, but because the State standards have been exceeded every year from 1997 through 2002, San Diego County is designated as a nonattainment area for CAAQS (CARB 2003).

3.21.4.7 Utilities and Public Services

Any on-site water service would be provided by the Carlsbad Municipal Water District. SDG&E would provide any electrical power and natural gas.

The Carlsbad Fire Department would provide fire protection to the site. The closest station is approximately 2.75 miles north of the project site (San Diego County 2003f). The Carlsbad Police Department would provide police protection to this site (City of Carlsbad 2003).

Carlsbad Unified School District serves the area surrounding the site. There are no schools within a 1-mile radius of the project site (San Diego County 2002).

3.21.4.8 Aesthetics

This project would most likely be located adjacent to the existing EWPCF (see **Figure 2-14**). From a visual perspective, the desalination plant would be built in a developed industrial area between the interstate and the beach. It could be visible to travelers on I-5 and to a limited number of residents along Carlsbad Boulevard.

3.21.4.9 Geology and Soils

This site is located in the Coastal Plains region within a narrow deposit of Eocene marine sedimentary rocks (sandstone, shale, conglomerate, moderately to well consolidated) among coastal Quaternary alluvium (CGS 2003). The depth of this alluvium is not known, but shallow groundwater levels from the adjacent Pacific Ocean may pose the risk of liquefaction in this area. The seismic hazard at this site is low (0.2 to 0.3 g over the next 50 years) (WGCEP 1995). The Rose Canyon Fault passes this project site location about 6 miles off the coast. Consequently, this site is on the border of a higher relative seismic hazard zone (0.3 to 0.4 g over the next 50 years) (WGCEP 1995).

Marina soils exist at this site. These soils consist of loamy, coarse sand on slopes ranging from 2 to 9 percent. The shrink-swell behavior is low and the erodibility is severe.

3.21.4.10 Cultural Resources

The EWPCF is a developed site that is unlikely to have any significant cultural resources.

3.21.4.11 Public Safety and Hazardous Materials

The site is located within the 100-year flood zone (San Diego County 2003e). The San Diego County NPDES Stormwater Permit Map does not identify the site as an “Environmentally Sensitive” watershed area (San Diego County 2003b).

This project would be built on the site of an existing power plant and operating water pollution control facility. Plant operations include the use, and storage, of chemicals that are considered hazardous. While power plant operations generate hazardous materials, it is not considered a hazardous waste site (DTSC 2003).

3.21.4.12 Paleontological Resources

This site is located in the Coastal Plains region (San Diego County 1999). Paleontologic resource zones that are known to exist in this project area include the Capistrano Formation and unnamed marine and river terrace deposits. These formations have produced diverse fossil marine invertebrates and vertebrates and are considered to have moderate to high resource sensitivity (Deméré and Walsh 1993). There is a potential for the discovery of fossils at this project site.

3.21.4.13 Agricultural Resources

The project site is located within Urban & Built-Up Land. Parcels of Farmland of Local Importance are located approximately 1 mile to the southeast and the south of the site (CDC 2003). There is also a parcel of Prime Farmland located 0.5 mile to the east of the site (CDC 2003).

3.21.4.14 Recreation

Designated public beaches are located west of Carlsbad Boulevard, approximately 0.25 mile from the project area. No other parks, recreation centers, or designated open space areas are near this project site.

3.21.5 Seawater Desalination Site Option for Phases II and III: South Bay Ocean Outfall Site – #18e

3.21.5.1 Land Use Description

The South Bay Ocean Outfall is located approximately 1 mile from the California-Mexico border in south San Diego County (see **Figure 2-17**) extending from Border Field State Park at the shoreline to approximately 3 miles inland. South Bay Ocean Outfall is jointly owned by the International Boundary and Water Commission and the City of San Diego. The ocean outfall is associated with the International Wastewater Treatment Plant (IWTP). The area adjacent to the IWTP is an optional location for a regional scale desalination plant. The existing ocean outfall is a possible candidate for disposal of seawater concentrate from a potential desalination facility located at the South Bay Power Plant (see Project #18c) or an optional facility located adjacent to IWTP. The primary land uses in this region are the Border Field State Park, the Tijuana River National Estuarine Sanctuary and the Tijuana Slough National Wildlife Refuge. Approximately 2 miles to the north is the Imperial Beach Naval Auxiliary Landing Field. The City of Imperial Beach is north of the border region and includes medium-density residential land use and a few agricultural areas.

3.21.5.2 Water Resources

This project would be located within the San Ysidro HSA in the Tijuana Valley HA of the Tijuana HU (see **Figure 5-1**) (San Diego County 2003a). Runoff would drain northward to the Tijuana River and then to the Pacific Ocean.

The Tijuana River is identified as impaired on the California impaired water bodies list by bacteria indicators, eutrophic, low dissolved oxygen, pesticides, solids, synthetic organisms, trace elements, and trash (SWRCB 2003). Existing beneficial uses of the Tijuana River include non-contact water recreation; warm water and wildlife habitat; and rare, threatened, and endangered species habitat (RWQCB 1994; San Diego County 2003a).

3.21.5.3 Biological Resources

The South Bay Ocean Outfall is an existing outfall structure that currently discharges treated wastewater effluent to the ocean. The outfall structure could be utilized to dispose effluent from the South Bay Power Plant seawater desalination alternative or an optional location adjacent to the IWTP. The outfall extends approximately 3 miles inland and discharges at a depth of approximately 95 feet. Habitat types within the intertidal and nearshore environments would range from highly scoured exposed hard bottom and intermittent sand covered low and high relief substrate and marine species that are able to persist in the high-energy surfzone and nearshore environment. The intertidal zone also supports common rocky intertidal assemblages of plants and invertebrates including snails, limpets and barnacles. In some areas along the San Diego coastline, the subtidal rocky substrate is relatively uncolonized by marine organisms due to their location in a high wave energy zone with intermittent sand burial. Further offshore, beyond the surfzone, the open coastal environs would include low and high relief ephemeral hard bottom sea floor substrate. Subtidal reefs off the San Diego coastline are known to support an assemblage of surfgrass, giant kelp, understory kelps and other macroalgae. Surfgrass can be nursery habitat for juvenile lobsters and provides habitat for a number of invertebrates and fish. Common shallow water habitat fish species in the nearshore may include California halibut, barred sand bass, stingray, various perch, topsmelt and northern anchovy. Additional studies related to potential impacts from the discharge of the brine concentrate on marine species would be required.

3.21.5.4 Traffic and Transportation

The South Bay Ocean Outfall site is located in a general undeveloped area in the southwestern portion of San Diego County. As a result, there are no major highways near the site. The only major highway near the site is I-5, located approximately 5.25 miles east of the project site. Two other major freeways -- I-805 (Jacob Dekema Freeway) and SR 905 -- connect to I-5 near the project site.

Access from I-5 to the project site would be at the Tocayo Avenue/SR 905 intersection to the north or at Dairy Mart Road interchange to the south. Traffic from the north would proceed west on Tocayo Avenue, turning south onto Hollister Street. Traffic on Hollister Street would turn

right (west) onto Monument Road, a distance of approximately 2.5 miles. The project traffic would travel on Monument Road and other local unimproved roads to the outfall.

Traffic from the south would exit from I-5 at the Dairy Mart Road interchange. Proposed project site traffic would proceed south on Dairy Mart Road which turns into Monument Road about 2 miles from the I-5 turnoff. Monument Road and other local unimproved roads would provide general access to the outfall and pipeline route.

The Imperial Beach Naval Auxiliary Landing Field is located approximately 2 miles north of the project site. Other airports (e.g., Brown Field and Aeropuerto de Tijuana) are located to the west of the project site.

3.21.5.5 Noise

The proposed desalination plant at the South Bay Ocean Outfall would be located adjacent to the IWTP site. The Imperial Beach Naval Landing Strip approximately 2 miles to the north of the project site is the dominant noise source in the region.

3.21.5.6 Air Quality

This project would be located in the SDAB. The SDAB is under the jurisdiction of the SDAPCD. Of the six air pollutants regulated by the U.S. EPA and eight regulated by the CARB, only one of the regulated pollutants, PM₁₀, occurs in a concentration sufficient to violate State standards. The current Federal PM₁₀ standards were met, but because the State standards have been exceeded every year from 1997 through 2002, San Diego County is designated as a nonattainment area for CAAQS (CARB 2003).

3.21.5.7 Utilities and Public Services

The San Diego Water Department would provide any on-site water service to this project site. SDG&E would provide any electrical power and natural gas.

Fire services to the project site would be provided by the Imperial Beach Fire Department (San Diego County 2003f). Police services would be provided by the San Diego Sheriff's Department. The nearest station is the Imperial Beach Substation in Imperial Beach (San Diego County 2003g).

No schools are located within a 1-mile radius of the project area (County of San Diego 2002).

3.21.5.8 Aesthetics

A desalination plant built adjacent to the South Bay Ocean Outfall IWTP site would be visible to residents of Tijuana, Mexico and a limited number of residents in Imperial Beach.

3.21.5.9 Geology and Soils

This site is located in the Coastal Plains region. The soils in this area are Quaternary alluvium underlain by marine and non-marine terrace deposits, which, in turn, are underlain by sandstone of the San Mateo formation. If thick and saturated, these alluvial soils may weaken and lose their cohesion, making them slip during the shaking of an earthquake. The seismic hazard at this site is low (0.2 to 0.3 g over the next 50 years) (WGCEP 1995). However, this site is on the edge of the Rose Canyon Fault zone, which may have been active in recent geologic times (Holocene) (Deméré 1997b). Consequently, this area borders a zone of higher seismic hazard (0.3 to 0.4 g over the next 50 years) (WGCEP 1995).

3.21.5.10 Cultural Resources

The South Bay Ocean Outfall site is within the traditional territory of the Luiseño tribe, from 1,000 years ago to the present (Carter 2000). Many of the archaeological sites in the vicinity of this project are found near lakes, creeks and rivers. The types of sites found in the area include lithic scatters and Native American village sites. There is also a potential for prehistoric and historic resources in the vicinity of the Mexican border and the Border Field State Park, which may be unique.

3.21.5.11 Public Safety and Hazardous Materials

No known hazardous materials or waste have been stored or used on the site.

The site is located within the 100-year flood zone (San Diego County 2003e). The San Diego County NPDES Stormwater Permit Map identifies the site as an “Environmentally Sensitive” watershed area (San Diego County 2003b).

3.21.5.12 Paleontological Resources

This site is located in the Coastal Plains region (San Diego County 1999). Geologic formations that are known to exist in this project area include the San Diego Formation, the Capistrano Formation and unnamed marine and river terrace deposits. Each of these formations have produced diverse fossil marine invertebrates and vertebrates and are considered to have moderate to high resource sensitivity (Deméré and Walsh 1993). Invertebrate fossils found in this region have included species of mollusks, echinoderms, and crustaceans. Besides these invertebrate fossils, the fossil bones and teeth of fish and marine mammals are found at many locations in the San Diego Formation. The marine mammals include several species of baleen whales, toothed whales, fur seals, walruses, and sea cows, many of which represent extinct species (Rugh 1998). There is a potential for the discovery of fossils at this project site.

3.21.5.13 Agricultural Resources

The proposed project is located on land designated as Other by the CDC (CDC 2003). There is a parcel of Prime Farmland located approximately 1.25 miles to the northwest of the site and a parcel of Grazing Land located 1 mile to the west (CDC 2003).

3.21.5.14 Recreation

The project would be located within the general vicinity of the Tijuana River National Estuarine Sanctuary and Border Field State Park. Recreational activities in the area include bird watching, biking/hiking on designated trails, picnicking and beach access. Border Field State Park offers hiking, biking, horseback riding, fishing, swimming, and bird watching.