

3.1.8 Utilities and Service Systems

This section of the environmental impact report (EIR) discusses potential impacts to utilities and service systems, including water supply, wastewater/sewer service, storm drainage, and solid waste hauling and disposal resulting from implementation of Otay Ranch Village 14 and Planning Areas 16/19 (Proposed Project). The analysis is based on review of existing resources; technical data; applicable laws, regulations, and guidelines; and the following technical reports:

- Otay Ranch Village 14 and Planning Areas 16/19 Water Conservation Plan, prepared by Dexter Wilson Engineering (provided as Appendix 3.1.2-3 to this EIR)
- Overview of Sewer Service for Otay Ranch Village 14 and Planning Areas 16/19, prepared by Dexter Wilson Engineering (provided as Appendix 3.1.8-1 to this EIR)
- Overview of Water Service for Otay Ranch Village 14 and Planning Areas 16/19, prepared by Dexter Wilson Engineering (provided as Appendix 3.1.8-2 to this EIR)
- Septic Feasibility Study, prepared by Advanced Geotechnical Solutions, Inc. (provided as Appendix 3.1.8-3 to this EIR)
- Drainage Study, prepared by Hunsaker & Associates (provided as Appendix 3.1.2-1 to this EIR)
- Stormwater Quality Management Plan, prepared by Hunsaker & Associates (provided as Appendix 3.1.2-2 to this EIR)
- Otay Ranch Village 14 & Planning Areas 16/19 Draft Public Facilities Financing Plan, prepared by Development Planning and Finance Group (provided as Appendix 3.1.6-1 to this EIR)

This section tiers from the 1993 Otay Ranch Final Program EIR (Otay Ranch PEIR; City of Chula Vista and County of San Diego 1993a) because the Proposed Project is within the boundaries of the Otay Ranch General Development Plan/Subregional Plan (Otay Ranch GDP/SRP; City of Chula Vista and County of San Diego 1993b) and development of the Project Area was analyzed in the Otay Ranch PEIR. The Otay Ranch PEIR determined that impacts could be reduced to below a level of significance with mitigation measures.

Following the issuance of the Notice of Preparation for the Proposed Project, the lead agency, the County of San Diego (County), received comment letters from public entities regarding utilities and service systems. Comments included a recommendation to analyze issues regarding sewer services, the provision of public services to the Project Area, and the capacity of existing and proposed infrastructure. The analysis presented in this section addresses each of these topics.

The Proctor Valley Road North, Perimeter Trail, and Preserve Trail Options, as described in Chapter 1, Project Description, have been analyzed as applicable throughout this EIR. If these options are selected by the Board of Supervisors, there would be no potential for impacts related to Utilities and Utility Systems.

3.1.8.1 Existing Conditions

Environmental Setting

Water Supply

The Project Area is located within the boundaries of the Otay Water District (OWD). OWD is a member agency of the San Diego County Water Authority (SDCWA). The SDCWA, in turn, is a member agency of the Metropolitan Water District of Southern California (Metropolitan), which provides access to imported water supplies from the Colorado River Aqueduct and from Northern California via the State Water Project. If approved by the County of San Diego (County), the Proposed Project would be annexed into an OWD Improvement District for water service funding. This annexation is an internal action by OWD. The Proposed Project is precluded from using recycled water due to the City of San Diego restrictions on drainage upstream of the Upper Otay Reservoir.

Regional and Local Water Supply

Metropolitan Water District of Southern California

Metropolitan is a regional wholesaler that delivers water to 26 member public agencies: 14 cities, 11 municipal water districts, and 1 county water authority (which provides water to more than 19 million people in Los Angeles, Orange, Riverside, San Bernardino, San Diego and Ventura counties). Metropolitan is governed by a 38-member board of directors who represent their respective member agencies ensuring each member agency is part of the governance of Metropolitan (Metropolitan 2016a).

To supply the more than 300 cities and unincorporated areas in Southern California with reliable and safe water, Metropolitan owns and operates an extensive water system, including the Colorado River Aqueduct, 16 hydroelectric facilities, 9 reservoirs, 819 miles of large-scale pipes and 5 water treatment plants. Metropolitan is the largest distributor of treated drinking water in the United States. Metropolitan imports water from the Feather River in Northern California and the Colorado River to supplement local supplies. It also helps its member agencies develop water recycling, storage, and other local resource programs to provide additional supplies and conservation programs to reduce regional demands. Metropolitan currently delivers an average of 1.5 billion gallons of water per day to a 5,200-square-mile service area (Metropolitan 2016a).

Metropolitan's primary purpose is to provide a supplemental supply of water for domestic and municipal uses at wholesale rates to its member public agencies. Metropolitan's principal sources of water are the State Water Project and the Colorado River. Metropolitan's planning strategy continues to balance available local and imported water resources and member agencies' demands within Metropolitan's service area. Metropolitan receives water from the State Water Project through the California Aqueduct and from the Colorado River through the Colorado River Aqueduct (Metropolitan 2016a).

Imported Supplies

Colorado River: The Colorado River was Metropolitan's original source of water after Metropolitan's establishment in 1928. Metropolitan has a legal entitlement to receive water from the Colorado River under a permanent service contract with the Secretary of the Interior. The Colorado River Aqueduct, which has a capacity of 1.2 million acre-feet per year, is owned and operated by Metropolitan. It transports water from Lake Havasu, at the border of the state of California and Arizona, approximately 242 miles to its terminus at Lake Mathews in Riverside County. Over the years, Metropolitan increased reliable supply from the Colorado River Aqueduct through programs that it helped fund and implement including: farm and irrigation district conservation programs, improved reservoir system operations, land management programs, and water transfers and exchanges through arrangements with agricultural water districts in Southern California, SDCWA, entities in Arizona and Nevada that use Colorado River water, and the U.S. Department of the Interior, Bureau of Reclamation (Metropolitan 2016a).

State Water Project: Metropolitan imports water from the State Water Project, owned by the State of California and operated by the California Department of Water Resources (DWR). This project transports Feather River water stored in and released from Oroville Dam and conveyed through the Bay-Delta, as well as unregulated flows diverted directly from the Bay-Delta south via the California Aqueduct to four delivery points near the northern and eastern boundaries of Metropolitan's service area (Metropolitan 2016a).

In 1960, Metropolitan signed a contract with DWR for State Water Project water supplies. Metropolitan is one of 29 agencies that have long-term contracts for water service from DWR, and is the largest agency in terms of the number of people it serves (nearly 19 million), the share of State Water Project water that it has contracted to receive (approximately 46%), and the percentage of total annual payments made to DWR by agencies with state water contracts (approximately 53% in 2015) (Metropolitan 2016a).

Local Supplies

There are multiple independent districts and agencies that share the responsibility for the planning and management of the potable water delivery system in San Diego County. Potable water resources within the County are primarily provided by Metropolitan, SDCWA, and SDCWA Member Districts, which include the Otay Water District.

Approximately 50% of the Metropolitan service area's water supplies come from resources controlled or operated by local water agencies. These resources include water extracted from local groundwater basins, catchment of local surface water, non-Metropolitan imported water supplied through the Los Angeles Aqueduct, and Colorado River water exchanged for Metropolitan supplies (Metropolitan 2016a).

Groundwater

The groundwater basins that underlie MWD's service area provide nearly 35% of the water supply in Southern California. The major groundwater basins provide an annual average supply of approximately 1.35 million acre-feet. Natural recharge of the groundwater basins is supplemented by active recharge of captured stormwater, recycled water, and imported water to support this level of annual production (Metropolitan 2016a).

Estimates indicate that available storage space in the region's groundwater basins in mid-2015 is approximately 4.8 million acre-feet. Successive dry years have resulted in groundwater depletions that will need to be replaced with natural recharge during wet years and active spreading of captured stormwater, recycled water, and imported water. Groundwater basin managers and water suppliers have taken steps to store water in advance of dry years to soften the potential impact on groundwater aquifers and to maintain reliable local water supplies during dry years (Metropolitan 2016a).

Recycling, Groundwater Recovery, and Seawater Desalination

Recycling and groundwater recovery are local resources that add balance to Southern California's diverse water portfolio. In addition to replenishment groundwater basins described above, water recycling provides extensive treated wastewater for applicable municipal and industrial uses. Common uses of recycled water include landscape irrigation, agricultural irrigation, and commercial and industrial applications. Groundwater recovery employs additional treatment techniques to effectively use degraded groundwater supplies that were previously not considered viable due to high salinity or other contamination (Metropolitan 2016a).

While water recycling and groundwater recovery projects in the Southern California region are primarily developed by local water agencies, many newer projects have been developed

with financial incentives provided through Metropolitan's Local Resources Program. The Local Resources Program is a performance-based program that provides incentives to expand water recycling and support recovery of degraded groundwater. In 2015, the regional water production from water recycling and groundwater recovery totaled approximately 530 trillion acre-feet, of which 244 trillion acre-feet was developed with Metropolitan funding assistance (Metropolitan 2016a).

Seawater desalination represents a significant opportunity to diversify the region's water resource mix with a new, locally controlled, reliable potable supply. Metropolitan supports seawater desalination to its member agencies by providing technical assistance, regional facilitation of research and information exchanges, and financial incentives through the Local Resources Program.

San Diego County Water Authority

The SDCWA service area covers approximately 951,000 acres and encompasses the western third of San Diego County. SDCWA has 24 member agencies, 15 of which provide water to unincorporated areas of San Diego County. SDCWA is responsible for ensuring a safe and reliable water supply to support the region's economy and quality of life for over three million residents. The SDCWA's 24 member agencies purchase water from the SDCWA for retail distribution within their service territories. A 36-member Board of Directors consisting of member agency representatives governs the SDCWA. The member agencies' six cities, five water districts, eight municipal water districts, three irrigation districts, a public utility district, and a federal military reservation have diverse and varying water needs.

The SDCWA is historically Metropolitan's largest member agency in terms of purchases, purchasing 360,018 acre-feet, or about 21%, of all the water Metropolitan delivered in fiscal year 2015. To reduce its dependency on Metropolitan and diversify its supplies, the SDCWA in recent years has undertaken several initiatives, including the following (SDCWA 2016):

- **Carlsbad Seawater Desalination Water Purchase Agreement:** To further help diversify regional supplies, the SDCWA has entered into a Water Purchase Agreement under which it agrees to purchase up to 56,000 acre-feet/year of desalinated water from the plant in Carlsbad, operated by an affiliate of Poseidon Resources Inc. The plant began operation in December 2015.
- **Imperial Irrigation District Transfer:** The SDCWA signed a Water Conservation and Transfer Agreement with the Imperial Irrigation District in 1998. Through the transfer agreement, the SDCWA is purchasing water from the Imperial Irrigation District at volumes that will gradually increase year to year, reaching 200,000 acre-feet/year in 2021. The water is physically delivered to San Diego via Metropolitan's Colorado River Aqueduct.

- **All-American and Coachella Canal Lining Conserved Water:** In 2003, as part of the execution of the Quantification Settlement Agreement on the Colorado River, the SDCWA was assigned rights to 77,700 acre-feet/year of conserved water from projects to line the All-American and Coachella Canals. These projects are now complete and the SDCWA is receiving this water. As with the Imperial Irrigation District transfer water, the water is physically delivered to San Diego via Metropolitan's Colorado River Aqueduct.
- **Water Transfer and Banking Programs:** The SDCWA has entered into water transfer and water banking arrangements with Central Valley area agricultural agencies and groundwater storage interests. These projects are designed to make additional water available to the SDCWA during dry-year supply shortages from Metropolitan.

Otay Water District

OWD is located in the southern half of San Diego County and was created in 1956 by a small group of private citizens, ranchers, and landowners who were concerned about the declining quality and quantity of water from their rural wells. OWD joined the SDCWA as a member agency in the same year.

OWD is a California special district authorized under the provisions of the Municipal Water District Law of 1911 and is revenue neutral, i.e., each end user pays their fair share of costs for capital improvements, water acquisition, and the operation and maintenance of facilities. Its elected Board of Directors sets OWD's ordinances, policies, taxes, and rates for providing wastewater, potable water, and recycled water services. OWD's water service area is generally located within the south central portion of San Diego County and includes approximately 126 square miles. The topography of the service area is diverse, consisting of a variety of valleys, hills, mountains, mesas, lakes, and rivers. The service area includes both urban and rural development. The major transportation arteries serving the area include State Highway 94 in the north, Interstate 805 in the southwest, and the newly constructed State Route 125 to the east. Interstate 905 and State Highway 11 are in the process of being constructed in the Otay Mesa area (OWD 2016).

OWD's service area has experienced growth in the past 5 years, and the service area population is expected to be approximately 285,340 people by 2040. OWD serves a wide spectrum of communities including southern El Cajon, La Mesa, Rancho San Diego, Jamul, Spring Valley, Bonita, eastern Chula Vista, East Lake, Otay Ranch, and Otay Mesa. The water purveyors that border the OWD boundaries include Padre Dam Municipal Water District on the north, Helix Water District on the northwest, and the Sweetwater Authority and the City of San Diego on the west. The southern boundary of OWD is the international border with Mexico (OWD 2016).

Existing Water Service

The Proposed Project is within the boundaries of OWD, SDCWA, and Metropolitan for water service. Retail water service for the Proposed Project would be provided by OWD. The Proposed Project would require annexation into an OWD Improvement District in order to obtain water service. This annexation is an internal action by OWD and requires a written request and payment of processing fees; no Local Agency Formation Commission action is required. OWD has existing and planned facilities surrounding the Project Area.

Water service can be provided to the Proposed Project by expanding the existing delivery system. More specifically, water service would be provided by the 980 Pressure Zone (980 Zone) of the Central Area System and the 1296 Pressure Zone (1296 Zone) of the Regulatory System of the OWD. Figure 3.1.8-1, Existing Water Facilities, depicts existing off-site water facilities, which are further described below.

The 980 Zone accesses water from the SDCWA aqueduct by Otay Flow Control Facilities Numbers 10 and 12. The 980 Zone currently includes two pump stations. The 980-1 Pump Station, referred to as the Eastlake Pump Station, is located on the south side of Otay Lakes Road at Lane Avenue, and the 980-2 Pump Station. The 980-1 Pump Station currently has two active pumps and one standby pump that are all rated for 4,000 gallons per minute (gpm) and maintain a firm station capacity of 8,000 gpm. The 980-1 Pump Station pumps water from the 711 Zone system into the 980 Zone distribution system, and into two existing 980 Zone reservoirs located in the OWD Use Area. The 980-2 Pump Station pumps water from the 624 Zone to the 980 Zone and currently has three duty pumps, one standby pump, and two empty pump cans for future expansion. All pumps are rated for 5,000 gpm which results in a firm pumping capacity of 12,000 gpm.

The 980-1 Pump Station pumps water into two existing 980 Zone reservoirs, approximately 2 miles west of the Project Area. Both existing reservoirs in the 980 Zone are located at the same site within the OWD Use Area, north of Rolling Hills Ranch. These reservoirs each have a capacity of 5 million gallons, for a total of 10 million gallons.

The major 980 Zone pipelines in the vicinity of the Project Area are all located west of the Project Area, and include transmission lines in Hunte Parkway and Proctor Valley Road. The 36-inch-diameter transmission line in Proctor Valley Road has been extended to east of Hunte Parkway to the eastern most portion of Rolling Hills Ranch. This line was oversized to serve future development in Proctor Valley and to provide an interconnection between the Central and Regulatory Areas of OWD.

There is one pump station that supplies the 1296 Zone. This station is located north of Lyons Valley Road approximately 0.25 miles north of the Project Area and has four existing pumps and room for a fifth pump to be added in the future. This station has a firm capacity of 2,900 gpm and pumps water to three 1296 Zone Reservoirs located at the same site, which have a total capacity of approximately 5 million gallons. Transmission and distribution lines in this area range from 8-inch-diameter to 16-inch-diameter, and include a 10-inch-diameter line that is extended in Proctor Valley Road, just to the north of the Project Area.

Wastewater Treatment

The majority of wastewater treatment and disposal in the unincorporated areas of San Diego County is accomplished by one of the following three methods: regional systems maintained by public water or sewer districts, small wastewater treatment facilities operated by independent districts or the County, and on-site specific subsurface sewage disposal (septic) systems. The method of treatment and disposal often depends on access and expansion to an existing district's location and/or the actual site location/characteristics. Generally, those districts located in proximity of the City of San Diego use the San Diego Metropolitan Sewerage System for treatment and effluent disposal. A number of agencies also use a combination of the Metropolitan Sewerage System and inland treatment and disposal. Those districts located near the coastal areas provide effluent disposal through an ocean outfall. Those districts located inland (a majority of the unincorporated areas of the County) provide sewage treatment and disposal through reuse, spray fields, recharge, evaporation, and other techniques (County of San Diego 2011a).

Currently, no wastewater facilities exist within the Project Area. Surrounding areas are serviced by the San Diego County Sanitation District (SDCSD) and the City of Chula Vista. The SDCSD has an agreement with the City of San Diego for treatment and disposal of sewage through the City of San Diego Metropolitan Sewerage System and treatment plant. The capacity rights of the Spring Valley Sanitation District and other sanitation districts have been consolidated and placed under the control of the SDCSD. The Proposed Project is located within the County, and capacity for the proposed sewer system would be served by the SDCSD (Appendix 3.1.8-1, Sewer Services).

The Salt Creek Interceptor, located immediately west of the Project Area, would serve as the primary transportation system to provide sewer service to the Proposed Project. This Interceptor line is owned and operated by the City of Chula Vista and would serve the Proposed Project, pursuant to the Sewage Transportation Agreement for the Salt Creek Sewer Interceptor executed by the SDCSD and the City of Chula Vista on July 1, 2016.

Figure 3.1.8-2 depicts the existing Salt Creek Interceptor. This interceptor begins in Hunte Parkway, near the southern boundary of the Rolling Hills Ranch project, and generally follows Salt Creek and the Otay River Valley drainages to the City of San Diego's Metropolitan Interceptor. The City of Chula Vista has capacity rights in the City of San Diego's Metro Sewer System. The Salt Creek Interceptor ranges from a 15-inch to 48-inch line. The Salt Creek Interceptor has been sized to accommodate ultimate development in the service area, including the unincorporated Villages in Otay Ranch. A November 1994 Salt Creek Basin study that was used to size the Salt Creek Interceptor estimated that 2,223 equivalent dwelling units (EDUs) from the Proposed Project would convey flow to the Salt Creek Interceptor. The 1,148 total EDUs (residential and non-residential uses) anticipated by the Proposed Project are 1,075 fewer EDUs than the previous projection (see Appendix 3.1.8-1).

In response to community comments at various Proposed Project forums, the applicant evaluated whether the Proposed Project's wastewater needs for Planning Areas 16/19 could be met through on-site wastewater treatment systems only rather than through connection to a sewer system. As explained in the On-Site Wastewater Treatment Feasibility Study ("Septic Study"), conducted by Advanced Geotechnical Solutions Inc., on-site wastewater treatment systems would not adequately serve the Proposed Project because "the Project Area does not possess suitable soil or ground water conditions to support conventional or alternative on-site wastewater treatment systems on each proposed lot" (Appendix 3.1.8-3).¹ Because the Septic Study concluded that the lots in the eastern portion of Planning Area 16 would need to be served by sewer, it became unnecessary to evaluate the remainder of the Planning Area 16 lots since the sewer line to the eastern lots would necessarily be installed adjacent to nearly all of the remaining lots in Planning Area 16. County policy requires that any lot adjacent to a sewer line in a public right of way be provided access to that sewer line (County of San Diego Ordinance No. 10136; San Diego County Code of Regulatory Ordinances, Section 1: Title 6, Division 8, Chapter 3, Article 2, Section 68.310). For these reasons, the on-site septic option is not discussed further in this section.

San Diego County Sanitation District

The Proposed Project is located in the County of San Diego, and the proposed sewer system would be served by SDCSD. SDCSD has an agreement with the City of San Diego for treatment and disposal of sewage. The capacity rights of the Spring Valley Sanitation District and other sanitation districts have been consolidated and placed under the control of SDCSD. Annexation into SDCSD, along with an amendment to SDCSD's sphere of influence boundary,

¹ A copy of the Advanced Geotechnical Solutions feasibility study is available for review at the County Department of Planning and Land Use.

will be required and will be a discretionary action of the San Diego Local Agency Formation Commission. Sewer treatment capacity will be provided by SDCSD, which has sufficient capacity rights in the City of San Diego's Metropolitan Sewerage System to service the Proposed Project.

Storm Drainage

The Project Area currently contains no development. On-site topography is characterized by low to moderate and steep hills, incised canyons, and vegetation consisting mainly of brush. No development exists in the adjacent surrounding area, which drains through the Project Area. However, adjacent Otay Ranch property owners have development rights based on the Otay Ranch GDP/SRP, and those properties would drain into the Proctor Valley drainage system, through the Project Area. Thus, the adjacent property owners drainage has been accounted for in the design and sizing of the Proposed Project's stormwater facilities.

Proctor Valley Road traverses the site, connecting the community of Jamul to the City of Chula Vista. Proctor Valley Road is partially paved through its length with minimal drainage structures. In general, Proctor Valley Road follows the existing contours and shows evidence of runoff overtopping and sheet flowing particularly at the locations of the major existing drainage paths. Proctor Valley Road and Proctor Valley generally parallel each other. Canyon runoff east and west of Proctor Valley confluence at Proctor Valley floor and flow in a southwesterly direction to discharge into the Upper Otay Reservoir.

Runoff from the Project Area currently discharges to either the Upper or Lower Otay Reservoirs via Proctor Valley drainages and Jamul Creek. Generally, surface water runoff from Village 14, Planning Area 19, and the western portion of Planning Area 16 drain via Proctor Valley drainages and discharge to Upper Otay Reservoir. Surface water runoff from the far eastern portion of Planning Area 16 drains easterly to Jamul Creek and ultimately discharges to Lower Otay Reservoir.

The Upper Otay Reservoir serves as a recreational area as well as a dam, with an overflow into the downstream Lower Otay Reservoir. Water from the Lower Otay Reservoir (and, thus, from the entire catchment of the reservoir system) rarely discharges to the Otay River downstream of Savage Dam. Water from Lower Otay Reservoir is conveyed in a pipeline to the Otay Water Treatment Plant, treated to drinking water standards, and distributed as potable water to rate payers in the City of San Diego and neighboring communities. The only time any water is released from Lower Otay Reservoir to the Otay River downstream is when the reservoir fills up and overflows, which has happened only seven times since 1917. The last water release was in February 2017 (Appendix 3.1.2-1, Drainage Study).

The San Diego County Flood Control District is responsible for ensuring that safe and efficient stormwater drainage control systems are provided concurrent with development in the unincorporated portions of the County. The County Board of Supervisors acts as the Board of Directors for the Flood Control District. Flood Control District staff review individual projects to ensure that improvements are provided consistent with the water quality improvement plans and that development projects comply with all County engineering drainage standards.

Solid Waste

There are seven active landfills; nine transfer stations, construction demolition, and inert processing facilities; 10 biomass processing facilities; and various recycling programs that currently serve the solid waste disposal service needs of the unincorporated County areas (County of San Diego 2011b). Figure 3.1.8-3, Existing Landfill Facilities, shows the locations of active landfills within the unincorporated County in relation to the Project Area.

Solid waste facilities, including landfills, require solid waste facility permits to operate. The County of San Diego Solid Waste Local Enforcement Agency ensures proper operation, permitting, and closure of solid waste facilities, operations, and disposal sites in San Diego County, excluding the City of San Diego. County of San Diego Solid Waste Local Enforcement Agency issues solid waste facility permits with concurrence from the California Integrated Waste Management Board under the authority of the Public Resources Code (Sections 44001–44018) and California Code of Regulations Title 27, Division 2, Subdivision 1, Chapter 4 (Section 21440 et seq.).

Solid waste management has been recognized as an important regional issue in San Diego County because of existing permitted landfill capacity, increased urban encroachment, applicable environmental regulations, increased cost of developing and managing active and closed waste management facilities, and increased environmental and social concerns affecting potential facility expansions and replacement sites. Current plans for the expansion of existing landfills and new landfills would add 179 million tons of capacity, including Campo Landfill (28 million tons) and the Master Plan for Sycamore Landfill (116.6 million tons) (County of San Diego 2011). The San Diego County Integrated Waste Management Plan Siting Element analysis (2005) determined that if the County would recycle at a rate of 75%, which complies with state goals for integrated solid waste management, compared to the current 50%, there would be no need for additional landfills in the County (County of San Diego 2011).

Due to factors such as population growth, economics, and development, there has been a consistent increase in annual solid waste disposal tonnages (County of San Diego 2011b). Historically, solid waste disposed in San Diego County landfills grew steadily from less than 460,000 tons in 2000 to more than 613,000 in 2008. From 2000 to 2008, solid waste disposal for the unincorporated County increased by 33%. Waste composition varies from year to year and is

affected by a number of factors, including recycling programs, the economy, and landfill bans (County of San Diego 2011c).

Regulatory Setting

Water Supply

Urban Water Management Plan Act

The Urban Water Management Plan (UWMP) Act requires that each urban water supplier providing water for municipal purposes, either to more than 3,000 customers, or more than 3,000 acre-feet of water annually, must prepare, adopt, and update a UWMP at least once every 5 years on or before December 31, in years ending in 5 and 0. This applies to Metropolitan, SDCWA, and its member agencies, including OWD, that serve unincorporated San Diego County. The intent of a UWMP is to present information on water supply, water usage/demand, recycled water, and water use efficiency programs in a respective water district's service area. The UWMP also serves as a valuable resource for planners and policy makers over a 25-year time frame.

The UWMP process ensures that water supplies are being planned to meet future growth. UWMPs are developed to manage the uncertainties and variability of multiple supply sources and demands over the long term. Water agencies and districts update their demand and supply estimates based on the most recent San Diego Association of Governments forecast approximately every 5 years to coincide with preparation of their UWMPs. The most current supply and demand projections are contained in the 2015 UWMPs of Metropolitan, SDCWA, and OWD (Metropolitan 2016a; OWD 2016; SDCWA 2016). SDCWA member districts rely on the UWMPs and Integrated Resources Plans of Metropolitan (Metropolitan 2016b) and the Regional Water Facilities Master Plan of SDCWA to document supplies available to meet projected demands.

Normal year, single-dry year, and multiple-dry year 2015 UWMP supply and demand assessments for Metropolitan, SDCWA, and OWD are intended to describe the water supply reliability and vulnerability to seasonal or climatic conditions. Normal water years are considered to be years that experience average rainfall for the respective district. Single-dry water years are considered 1-year drought events. Multiple-dry water years refer to a series of below-average rainfall for particular areas (i.e., multiple drought year conditions). Projections for multiple-dry years are made in 5-year increments.

In the 2015 UWMPs, Metropolitan, SDCWA, and all SDCWA member agencies, including OWD, that serve unincorporated San Diego County determined that adequate water supplies would be available to serve existing service areas under normal year, single-dry year, and multiple-dry year conditions through the year 2040.

Senate Bills 610 and 221

On January 1, 2002, Senate Bill (SB) 610 took effect. SB 610, which was codified in the California Water Code, Section 10910 et seq., requires preparation of a water supply assessment for projects within cities and counties that propose to construct 500 or more residential units or the equivalent. SB 610 provides that when environmental review of certain development projects is required, the water agency that is to serve the development must complete the water supply assessment to evaluate water supplies that are or will be available during a normal year, single-dry year, and multiple-dry years during a 20-year projection to meet existing and planned future demands, including the demand associated with the Proposed Project.

SB 221, enacted in 2001 and codified in Government Code Section 66473.7, requires a county, city, or local agency to include a condition to any tentative subdivision map that a sufficient water supply will be available to serve the subdivision. The term “sufficient water supply” is defined as the total water supplies available during a normal year, single-dry year, and multiple-dry years within a 20-year projection that would meet the proposed subdivision’s projected water demand, in addition to existing and planned future water uses, including agricultural and industrial uses, within the specified service area. SB 221 further requires any verification of “projected” water supplies to be based on entitlement contracts, capital outlay programs, and regulatory permits and approvals.

Executive Order B-29-15

On April 1, 2015, Governor Jerry Brown issued Executive Order B-29-15, which directs the first mandatory water reductions in California history, due to the continued drought state of emergency and severe water supply depletion in most of California’s reservoirs and underground water basins. The primary goal of the executive order is to achieve a 25% reduction in water use across the state compared to the amount used in 2013. Specifically, under the immediately effective issuance of Executive Order B-29-15, the following water-saving regulations were implemented:

- The Water Board shall impose restrictions to achieve a statewide 25% reduction in potable urban water usage through February 28, 2016. These restrictions will require water suppliers to California’s cities and towns to reduce usage as compared to the amount used in 2013. These restrictions should consider the relative per-capita water usage of each water suppliers’ service area, and require that those areas with high per-capita use achieve proportionally greater reductions than those with low use. The California Public Utilities Commission is requested to take similar action with respect to investor-owned utilities providing water services.

- The Department of Water Resources (DWR) shall lead a statewide initiative, in partnership with local agencies, to collectively replace 50 million square feet of lawns and ornamental turf with drought tolerant landscapes. DWR shall provide funding to allow for lawn replacement programs in underserved communities, which will complement local programs already underway across the state.
- The California Energy Commission (CEC), jointly with the DWR and the Water Board, shall implement a time-limited statewide appliance rebate program to provide monetary incentives for the replacement of inefficient household devices.
- The Water Board shall impose restrictions to require that commercial, industrial, and institutional properties, such as campuses, golf courses, and cemeteries, immediately implement water efficiency measures to reduce potable water usage in an amount consistent with the reduction targets mandated by Directive 2 of Executive Order B-29-15.
- The Water Board shall prohibit irrigation with potable water on ornamental turf on public street medians.
- The Water Board shall prohibit irrigation with potable water outside of newly constructed homes and buildings that is not delivered by drip or micro-spray systems.
- The Water Board shall direct urban water suppliers to develop rate structures and other pricing mechanisms, including but not limited to surcharges, fees, and penalties, to maximize water conservation consistent with statewide water restrictions. The Water Board is directed to adopt emergency regulations to implement this directive, as it deems necessary, pursuant to Water Code Section 1058.5. The Water Board is further directed to work with state agencies and water suppliers to identify mechanisms that would encourage and facilitate the adoption of rate structures and other pricing mechanisms that promote water conservation. The California Public Utilities Commission is requested to take similar action with respect to investor-owned utilities providing water services.

Memorandum of Understanding Regarding Urban Water Conservation in California

The OWD is signatory to the Memorandum of Understanding Regarding Urban Water Conservation in California, which created the California Urban Water Conservation Council in 1991 in an effort to reduce California's long-term water demands. Water conservation programs are developed and implemented to reduce the demand on available supply, which is vital to the optimal utilization of a region's water supply resources.

As one of the first signatories to the Memorandum of Understanding, the OWD has made implementation of best management practices (BMPs) for water conservation the cornerstone of its conservation program and a key element in its water resource management strategy. As a member of the SDCWA, the OWD also benefits from regional programs performed on behalf of

SDCWA's member agencies. The BMPs implemented by the OWD and the regional programs implemented by the SDCWA are addressed in the OWD 2015 UWMP (OWD 2016).

As a signatory to the Memorandum of Understanding, the OWD is required to submit biannual reports that detail implementation of current water conservation practices. The OWD voluntarily agreed to implement the 14 water conservation BMPs beginning in 1992. The OWD submits its report to the California Urban Water Conservation Council every 2 years, and the OWD BMP reports are included in the OWD 2015 UWMP.

California Green Building Standards Code

Title 24, Part 6. Title 24 of the California Code of Regulations was established in 1978 and serves to enhance and regulate California's building standards. The CEC is required by law to adopt standards every 3 years that are cost effective for homeowners over the 30-year lifespan of a building. The current Title 24 standards are the 2016 Title 24 building energy efficiency standards, which became effective January 1, 2017.

Title 24, Part 11. In addition to the CEC's efforts, in 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (Part 11 of Title 24) is commonly referred to as CALGreen, and establishes minimum mandatory standards as well as voluntary standards pertaining to the planning and design of sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and interior air quality. The CALGreen standards took effect in January 2011 and instituted mandatory minimum environmental performance standards for all ground-up, new construction of commercial, low-rise residential and state-owned buildings, and schools and hospitals. The CALGreen 2016 standards became effective January 1, 2017. The mandatory standards require the following:

- Mandatory reduction in indoor water use through compliance with specified flow rates for plumbing fixtures and fittings
- Mandatory reduction in outdoor water use through compliance with a local water efficient landscaping ordinance or the California DWR's Model Water Efficient Landscape Ordinance
- 65% of construction and demolition waste must be diverted from landfills
- Mandatory inspections of energy systems to ensure optimal working efficiency
- Inclusion of electric vehicle charging stations or designated spaces capable of supporting future charging stations
- Low-pollutant emitting exterior and interior finish materials, such as paints, carpets, vinyl flooring, and particle boards (24 CCR, Part 11)

The CALGreen standards also include voluntary efficiency measures that are provided at two separate tiers and implemented at the discretion of local agencies and applicants. CALGreen's Tier 1 standards call for a 15% improvement in energy requirements; stricter water conservation, 65% diversion of construction and demolition waste, 10% recycled content in building materials, 20% permeable paving, 20% cement reduction, and cool/solar-reflective roofs. CALGreen's more rigorous Tier 2 standards call for a 30% improvement in energy requirements, stricter water conservation, 75% diversion of construction and demolition waste, 15% recycled content in building materials, 30% permeable paving, 25% cement reduction, and cool/solar-reflective roofs.

The California Public Utilities Commission, CEC, and the California Air Resources Board also have a shared, established goal of achieving zero net energy for new construction in California. The key policy timelines include the following: (1) all new residential construction in California will be zero net energy by 2020 and (2) all new commercial construction in California will be zero net energy by 2030.

Safe Drinking Water Act

Passed in 1974 and amended in 1986 and 1996, the Safe Drinking Water Act (42 U.S.C. 300f et seq.) gives the U.S. Environmental Protection Agency the authority to set drinking water standards. Drinking water standards apply to public water systems that provide water for human consumption through at least 15 service connections or that regularly serve at least 25 individuals. There are two categories of drinking water standards: the National Primary Drinking Water Regulations and the National Secondary Drinking Water Regulations. The National Primary Drinking Water Regulations are legally enforceable standards that apply to public water systems. These standards protect drinking water quality by limiting the levels of specific contaminants that can adversely affect public health and are known or anticipated to occur in water. The National Secondary Drinking Water Regulations are non-mandatory guidelines for certain substances that do not present a risk to public health.

County of San Diego General Plan

The Conservation and Open Space Element of the County of San Diego General Plan addresses water resources as relating to conservation; efficient water use; protection of the groundwater aquifer; and protection of water bodies and water courses, which include reservoirs, rivers, streams, and the watersheds located throughout the region. Goals and policies are provided within each section of the General Plan, and applicable policies to the Proposed Project in relation to water resources are provided below (County of San Diego 2011a):

- **COS-4.1: Water Conservation.** Require development to reduce the waste of potable water through use of efficient technologies and conservation efforts that minimize the County's dependence on imported water and conserve groundwater resources.

- **COS-4.2: Drought-Efficient Landscaping.** Require efficient irrigation systems and in new development encourage the use of native plant species and non-invasive drought tolerant/low water use plants in landscaping.
- **COS-4.3: Stormwater Filtration.** Maximize stormwater filtration and/or infiltration in areas that are not subject to high groundwater by maximizing the natural drainage patterns and the retention of natural vegetation and other pervious surfaces. This policy shall not apply in areas with high groundwater, where raising the water table could cause septic system failures, moisture damage to building slabs, and/or other problems.
- **COS-4.4: Groundwater Contamination.** Require land uses with a high potential to contaminate groundwater to take appropriate measures to protect water supply sources.
- **COS-4.5: Recycled Water.** Promote the use of recycled water and gray water systems where feasible.
- **COS-5.1: Impact to Floodways and Floodplains.** Restrict development in floodways and floodplains in accordance with policies in the Flood Hazards section of the Safety Element.
- **COS-5.2: Impervious Surfaces.** Require development to minimize the use of directly connected impervious surfaces and to retain stormwater run-off caused from the development footprint at or near the site of generation.
- **COS-5.3: Downslope Protection.** Require development to be appropriately sited and to incorporate measures to retain natural flow regimes, thereby protecting downslope areas from erosion, capturing runoff to adequately allow for filtration and/or infiltration, and protecting downstream biological resources.
- **COS-5.5: Impacts of Development to Water Quality.** Require development projects to avoid impacts to the water quality in local reservoirs, groundwater resources, and recharge areas, watersheds, and other local water sources.

Otay Ranch General Development Plan/Subregional Plan

The Otay Ranch GDP/SRP provides planning goals and related policies for implementing the plan; applicable policies to the Proposed Project in relation to water resources are as follows (City of Chula Vista and County of San Diego 1993b):

- **Policy A.8:** Phase development according to available public services and facilities.
- **Policy B.1:** Formulate public facilities program and financing plan.
- **Policy B.3:** Resolve water demand and supply.

The Otay Ranch GDP/SRP contains a water facilities chapter to ensure an adequate supply of water for build-out of the Otay Ranch area and to maximize water conservation. The following policies contained in the water facilities chapter of the Otay Ranch GDP/SRP are relevant to the Proposed Project (City of Chula Vista and County of San Diego 1993b):

- **Policy:** Coordinate Otay Ranch land planning with the applicable water district provider.
- **Policy:** Discretionary land development applications dependent on imported water will only be approved if the service provider reasonably expects that water facilities will be available concurrent with need. And that all appropriate requirements will be met through conditions placed on project approval.

Otay Ranch Facilities Implementation Plan

When the County adopted General Plan Amendment (GPA) 92-04 (Final Otay Ranch GDP/SRP), Volume II of the Otay Ranch GDP/SRP was also adopted, which contained major policies, recommendations, and implementation measures, including the Facilities Implementation Plan, which provides guidance for the development of Otay Ranch. The Facilities Implementation Plan includes goals, policies, and standards associated with facility implementation and specifies the necessary steps required for implementation. The threshold identified in the Water Facilities section of the Facilities Implementation Plan states: Ensure an adequate supply of water on a long-term basis, prior to the development of each Otay Ranch SPA. The following goals, policies, and implementation measures are provided (City of Chula Vista and County of San Diego 1993b):

Goal: Ensure an adequate supply of water for build-out of the entire Otay Ranch Project Area; design the Otay Ranch Project Area to maximize water conservation.

- **Objective:** Ensure an adequate supply of water on a long-term basis prior to the development of each phase of the Otay Ranch Project Area.
- **Objective:** Ensure infrastructure is constructed concurrently with planned growth, including adequate storage, treatment, and transmission facilities, which are consistent with development phasing goals, objectives and policies, and the Service/Revenue Plan.
- **Objective:** Ensure that water quality within the Otay Ranch Project Area is not compromised, consistent with NPDES Best Management Practices, and the RWQCB Basin Plans.
 - **Policy:** Coordinate Otay Ranch land planning with the applicable water district provider.
 - **Implementation Measure:** Where feasible, site water facilities in the locations most suited to the needs of present and projected future residents.

- **Policy:** Discretionary land development applications dependent on imported water will only be approved if the service provider reasonably expects that water facilities will be available concurrent with need, and that all appropriate requirements will be met through conditions placed on project approval.
- **Implementation Measure:** Require, as a basis of approval of specific plans, that the applicant obtain an indication from the water district that facilities are available, or are reasonably expected to be available, to serve that project concurrent with need.
- **Implementation Measure:** Require commitment of availability of water facilities from the applicable water district before a subdivision map can record.
- **Objective:** Promote water conservation through increased efficiency in essential uses and use of low water demand landscaping.
- **Objective:** Encourage suppliers to adopt a graduated rate structure designed to encourage water conservation.

Wastewater Treatment

County of San Diego General Plan

The County's General Plan Land Use Element contains a Community Facilities and Infrastructure section that addresses plans and policies regarding public utilities. Applicable General Plan policies related to wastewater are as follows (County of San Diego 2011a):

- **LU-14.2: Wastewater Disposal.** Require that development provide for the adequate disposal of wastewater concurrent with the development and that the infrastructure is designed and sized appropriately to meet reasonably expected demands.
- **LU14.4 Sewer Facilities.** Prohibit sewer facilities that would induce unplanned growth. Require sewer systems to be planned, developed, and sized to serve the land use pattern and densities depicted on the Land Use Map. Sewer systems and services shall not be extended beyond either Village boundaries or extant Urban Limit Lines, whichever is more restrictive, except:
 - When necessary for public health, safety, or welfare;
 - When within existing sewer district boundaries;
 - When necessary for a conservation subdivision adjacent to existing sewer facilities; or
 - Where specifically allowed in the community plan.

County of San Diego Uniform Sewer Ordinance

The County's sanitation and sewer maintenance districts operate under the County Uniform Sewer Ordinance (USO). The USO sets rules and regulations for operation and maintenance of sewage collection and treatment systems. Classes of sewer service are categorized by land use type. Provisions for annexation are addressed, along with procedures for obtaining new or modified sewer service. Wastewater Discharge Permits are issued to each customer, with approximately 90% of permits issued to residential uses and 10% issued to commercial uses. Violations of the USO are subject to misdemeanor charges (County of San Diego 2011b).

San Diego County Health and Sanitation Ordinance

Title 6 of the County of San Diego Code of Regulatory Ordinances (County of San Diego Code of Regulatory Ordinances, Title 6, Division 8, Chapter 1, Sections 68.101–68.123) specifies conditions and procedures for connection and use of sewage facilities by sanitation district customers. The ordinance incorporated many, but not all, provisions of the USO (County of San Diego 2011b). (It appears that whenever changes to the USO occur, they may not always be incorporated into the Code in a consistent or timely manner.)

Article 6, Sewer Design Standards

Except as provided in Article 8, work performed and plans and specifications required under the provisions of this chapter shall conform to the requirements prescribed by the San Diego Area – Regional Standard Drawings and the Standard Specifications for Public Works Construction, copies of which are on file in the Office of the Clerk of the Board of Supervisors and any amendments thereto approved and adopted by the Board of Supervisors and filed in the Office of the Clerk.

Article 7, General Regulations

Section 68.159: The Director shall enforce all the provisions of this chapter and for such purpose shall have the powers of a peace officer.

Section 68.160.1: To assure that the provisions of this ordinance are carried out the Director shall promulgate such detailed regulations and other requirements as are necessary to fully implement this ordinance. The specific provisions of the ordinance may be supplemented by additional requirements established by the Director and separate ordinances establishing charges for use of the public sewerage facilities which will provide for the recovery of capital and operating costs of such facilities.

Section 68.161: It shall be unlawful to connect or cause to be connected any sewer which has been or may hereafter be constructed in any street, highway, alley, right of way, or other public place prior to the dedication and acceptance of such street, alley, right of way, or other public place by the Board of Supervisors on behalf of the public with any public sewer of the county, unless such sewer first mentioned shall have been laid under the supervision and to the satisfaction of the Director or the Board of Directors of the County Sanitation District in which said sewer is located in accordance with all provisions of this chapter.

Section 68.161.1:

A. Any other provisions of this Title 6 to the contrary notwithstanding, parcels requiring sewer service from a sewer district governed by the Board of Supervisors shall conform to the following:

(1) Any parcel that is located on a public or private road easement more than one hundred (100) feet from the existing public sewer will extend the public sewer to the closest lot line of the parcel and grant necessary easements across the parcel for the public sewer extension, if the Director determines that additional upstream areas will require sewer service from the extended public sewer main.

B. It is intended that the Director or his authorized Agent may grant an exception to this section and shall do so only if he finds that compliance with such provisions is impossible or impractical because of physical conditions of the area or that a health hazard could result by imposing the above provisions.

Exceptions because of immediate financial hardship may be granted only if an agreement is signed and recorded stating that the parcel ownership will:

(1) Participate in the construction of a public sewer main at such time as adjacent upstream land area requires sewer service.

(2) Connect existing lateral to future extended public sewer, thus eliminating long lateral.

(3) Provide required easements for the public sewer extension.

Section 68.162: It shall be unlawful to place, throw, or deposit, or cause or permit to be placed, thrown, or deposited, in any public or building sewer any dead animal, offal, or garbage, fish, fruit, or vegetable waste, or other solid matters, or materials or obstructions of any kind whatever of such nature as shall clog, obstruct, or fill such sewer, or which shall interfere with or prevent the effective

use or operation thereof. No person shall cause or permit to be deposited or discharged into any such sewer any water or sewage or liquid waste of any kind containing chemicals, greases, oils, tars, or other matters in solution or suspension which may, by reason of chemical reaction or precipitation, clog, obstruct, or fill the same, or which may in any way damage or interfere with or prevent the effective use thereof, or which may necessitate or require frequent repair, cleaning out or flushing of such sewer to render the same operative or which may obstruct or cause an unwarranted increase in the cost of treatment of the sewage.

Section 68.163: It shall be unlawful to open or enter, or cause to be opened or entered, any manhole in any public sewer, to dispose of garbage or other deleterious substances or storm or surface water, or for any other like purpose.

County of San Diego Fee Ordinances

Each sanitation district has a fee structure that is adopted by separate ordinance. The ordinance includes annual sewer service fees, connection capacity fees (i.e., system buy-in charge), and annexation fees. Annual sewer service fees are collected on the County tax rolls, which are paid either once or twice per year. Annexation and capacity fees are collected at the time an application is submitted or when a Wastewater Discharge Permit is issued (County of San Diego 2011b).

San Diego County Board of Supervisors Policy I-84

San Diego County Board of Supervisors Policy I-84 requires the applicable agency to issue an availability letter for prospective discretionary projects as a condition of County approval. This is to ensure that adequate facilities and capacity will be available at the time they are needed (County of San Diego 2011b).

Otay Ranch General Development Plan/Subregional Plan

The Otay Ranch GDP/SRP provides planning goals and related policies for implementing the plan; applicable policies to the Proposed Project in relation to sewer resources are as follows (City of Chula Vista and County of San Diego 1993b):

- **Policy A.8:** Phase development according to available public services and facilities.
- **Policy B.1:** Formulate public facilities program and financing plan.
- **Policy B.2:** Study and select long term sewage disposal methods.

The Otay Ranch GDP/SRP contains a sewerage facilities chapter to provide a healthful and sanitary sewerage collection and disposal system from the residents of Otay Ranch and the region.

The following policies contained in the sewerage facilities chapter of the Otay Ranch GDP/SRP are relevant to the Proposed Project (City of Chula Vista and County of San Diego 1993b):

- **Policy:** Ensure that wastewater treatment plants are properly located, meet the sewer needs of the project, do not cause premature urbanization, create no unmitigable environmental effects. And minimize the need for sewer pump stations.
- **Policy:** Implement development regulations that require water conservation, wastewater reclamation, and drought-tolerant landscaping requirements.

Otay Ranch Facilities Implementation Plan

When the County adopted General Plan Amendment (GPA) 92-04 (Final Otay Ranch GDP/SRP), Volume II of the Otay Ranch GDP/SRP was also adopted, which contained major policies, recommendations, and implementation measures, including the Facilities Implementation Plan, which provides guidance for the development of Otay Ranch. The Facilities Implementation Plan includes goals, policies, and standards associated with facility implementation and specifies the necessary steps required for implementation. The threshold identified in the Sewerage Facilities section of the Facilities Implementation Plan states: Provide a healthful and sanitary sewerage collection and disposal system for the residents of Otay Ranch, including a system designed and constructed to use reclaimed water and ensure that sewer connections not exceed capacity. The following goals, policies, and implementation measures are provided (City of Chula Vista and County of San Diego 1993c):

Goal: Provide a healthful and sanitary sewer collection and disposal system for the residents of Otay Ranch and the region, including a system designed and constructed to accommodate the use of reclaimed water.

- **Objective:** The ongoing planning, management and development of sewerage conveyance, treatment and disposal facilities to adequately meet future demands.
 - **Policy:** Land use planning will be coordinated with sewerage system planning, which is the responsibility of facility providers.
 - **Implementation Measure:** Work with the applicable sewer agencies to obtain their input on the impact of proposed land uses changes.
 - **Implementation Measure:** Phase development with the extension/expansion of sewerage facilities.
 - **Implementation Measure:** Furnish data to the facility providers about planned development.
 - **Implementation Measure:** Work with sewer service agencies to provide

recycling and disposal alternatives for sludge materials.

- **Implementation Measure:** Site sewerage facilities in the locations most suited to the needs of present and projected residents.
- **Policy:** Ensure that the Otay Ranch Project will not use all available regional facility capacity, such as sewer, water and roads, and thus compromise the ability of other South County and East County parcels to develop as planned.
- **Implementation Measure:** Sewage flows and volumes shall not exceed applicable Engineering Standards.
- **Implementation Measure:** Secure letter of availability for sewer service from the applicable sewer district before a subdivision map can record.
- **Implementation Measure:** Require, as a condition of development approval, that projects requiring sewer service annex to the special district or jurisdiction responsible for providing the service.
- **Implementation Measure:** Prior to the issuance of a permit for building or grading a site in preparation for construction, require permanent commitment to serve from the applicable sewer district.
- **Policy:** The placement of new septic systems will be controlled to ensure the health and safety of the public.
- **Implementation Measure:** Avoid placement of septic systems in areas where soils are too dense or where leachate may contaminate groundwater or surface water.
- **Objective:** Assure that wastewater treatment plants are consistent with sewer master plans.
- **Policy:** Ensure that wastewater treatment plants are properly located, meet the sewer needs of the project, do not cause premature urbanization, create no unmitigable environmental effects, and minimize the need for sewer pump stations.
- **Objective:** Sewage disposal systems should maximize the provision and utilization of reclaimed water.
- **Policy:** Implement development regulations that require water conservation, wastewater reclamation, and drought-tolerant landscaping requirements (City of Chula Vista and County of San Diego 1993b).

Storm Drainage

County of San Diego Watershed Protection, Stormwater Management, and Discharge Control Ordinance

The Regional Water Quality Control Board (RWQCB), San Diego Region, Order No. R9-2013-0001, as amended by Order Nos. R9-2015-0001 and R9-2015-0100, issued June 27, 2013, mandates that the County of San Diego, as one of the co-permittees, develop goals that can be used to measure and demonstrate progress or improvement toward addressing their highest priority water quality conditions (County of San Diego Watershed Protection, Stormwater Management, and Discharge Control Ordinance, County of San Diego Code of Regulatory Ordinances, Section 67.817). Each co-permittee is required to implement a development planning program to control and reduce the discharge of pollutants as part of its land use and planning authority. Requirements in the County of San Diego Watershed Protection, Stormwater Management, and Discharge Control Ordinance are intended to prohibit polluted non-stormwater discharges to the stormwater conveyance system and receiving waters; establish requirements to prevent and reduce pollution to water resources; establish requirements for development site design to reduce stormwater pollution and erosion; establish requirements for the management of stormwater flows from development projects to prevent erosion and protect and enhance existing water-dependent habitats; establish standards for the use of off-site facilities for stormwater management to supplement on-site practices at new development sites; and establish notice procedures and standards for adjusting stormwater and non-stormwater management requirements, where necessary.

County of San Diego General Plan

The County's General Plan Land Use Element contains a Community Facilities and Infrastructure section that addressed plans and policies regarding public utilities. Applicable General Plan policies related to stormwater are as follows (County of San Diego 2011a.):

- **LU-6.5: Sustainable Stormwater Management.** Ensure that development minimizes the use of impervious surfaces and incorporates other Low Impact Development [LID] techniques as well as a combination of site design, source control, and stormwater best management practices, where applicable and consistent with the County's LID Handbook.
- **LU-6.9: Development Conformance with Topography.** Require development to conform to the natural topography to limit grading; incorporate and not significantly alter the dominant physical characteristics of a site; and to utilize natural drainage and topography in conveying stormwater to the maximum extent practicable.

Otay Ranch General Development Plan/Subregional Plan

The Otay Ranch GDP/SRP contains a drainage facilities chapter that establishes goals, objectives, policies, and implementation measures to ensure the timely provision of local drainage facilities. The following policies contained in the drainage facilities chapter of the Otay Ranch GDP/SRP are relevant to the Proposed Project (City of Chula Vista and County of San Diego 1993b):

- **Policy:** Storm drain runoff should be managed to minimize water degradation, to reduce the waste of fresh water, to protect wildlife and to reduce erosion.
- **Policy:** Require measures to decrease the adverse impacts created by increased quantity and degradation in the quality of runoff from urban areas.

Otay Ranch Facilities Implementation Plan

When the County adopted General Plan Amendment (GPA) 92-04 (Final Otay Ranch GDP/SRP), Volume II of the Otay Ranch GDP/SRP was also adopted which contained major policies, recommendations and implementation measures, including the Facilities Implementation Plan, which provides guidance for the development of Otay Ranch. The Facilities Implementation Plan includes goals, policies, and standards associated with facility implementation and specifies the necessary steps required for implementation. Regarding runoff, the Facilities Implementation Plan states that an urban runoff diversion system shall be designed to ensure the protection of water quality within Otay Reservoirs. The following goals and policies are provided (City of Chula Vista and County of San Diego 1993b):

Goal: Ensure that water quality within the Otay Ranch Project Area is not compromised.

Goal: Ensure that the City of San Diego's water rights within the Otay River watershed shall not diminish.

- **Policy:** An urban runoff diversion system shall be designed to ensure the protection of water quality within Otay Lakes.
- **Policy:** Best Management Practices (BMP) including, but not limited to urban runoff diversion systems, shall be developed to protect water quality within Otay Lakes.

Solid Waste*Integrated Waste Management Act of 1989*

Prior to 1989, solid waste planning and management was the prime responsibility of individual jurisdictions. However, the California State Legislature changed this approach when it enacted

the Integrated Waste Management Act of 1989 (IWMA). The IWMA required jurisdictions to reduce their dependence on landfills and aimed to ensure an effective and coordinated approach to safe management of all solid waste generated within the state. In October 1997, the County sold its active landfills, and solid waste generated by residents and businesses is disposed of locally at the landfill of the hauling contractor's choice.

In 1989, the IWMA required cities and counties to reduce their waste disposal levels by 25% by 1995 and 50% by 2000. The Solid Waste Planning and Recycling Program implemented by the County Department of Public Works serves residents and businesses in the unincorporated communities of San Diego County and works to achieve IWMA goals through continual improvement of waste diversion programs. In 2005, the unincorporated San Diego communities attained a 50% diversion rate. Since 1991, the County has had a mandatory Recycling Ordinance (Ordinance 8866) for solid waste generators and waste haulers, and in 2007, a mandatory Construction and Demolition Ordinance (9840) was adopted for projects more than 40,000 square feet in area (County of San Diego 2011b).

Assembly Bill 341– Solid Waste

In July 2012, Assembly Bill (AB) 341 went into effect. This bill sets a goal of 75% of solid waste generated statewide to be source reduced, recycled, or composted by 2020. AB 341 also requires that “a business that generates more than four cubic yards of commercial solid waste per week or is a multifamily residential dwelling of five units or more shall arrange for recycling services, consistent with state or local laws or requirements, including a local ordinance or agreement, applicable to the collection handling, or recycling of solid waste, to the extent that these services are offered and reasonably available from a local service provider.”

Title 14: Natural Resources – Division 7

Title 14 of the California Code of Regulations sets minimum standards for solid waste handling and disposal, including specific regulations regarding tire storage and disposal, hazardous waste disposal facilities, construction and demolition inert debris transfer/processing, construction and demolition waste and inert debris disposal, transfer/processing operations and facilities, siting and design, operation standards, record keeping, and additional operating requirements for facilities. Additional guidance and requirements for compostable materials handling operations and facilities, asbestos handling and disposal, resource conservation programs, farm and ranch solid waste cleanup and abatement, used oil recycling program, electronic waste recovery and recycling, and solid waste cleanup are also addressed in Title 14.

Title 27: Environmental Protection – Division 2, Solid Waste

Title 27 of the California Code of Regulations regarding Environmental Protection and Solid Waste set the criteria for all waste management units, facilities, and disposal sites, including regulations of the California Integrated Waste Management Board and the State Water Resources Control Board (SWRCB). Waste classification, siting, construction standards, water quality monitoring and response programs, operating criteria, daily and immediate cover, handling and equipment, controls, gas monitoring and control, closure and post-closure standards, and financial assurances are all aspects covered in Title 27.

County of San Diego Integrated Waste Management Plan

The San Diego County Board of Supervisors adopted the County of San Diego Integrated Waste Management Plan on September 17, 1996. The plan discusses the need for a reduction in solid waste and includes a Source Reduction and Recycling Element, Household Hazardous Waste Element, Non-Disposal Facility Element, Countywide Siting Element, and the Countywide Summary Plan. The Countywide Siting Element of the 1996 Integrated Waste Management Plan was updated in 2005, as required by the Integrated Waste Management Plan. It provides a description of the facilities and strategies to provide adequate capacity for the disposal of solid waste within the County over the next 15 years, including alternatives such as additional waste diversion programs and waste export. The Countywide Siting Element presents a strategy to assist local governments and private industries in planning for integrated waste management and in the siting of solid waste disposal facilities. The goals and policies listed in the Countywide Siting Element are intended to assist all jurisdictions to plan and implement a solid waste management program (County of San Diego 2011b).

Currently, the County implements extensive programs for source reduction, recycling, and best-use practices for a variety of materials. Current programs include support of rural recycling programs, curbside and drop-off recycling for motor oil and filters, and public/private partnerships for development of additional construction/demolition and organics processing capacities. More than 60 privately owned non-disposal facilities operate in the County, not including the City of San Diego. This network of non-disposal facilities is integral to the collection and processing of recyclable materials and to helping the County meet its diversion goals (County of San Diego 2011b).

County of San Diego General Plan

The County's General Plan Land Use Element contains a Community Facilities and Infrastructure section that addresses plans and policies regarding public utilities. Applicable General Plan policies related to solid waste are as follows (County of San Diego 2011a):

- **LU-16.2: Integrity of Waste Management Facilities.** Avoid encroachment of incompatible land uses upon solid waste facilities in order to minimize or avoid potential conflicts.
- **LU-16.3: New Waste Management Facilities.** Encourage the establishment of additional recycling and resource recovery facilities in areas with industrial land use designations or other appropriate areas based on the type of recycling.

Otay Ranch General Development Plan/Subregional Plan

The Otay Ranch GDP/SRP outlines integrated solid waste management facilities as solutions to impacting the current waste management system, through diversion and waste reductions. To meet state-mandated goals set forth in AB 341, the Otay Ranch GDP/SRP requires the simultaneous implementation of multiple systems, including curbside recycling, neighborhood recycling/drop-off centers, a materials recovery facility, composting facilities, a household hazardous waste facility, and landfill utilization (City of Chula Vista and County of San Diego 1993).

The Otay Ranch GDP/SRP contains an integrated solid waste management facilities chapter that establishes goals, objectives, policies, and implementation measures to reduce potential waste generated within Otay Ranch from entering and impacting the existing waste management system. The following policies contained in the integrated solid waste management facilities chapter of the Otay Ranch GDP/SRP are relevant to the Proposed Project (City of Chula Vista and County of San Diego 1993b):

- **Policy:** Promote waste management techniques that are alternative to landfilling.
- **Policy:** Utilize landfills primarily for wastes that cannot be recycled or processed and for the residual from processing facilities.

Otay Ranch Facilities Implementation Plan

When the County adopted General Plan Amendment (GPA) 92-04 (Final Otay Ranch GDP/SRP), Volume II of the Otay Ranch GDP/SRP was also adopted, which contained major policies, recommendations, and implementation measures, including the Facilities Implementation Plan, which provides guidance for the development of Otay Ranch. The

Facilities Implementation Plan includes goals, policies, and standards associated with facility implementation and specifies the necessary steps required for implementation. The threshold identified in the Integrated Solid Waste Management Facilities section of the Facilities Implementation Plan states: Provide solid waste facilities and services which emphasize recycling of reusable materials and disposal of remaining solid waste so that the potential adverse impacts to the public health are minimized. The following goals, policies, and implementation measures are provided (City of Chula Vista and County of San Diego 1993b):

Goal: Provide solid waste facilities and services which emphasize recycling of reusable materials and disposal of remaining solid waste so that the potential adverse impacts to public health are minimized.

- **Objective:** Reduce the volume of waste to be landfilled by 30% by 1995 and by 50% by 2000.
 - **Policy:** Promote waste management techniques that are alternative to landfilling.
 - **Policy:** Utilize landfills primarily for wastes that cannot be recycled or processed and for the residual from processing facilities.
 - **Implementation Measure:** Consider public convenience when designing storage for solid waste recycling within Otay Ranch.
 - **Implementation Measure:** Include within Otay Ranch recycling and storage capacity for the waste generated by Otay Ranch residents and require residential, commercial and industrial projects to provide separated waste storage facilities.
 - **Policy:** Cooperate with regional programs to identify markets for recyclable goods and solid waste disposal sites to accommodate existing and future need, including disposal of inert materials and special wastes such as sludge and non-hazardous liquids.
 - **Implementation Measure:** Cooperate with agencies providing sewer service to identify appropriate recycling and disposal alternatives for sludge materials.
 - **Policy:** Cooperate with regional programs to identify sites appropriate for the disposal of waste products and waste residuals which cannot be recycled, converted to energy, or otherwise used.
 - **Implementation Measure:** Review discretionary projects planned for sites adjacent to the existing solid waste land fill for compatibility with the landfill site to minimize, or mitigate, the environmental impacts of sanitary landfills.

- **Policy:** To support State and Federal legislation that encourages recycling, removes barriers to recycling, promotes funding for local recycling programs or promotes waste reduction.

Non-Exclusive Solid Waste Management Agreement

The Non-Exclusive Solid Waste Management Agreement was created to allow the County to participate in the solid waste collection market, which ensures orderly operation and minimizes the potential for adverse effects on the local environment. The agreement is based on the declaration of the California IWMA that it is in the interest of the public to require local agencies to make adequate provisions for solid waste handling. In addition, the County Board of Supervisors determined that the agreement will be made with qualified companies for the collection and subsequent transfer, transportation, recycling, processing, and disposal of solid waste. The Non-Exclusive Solid Waste Management Agreement allows the County to regulate waste collection in a market-driven business model (County of San Diego 2011b).

3.1.8.2 Analysis of Project Effects and Determination as to Significance

The County's Guidelines for Determining Significance do not include significance thresholds or guidance for determining significance for impacts to utilities and service systems. Therefore, for the purpose of this EIR, Appendix G of the California Environmental Quality Act (CEQA) Guidelines (14 CCR 15000 et seq.) applies to the direct and indirect impact analysis, and the cumulative impact analysis.

3.1.8.2.1 Water Supply

Guidelines for the Determination of Significance

The following criteria as taken from CEQA Guidelines Appendix G, XVIII (b) and (d), will determine the significance of the Proposed Project's potential water supply impacts. Impacts to water supply services would be significant if the Proposed Project would:

- Not have sufficient water supplies available to serve the project from existing entitlements and resources, or require new or expanded entitlements.
- Require or result in the construction of new water facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

Analysis

Water Supply

Projected Water Demands

Development of the Proposed Project would increase the demand for water supply in the Project Area. Table 3.1.8-1, Otay Ranch Village 14 and Planning Areas 16/19 Projected Potable Water Demands, provides the projected potable water demand for the Proposed Project by land use. Demands for the Proposed Project were projected by taking the total development for each land use and multiplying by water land use factors. The total estimated potable water demand is approximately 797,970 gallons per day (gpd). The projected water demand estimate is based on OWD planning factors and does not take into account the mandated water use reductions required by the state. Actual demands for the Proposed Project would be expected to be lower than the 797,970 gpd value that is used for planning purposes.

Due to the drainage pattern of the Project Area and its location upstream of the Otay Reservoir System, the Proposed Project does not anticipate use of recycled water for irrigation purposes. The use of recycled water within watersheds tributary to surface water storage reservoirs that provide supply for potable domestic water uses must be approved by the owners of the reservoirs in order to protect water quality in these reservoirs. The applicants for other projects in this watershed have met with and discussed the use of recycled water with the City of San Diego, the operator of the reservoirs. The City of San Diego has requested that all projects not use recycled water because they are concerned about the runoff from the project entering the reservoirs and increasing nutrients and salinity. For this reason, the projected water use within the Proposed Project has been estimated with the assumption that the use of recycled water within the project will not be allowed. Accordingly, this section has calculated expected water demand based solely on the use of potable water. Should the City of San Diego permit recycled water for landscape irrigation purposes, further analysis would be required.

Water Conservation Measures

The state and several local jurisdictions have mandated a number of water conservation measures. Table 3.1.8-2, Mandated Water Conservation Devices, summarizes the conservation measures that are mandated by the state, and also provides the requirements of the 2016 CALGreen, which went into effect on January 1, 2017. These water conservation measures would be implemented as part of the Proposed Project. In addition to the mandatory water conservation measures required by state law, a Water Conservation Plan (Appendix 3.1.2-3) was prepared for the Proposed Project in accordance with the requirements of the Otay Ranch GDP/SRP, which identifies strategies to reduce the Proposed Project's water use. The strategies identified in the Water Conservation Plan

would be implemented as part of the Proposed Project, by implementing the following project design features (PDFs) to reduce potable water consumption:

- PDF-UT-1 Hot Water Pipe Insulation.** Hot water pipes shall be insulated, and hot and cold water piping shall be separated, resulting in annual savings of 2,400 gallons per unit.
- PDF-UT-2 Pressure Reducing Valves.** The maximum service pressure shall be set to 60 pounds per square inch to reduce potential leakage and prevent excessive flow of water from appliances and fixtures resulting in annual water savings of 1,800 gallons per unit.
- PDF-UT-3 Water-Efficient Dishwashers.** Water-efficient dishwashers that carry the Energy Star label shall be installed in residential units resulting in an estimated yearly water savings of 650 gallons per unit.
- PDF-UT-4 Residential Landscaping.** Residential landscaping shall comply with the Model Water Efficient Landscape Ordinance, California Code of Regulations Title 23, Division 2, Chapter 2.7 (Section 490 et seq.). By complying with this ordinance, it is estimated that outdoor water use at single-family residences will be reduced by approximately 10 percent. With an estimated total water use of 500 gallons per day (gpd) per home and approximately 50 percent of this water used outdoors, the estimated annual water savings is 9,125 gallons per home.

At build-out, implementation of measures outlined in the Water Conservation Plan included as Appendix 3.1.2-3 (i.e., PDF-UT-1 through PDF-UT-4) would result in estimated average water savings of 44,613 gpd for the residential portion of the Proposed Project. These savings represent approximately 5.6% of the total Proposed Project water use, and would contribute to lowering the per-capita water use within the OWD. Accordingly, with implementation of the Proposed Project's required PDFs, total average water consumption would be approximately 753,357 gpd.

Further, the Proposed Project includes a plant palette that requires water-efficient landscaping, as further described in Appendix 3.1.1-2. The Fire Protection Plan and the Preserve Edge Plan require fuel modification zones be irrigated by efficient drip systems. As part of the Site Plan review process, the County will review landscape plans for each part of the Proposed Project to ensure they comply with the requirements of the Fire Protection Plan and Preserve Edge Plan. The homeowner's association (HOA) would be responsible for reviewing lot by lot landscape plans to ensure landscaping on individual lots is consistent with the approved plant palette. The Specific Plan assigns maintenance responsibility of landscape parkways, internal open space, and parks to the HOA, County, or financing district to ensure these areas are maintained, including the irrigation systems.

In addition to the PDFs outlined above, the Proposed Project would potentially gain additional water savings from graywater systems and stormwater harvesting. The typical range of anticipated water savings from these systems is 25 gpd to 50 gpd per home for graywater systems, and 10 gpd to 15 gpd per household for rainwater harvesting systems. However, it is not possible to quantify the actual savings anticipated for the Proposed Project from these systems, since it is unknown at this time how many of the residential units would implement these measures.

Summary

The Proposed Project is within the boundaries of the OWD for water service. Retail water service for the Proposed Project would be provided by the OWD; however, the Proposed Project would require annexation into an OWD Improvement District to obtain water service. This annexation would be an internal action by the OWD and would require a written request and payment of processing fees.

OWD's water supply is dependent on the SDCWA as the wholesale water supplier. California Water Code Section 10635 requires that every urban water supplier assess the reliability of its water services during a normal year, single-dry year, and multiple-dry water years. The water supply and demand assessment compares the total projected water use with expected water supply over the next 20 years in 5-year increments. The assessment contained in the SDCWA and OWD's 2015 UWMP projects reliability through the next 25 years and corresponds with population growth forecasted by the San Diego Association of Governments, which includes the population growth anticipated by the Proposed Project (Appendix 3.1.8-2, Water Services).

The near-term service for the proposed water demands of the Proposed Project have been accounted for in SDCWA's and OWD's 2015 UWMPs. As documented in SDCWA's 2015 UWMP, SDCWA has available water to meet all of the region's anticipated demand, including development of the Proposed Project, in average/normal and dry water years. Table 3.1.8-3, Average/Normal Water Year Supply and Demand Assessment, lists the supply and demand assessment for average and normal water years from SDCWA's 2015 UWMP, and Table 3.1.8-4, Single-Dry Water Year Supply and Demand Assessment, lists the supply and demand assessment for single-dry water years from SDCWA's 2015 UWMP. The reason that supplies exactly meet demands in Table 3.1.8-3 is that SDCWA only imports the amount of water necessary to meet demand. In Table 3.1.8-5, Multiple-Dry Water Year Supply and Demand Assessment, near-term and long-term supplies are shown to increase even in a multiple-dry year scenario as a result of increasing demands due to growth within the region. Although long-term multiple-dry year scenarios identify potential shortages, any potential shortages would be minimal and would be offset through carryover storage and management actions. Additionally, the Proposed Project also has a Water Conservation Plan (Appendix 3.1.2-3) that evaluates mandatory and optional water conservation measures to be incorporated into the Proposed

Project, and evaluates the potential water savings from implementation of these measures. The Proposed Project would implement the water conservation measures as PDF-UT-1 through PDF-UT-4. As applicable, the Proposed Project would also follow SWRCB usage restrictions.

This comparison of demand and projected supply demonstrates that an adequate water supply is available to meet the demands of the Proposed Project. Additionally, the Proposed Project would comply with SWRCB and OWD regulations, emergency or otherwise, that are applicable and in effect at the time of building permit issuance. SDCWA and OWD will continue to have a viable supply of water. SDCWA has worked during the past decades to develop a diverse water supply for the region, and has taken steps to assist its member agencies in compliance with the executive order (SDCWA 2015).

Through the state, the UWMP, Metropolitan, SDCWA, and OWD, the region is well situated to ensure an adequate water supply remains available. The Proposed Project is consistent with and will adhere to any existing and new water conservation regulations and restrictions from Executive Order B-29-15, SWRCB, and OWD.

In addition, pursuant to SB 610, OWD completed and approved a Water Supply Assessment and Verification Report (WSA&V) for the Proposed Project on January 3, 2018 which further details the water supply assumptions and findings of OWD, SDCWA, and Metropolitan. (Appendix 3.1.8-4) More specifically, the WSA&V Report includes an identification of existing water supply entitlements, water rights, water service contracts, water supply projects, or agreements relevant to the identified water supply needs for the Proposed Project. The WSA&V identifies and describes the processes by which water demand projections for the Proposed Project will be fully included in the water demand and supply forecasts of the UWMPs and other water resources planning documents of the SDCWA and Metropolitan. Water supplies necessary to serve the demands of the Proposed Project, along with existing and other projected future users, as well as the actions necessary and status to develop these supplies, have been identified in the WSA&V Report, and will be included in the future water supply planning documents of the Water Authority and MWD. Finally, the WSA&V Report demonstrates and documents that sufficient water supplies are planned for and are intended to be available over a 20-year planning horizon, under normal conditions and in single and multiple dry years to meet the projected demand of the Proposed Project and the existing and other planned development projects to be served by OWD.

Further, pursuant to SB 221, verification of sufficient water supply is a required condition of any tentative subdivision map associated with the Proposed Project. Thus, impacts related to the sufficiency of water supply available to serve the Proposed Project would be **less than significant**.

Proposed Water Facilities

Water services for the Proposed Project are located within the Central Area System and the Regulatory System of the OWD. In general, the potable water distribution system is designed to maintain static pressures between 65 and 200 pounds per square inch (psi). This criterion is used to initially divide a project between water service zones within the OWD. Potable water distribution systems are also typically designed to yield a minimum of 40 psi residual pressure at any location under peak-hour demand flows, and a minimum residual pressure of 20 psi during maximum day demand plus fire flow conditions. Potable water mains are sized to maintain a maximum velocity of 10 feet per second under a maximum day plus fire flow scenario and a maximum velocity of 6 feet per second under peak-hour flow conditions.

Water service for the Proposed Project would be provided by the 980 Pressure Zone (980 Zone) within the Central Area System, the 1296 Pressure Zone (1296 Zone) within the Regulatory System of the OWD, and a new proposed 1460 Zone supplied from the 1296 Zone. To receive this potable water service, the Proposed Project would require expansion of the existing 980 Zone and 1296 Zone water systems, and construction of a new 1460 Zone water system (Appendix 3.1.8-2). This expansion program would involve installation of several major water system improvements that are presently identified in the OWD Capital Improvement Program.

The lower portion of the Proposed Project can be served from the 980 Zone by connecting to the existing 36-inch-diameter line in Proctor Valley Road and extending a line into the Project Area. This line is anticipated to be a 20-inch-diameter line to meet the fire flow requirements of the school site and provide a supply to the proposed 980 Zone Reservoir and 1296 Zone Pump Station. The anticipated range of pad elevations for areas that would receive service from the 980 Zone would be 610 feet to 830 feet, with maximum static pressures ranging from 65 psi to 160 psi. The 980 Zone Reservoir has been identified by OWD to be a 2-million-gallon facility and is included as a regional facility in the OWD Capital Improvement Program. Figure 3.1.8-4, Village 14 Proposed Water System, depicts the improvements necessary to provide potable water to Village 14.

The upper elevations of the Proposed Project would be served by the 1296 Zone water system. Figure 3.1.8-5, Planning Areas 16/19 Proposed Water System, depicts the improvements necessary to provide water to Planning Areas 16/19. The 1296 Zone portion of the Proposed Project would be all residential and supporting facilities and could be served by 8-inch-diameter and 12-inch-diameter distribution lines. A connection to the existing off-site 10-inch-diameter line to the north is also proposed. The anticipated range of pad elevations for areas that will receive service from the 1296 Zone will be 831 feet to 1,100 feet, with maximum static pressures ranging from 85 psi to 201 psi.

There are 34 estate lots within Planning Area 16 that cannot receive adequate water service from the 1296 Zone. Service to these lots is proposed to be provided from a 1460 Zone hydropneumatic pump station (see Figure 3.1.8-5). The station would be designed with redundant domestic pumps, each required to meet the peak hour demands of the service area. The station would also include a high flow pump to meet fire flow requirements. The 1460 Zone pump station would include a backup power generator, alarms, and controls in accordance with OWD requirements. Pad elevations proposed to receive service from this zone range from 1,150 feet to 1,320 feet, with maximum static pressures ranging from 61 psi to 134 psi.

Water Storage Capacity

OWD's policy is to provide a maximum of 5 average days of terminal storage capacity and rely on other storage or supply options to maintain 10 total days of emergency storage supply. As shown in Table 3.1.8-1, the projected total daily demand for the Proposed Project at build-out would be 863,002 gpd. Water conservation strategies (see PDF-UT-1 through PDF-UT-4) would reduce this demand by approximately 37,522 gpd (see Table 3.8.1-6, Proposed Residential Water Conservation Measures). The Proposed Project would not be constructed in advance of necessary water storage infrastructure. Compliance would be ensured through the Subarea Master Plan, discussed below, which must be approved prior to final engineering plans.

The Proposed Project would have adequate water service through the expansion of the existing 980 Zone and 1296 Zone water systems, and construction of the 1460 Zone water system. The sizing and timing of on-site and off-site water facilities for the Project Area would be identified in a Subarea Master Plan to be reviewed and approved by the OWD. The Subarea Master Plan would be prepared for the Proposed Project by the applicant and submitted to the OWD for approval prior to approval of final engineering plans. The Subarea Master Plan would provide more detailed information on the Proposed Project such as detailed design, phasing, pump station and reservoir capacity requirements, and extensive computer modeling to justify recommended water pipe sizes.

In the event that the drought conditions become so severe that the OWD declares a Drought Level 3 emergency, the Water Conservation Plan recommends that the Proposed Project offset its projected water use by contributing to the cost of or actually constructing off-site improvements. These off-site improvements would be designed to reduce existing potable water use, and typically consist of retrofitting older buildings with newer fixtures that are more water efficient.

The Proposed Project includes water supply infrastructure that would be adequate to provide water service to the Proposed Project. The installation of new transmission lines, a pump station, and a storage reservoir for potable water service within the Project Area would require ground disturbance. In addition, operation of the pump station would result in emissions that could

impact local air quality. The environmental impacts associated with construction and operation of water supply infrastructure are discussed in Sections 2.3, Air Quality; 2.4, Biological Resources; 2.8, Noise; and 3.1.3, Land Use and Planning, in this EIR. The Proposed Project would not require construction of any additional water supply infrastructure beyond those identified in this EIR. Impacts would be **less than significant**.

3.1.8.2.2 Wastewater Treatment

Guidelines for the Determination of Significance

The County's Guidelines for Determining Significance do not include a section on wastewater impacts. Therefore, for the purposes of this EIR, Appendix G, XVIII (a)–(b), and (e), of the CEQA Guidelines applies to the impact analysis. The following criteria will determine the significance of the Proposed Project's wastewater impacts. Impacts to wastewater treatment services would be significant if the Proposed Project would:

- Require or result in the construction of new wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.
- Exceed wastewater treatment requirements of the applicable RWQCB.
- Result in a determination by the wastewater treatment provider that serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

Analysis

A Sewer Service Plan is provided as a separate facility plan, in accordance with the Otay Ranch GDP/SRP, and is included as Appendix 3.1.8-1 to this EIR. The projected total average sewage flow of the Proposed Project is 275,536 gpd or 0.275 million gallons per day (mgd). Table 3.1.8-7, Village 14 and Planning Areas 16/19 Projected Sewage Flows, provides the projected wastewater flows for the Proposed Project by land use designation. As shown in Table 3.1.8-8, Otay Ranch Village 14 and Planning Areas 16/19 Projected Sewage Flow Summary, projected peak flow of the Proposed Project is 580,000 gpd or 0.58 mgd.

Proposed Sewer Facilities

As determined in the Sewer Service Plan, sewer service to the Proposed Project would be provided by the SDCSD in conjunction with a flow transportation agreement with the City of Chula Vista for service via the Salt Creek Interceptor. It should be noted that the flow transportation agreement is exclusively for projects within Otay Ranch that are a part of the Otay Ranch GDP/SRP.

To convey flows from the Proposed Project to the Salt Creek Interceptor, an off-site permanent sewage lift station, force mains, and additional off-site improvements will be required. These facilities, discussed in detail below, will convey flows to the upstream end of the Salt Creek Interceptor within Rolling Hills Ranch (City of Chula Vista).

On-Site Sewer Facilities

The Proposed Project would involve construction of an on-site sewer system to serve the new development and the anticipated 403 EDUs from adjacent property owners who are part of the overall Otay Ranch GDP/SRP, but who are not part of this application. Figure 3.1.8-6, Village 14 Proposed Sewer System, and Figure 3.1.8-7, Planning Areas 16/19 Proposed Sewer System, depict those proposed sewer systems. This system would include on-site gravity sewer lines ranging from 10 inches to 12 inches, and an on-site lift station and associated dual, 4-inch force mains at the southwestern edge of Planning Areas 16/19. The lift station would be necessary to convey sewage from Planning Areas 16/19 south to the Village 14 collection system. The lift station would be operated and maintained by the County; as such, the lift station site and necessary easements would be conveyed to the County.

The lift station would be sized with capacity for the entire Project Area. The required capacity of the lift station is approximately 600 gpm to accommodate peak gravity flows. The lift station would be designed to include redundant pumping units, standby power, odor control, overflow storage, and telemetry. The lift station site would also be designed with adequate access to all equipment and would include fencing for security. Sewer facilities have been incorporated into the design of the Proctor Valley Road improvements and would not result in additional impacts outside of the Proctor Valley Road right-of-way. The lift station and force mains would be operated and maintained by SDCSD to the point of connection with the City of Chula Vista gravity sewer system.

As a result of the topography in Planning Areas 16/19, it is anticipated that four small private sewer lift stations are also required. These stations will serve from 10 to 40 residential lots and will convey flow through private force mains to the 8-inch public gravity sewer line in the area. These stations would be designed to County standards to include redundant pumping units, standby power, and remote alarms and would be maintained by an HOA as required by the County.

The private sewer facilities will comply with the following requirements:

- For the design approval, permitting, and inspection of all proposed private sewer facilities, the applicant, or its designee, shall comply with all engineering requirements, codes, and policies in effect as applied by Planning and Development Services, Building Permit Division.

- An approval of a sewer connection agreement between the property owner and San Diego County Sanitation District (SDCSD).
- Preparation and submittal of a Sewer System Management Plan (SSMP) for the private sewer system that outlines a preventative maintenance program, contracted maintenance vender(s) and emergency procedures and contact information.
- Implementation of low flow operational provisions if determined necessary to mitigate impacts of having low discharge volumes into the sewer system.
- Recordation of homeowner's association (HOA) covenants, conditions, and restrictions (CC&Rs) obligating HOA to pay all costs for maintenance and operation of the on-site private sewer system in conformance with the SSMP and SDCSD ordinances.

Off-Site Sewer Facilities

A section of 12-inch gravity sewer would convey flow to a new, off-site lift station located along Proctor Valley Road approximately 1,500 feet southwest of the southern-most roundabout. From this lift station, sewage flows would be conveyed to the existing Salt Creek Interceptor along Proctor Valley Road. Eight-inch, dual sewer force mains would be installed within the Proctor Valley Road right-of-way and would be connected to the existing 15-inch-diameter gravity main located in Proctor Valley Road, approximately 1,600 feet to the east of Hunte Parkway (see Figure 3.1.8-6).

The County of San Diego and City of Chula Vista entered into a sewage Transportation Agreement that allows flows from the County of San Diego unincorporated Villages within Otay Ranch, including the Proposed Project, to be conveyed through the Salt Creek Interceptor. The existing agreement with the City of Chula Vista and use of the Salt Creek Interceptor is limited to Otay Ranch Villages. No other parcels outside of Otay Ranch GDP/SRP within the unincorporated areas can connect to the Salt Creek Interceptor.

Anticipated flows from the Project Area have been included in the sizing of the Salt Creek Interceptor dating back to November 1994. The November 1994 Salt Creek Basin Study estimated that 2,223 EDUs from Otay Ranch Village 14 and Planning Areas 16/19 would convey flows to the Salt Creek Interceptor (City of Chula Vista 2015). The Proposed Project includes 1,151 EDUs. Flows from the Proposed Project are not expected to impact the capacity of the Salt Creek Interceptor because the capacity of the downstream portion of the Salt Creek Interceptor within the City of Chula Vista was increased during final design and construction of the pipeline, and the development projections from upstream areas (i.e., Villages 14 and 15, and Planning Area 16) have decreased due to land acquisition for conservation purposes.

In particular, the Salt Creek Interceptor was designed and sized with capacity for the unincorporated Otay Ranch Villages 13, 14, and 15, and Planning Areas 16/19. However,

Village 15 has been purchased for conservation purposes and is no longer anticipated to be developed. In addition, the City of Chula Vista has updated its sewage generation factors, which has had the effect of reducing projected flows (Appendix 3.1.8-1). As indicated in Appendix D to the Sewer Report, there is capacity in the Salt Creek Interceptor for the Proposed Project as well as other Otay Ranch projects.

The November 1994 Salt Creek Basin Study was prepared to establish a fee to fund future improvements to the Salt Creek Interceptor system. This fee is required to be paid by all future developments within the Salt Creek Drainage Basin, to fund improvements required to serve ultimate development within the drainage basin.

In July 2015, the City of Chula Vista adopted a new Salt Creek Interceptor Development Impact Fee (DIF) based on the June 2015 Development Impact Fee Study (City of Chula Vista 2015). This study removed County properties, including the Proposed Project, from the study area and proposed that the DIF remain at \$1,330 per EDU (City of Chula Vista 2015). Subsequently, the June 2016 Sewage Transportation Agreement for the Salt Creek Interceptor Sewer between the City of Chula Vista, SDCSD, and the County of San Diego added County properties back into the Salt Creek Interceptor, including the Proposed Project, and requires County properties that will convey flow to the Salt Creek Interceptor to pay the Salt Creek Interceptor DIF that is in effect at the time of building permit issuance. Thus, the Proposed Project would be required to pay an impact fee of \$1,330 per EDU or an updated adopted fee in the future for use of the Salt Creek Interceptor.

Summary

Construction and operational impacts associated with proposed sewer facilities as a result of the Proposed Project have been analyzed in Sections 2.3, Air Quality; 2.4, Biological Resources; 2.8, Noise; and 3.1.3, Land Use and Planning, in this EIR. The Proposed Project would not require construction of any additional wastewater treatment services beyond those identified and analyzed in this EIR.

Final design criteria and specifications for sewage facilities would comply with applicable County requirements and policies, and would be subject to review and approval by the Director of Public Works and appropriate regulatory agencies. In addition, as discussed in Section 3.1.2, Hydrology and Water Quality, the Proposed Project would be in compliance with all National Pollutant Discharge Elimination System discharge criteria and permitting requirements. Therefore, development of the Proposed Project would not exceed wastewater treatment requirements of the applicable RWQCB, and impacts would **be less than significant**.

Flows from the Proposed Project are not expected to impact the capacity of the Salt Creek Interceptor because the capacity of the downstream portions of the Salt Creek Interceptor was increased during final design, and the development projections from upstream areas have decreased. In particular, the Salt Creek Interceptor was sized with capacity for Otay Ranch Villages 13, 14, and 15, and Planning Area 16. Since preparation of the Salt Creek Basin Study, Village 15 has been purchased for conservation purposes and is no longer anticipated to be developed. Planning Area 17 along the eastern edge of Otay Ranch was always required to be developed with wells and septic system, due to a variety of distance, topography, siting, and extension issues.

The SDCSD has sufficient capacity rights in the Metropolitan Sewerage System to serve the Proposed Project. Additionally, the Sewage Transportation Agreement between the County of San Diego, SDCSD, and the City of Chula Vista, plus the payment of impact fees for the use of the Salt Creek Interceptor, ensures sufficient capacity and adequate service for the Proposed Project. Furthermore, construction of proposed facilities and the payment of sewage connection fees (outlined within the Public Facilities Finance Plan, Appendix 3.1.6-1) in accordance with County ordinances would ensure compliance of the Proposed Project. Impacts associated with wastewater treatment service would be **less than significant**.

3.1.8.2.3 Storm Drainage

Guidelines for the Determination of Significance

The County's Guidelines for Determining Significance do not include a section on storm drainage impacts. Therefore, for the purposes of this EIR, Appendix G, XVIII (c), of the CEQA Guidelines applies to the impact analysis. The following criterion will determine the significance of the Proposed Project's storm drainage impacts. Impacts to storm drainage would be significant if the Proposed Project would:

- Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

Analysis

The location of Village 14 along Proctor Valley Road would intersect the surrounding Otay Ranch RMP Preserve area's natural drainages that flow towards Proctor Valley. Therefore, the Proposed Project would include a storm drain system to collect and convey this runoff from the surrounding area through the Proposed Project. The proposed on-site storm drain system would collect development runoff and discharge into proposed BMP biofiltration basins intended for water quality filtering and hydromodification treatment (see Section 3.1.2, Hydrology and Water Quality, of this EIR for more details regarding the size and

location of these basins). Fourteen biofiltration basins and five modular wetland units are proposed to receive runoff from the Proposed Project.

Based on the unit hydrograph hydrologic calculations, the Proposed Project would increase the post-development 100-year peak flow by approximately 700 cubic feet per second, from 12,036 to 12,736 cubic feet per second (Appendix 3.1.8-2). Although development of the Proposed Project would increase design flow rates as compared to pre-development conditions, the increases will be mitigated by the construction of improvements to Proctor Valley Road. These improvements include storm drains, culverts, and arch crossings that will also serve as wildlife crossings. These crossings have been designed to safely convey the developed condition 100-year peak flow. Flooding concerns downstream of Proctor Valley Road are mitigated by the large storage volume provided by the Otay Reservoir System.

Runoff from the majority of the Project Area will discharge to Proctor Valley drainages and a portion of Planning Area 16 drains to Jamul Creek. Development from the site will not cause any diversion to or from the Upper and Lower Otay Reservoir watershed. On-site developed areas will be conveyed toward biofiltration BMPs sized adequately to address pollutant control and hydromodification requirements prior to discharging into Proctor Valley drainages and/or Jamul Creek.

The Proposed Project includes storm drain facilities that would be adequate to accommodate peak flow increases in stormwater resulting from the increase in impervious surfaces and alterations to natural drainage courses as a result of the Proposed Project (Appendix 3.1.2-2). Additionally, where feasible, natural drainage ways would be maintained. Construction of the Post-Development storm drain systems throughout the Project Area to the proposed biofiltration basins and the downstream culverts will result in storm drain infrastructure that is in compliance with County standards. This proposed drainage control infrastructure program also minimizes the opportunity for downstream pollution by conveying drainage from on-site development into water quality and Hydromodification Management Plan treatment facilities prior to discharging into Proctor Valley and/or Jamul Creek. The analysis concludes that the basins and culverts will be designed of an adequate size to handle the necessary volumes, consistent with the standards. Subject to installation of the storm drain system, the Proposed Project will consist of an adequate program of storm drain collection.

The environmental impacts associated with construction and operation of on-site drainage facilities are discussed in Sections 2.1, Aesthetics; 2.3, Air Quality; 2.4, Biological Resources; 2.6, Geology and Soils; 2.8, Noise; 3.1.3, Land Use and Planning; and 3.1.9, Energy, in this EIR. The Proposed Project would not require construction of any additional storm drainage facilities beyond those identified in Sections 2.3, Air Quality; 2.4, Biological Resources; 2.9, Noise; and 3.1.3, Land Use and Planning, in this EIR. Impacts would be **less than significant**.

3.1.8.2.4 Solid Waste

Guidelines for the Determination of Significance

The County's Guidelines for Determining Significance do not include a section on solid waste impacts. Therefore, for the purposes of this EIR, Appendix G, XVIII (f)–(g), of the CEQA Guidelines applies to the impact analysis. The following criteria will determine the significance of the Proposed Project's solid waste impacts. A significant impact would occur if the Proposed Project would:

- Not be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs.
- Not comply with federal, state, and local statutes and regulations related to solid waste.

Analysis

The Proposed Project would generate solid waste from residential, commercial, and public uses proposed in the Project Area. Solid waste services would be provided by Republic, which is the collection and disposal operator in the Project Area. Republic owns the Otay Landfill and the Sycamore Canyon Landfill. Solid waste would primarily be transferred to the Otay Landfill, which has a maximum permitted capacity of 61,154,000 cubic yards and a remaining capacity of 24,514,904 cubic yards (CalRecycle 2016a). The current permit (37-AA-0010) anticipates that Otay Landfill would be in operation until 2030, based on current waste generation rates. At closure of the Otay Landfill, the Sycamore Canyon landfill would be used and would also have sufficient capacity to serve the Proposed Project, with a maximum permitted capacity of 71,233,171 cubic yards, and a remaining capacity of 39,608,998 cubic yards (CalRecycle 2016b). Sycamore Canyon Landfill is scheduled to cease operation and close in December 2042.

Residents would be required to pay standard solid waste disposal fees for this service. Alternatively, some HOAs assume the contracting, adding a fee to monthly association dues. The Proposed Project would increase the amount of solid waste generated in the area; however, the Otay Landfill's maximum permitted disposal rate is 5,830 tons per day and it currently operates at an average disposal rate of 5,004 tons per day. Thus, the Proposed Project's estimated disposal of approximately 3.2 tons per day (see Appendix A of Appendix 3.1.8-1 of this EIR) would not cause the landfill to exceed its permitted capacity or require construction of a new landfill. Therefore, the Proposed Project would be served by a landfill with sufficient permitted capacity to accommodate the Proposed Project's solid waste disposal needs, and impacts would be **less than significant**.

The Proposed Project would implement recycling facilities that would reduce the amount of solid waste deferred to landfills. The Proposed Project would also be required to comply with applicable federal, state, and local statutes and regulations related to solid waste and recycling. Furthermore, the County's General Plan goals and policies related to solid waste disposal would ensure compliance with all applicable laws and regulations. Therefore, Proposed Project impacts associated with solid waste disposal would be **less than significant**.

3.1.8.3 Cumulative Impact Analysis

Past, present, and reasonably foreseeable future projects are listed in Table 1-7, Cumulative Projects List, in Chapter 1, Project Description, Location, and Environmental Setting. Future growth in the cumulative area in conjunction with the Proposed Project would generate additional demand on utilities and service systems and would incrementally increase the long-term demand for wastewater, water, and solid waste services, similar to the Proposed Project. Projects that could increase the demand on utilities and service systems include the Otay Ranch Village 8 West Sectional Planning Area (SPA) Plan (approved), the Otay Ranch Village 9 SPA Plan (approved), the Otay Ranch Village 2 Comprehensive SPA Plan Amendment (approved), the Otay Ranch University Villages (Village 3 North and Portion of Village 4, Village 8 East, and Village 10) SPA Plans (approved), Otay Ranch Village 13 SPA Plan (pending), and Otay Ranch Freeway Commercial Planning Area SPA Plan Amendment (pending). However, past, present, and future projects in the surrounding area would be required to contribute fees, as applicable, to reduce and minimize potential cumulative impacts on such services and facilities, and any new water, wastewater, drainage, or solid waste facilities would undergo separate environmental review and would comply with all applicable County ordinances and laws and regulations regarding the protection of environmental resources.

Water Supply

The cumulative study area for water supply falls within OWD's boundaries. Future growth within the OWD boundaries, including the above-listed projects, could result in a cumulative increase in demand on water supply. However, the Proposed Project, along with any other cumulative projects within OWD's jurisdictional boundaries, would be required to provide availability and commitment letters demonstrating sufficient water resources and access to available water facilities prior to building permit issuance. In addition, adherence to above-mentioned water supply regulations would ensure that cumulative projects would not result in a demand for water that exceeds existing entitlements and resources, or necessitate new or expanded entitlements. Therefore, cumulative impacts associated with adequate water supplies or entitlements would be **less than significant**.

Wastewater Treatment

Future growth for areas within Otay Ranch proper and within the SDCSD service area would be allowed to connect to the Metropolitan Sewerage System, including the above-listed projects, could result in a cumulative increase in demand for wastewater service facilities. Specific to the Salt Creek Interceptor, the cumulative projects include Villages 3 North, 8 West, and 8 East; Village 9, Village 10, and the City's University project, and Village 13 in the County. New facilities proposed or necessitated by cumulative projects would be subject to applicable CEQA review, and projects, in constructing such facilities, would be required to comply with the County Grading Ordinance and other applicable laws and regulations protecting environmental resources. The SDCSD has sufficient capacity rights in the City of San Diego's Metropolitan Sewerage System. Cumulative projects, similar to the Proposed Project, would be required to pay fees to reduce potential impacts. In addition, as required by the County, projects must obtain a commitment letter from the wastewater service provider prior to final map approval or building permit issuance to ensure that there is existing capacity to service the needs of the project. In addition, adherence to the above laws and regulations would ensure that neither the Proposed Project nor other cumulative projects would result in a demand for wastewater treatment services that exceeds existing entitlements and resources for wastewater services, and impacts would be **less than significant**.

Storm Drainage Facilities

Future growth within the cumulative area could result in a cumulative increase in demand for storm drainage facilities. The cumulative study area for storm drainage is upstream within the same watershed management area as the Project Area which have the potential to drain through Proctor Valley to the Otay Reservoir System. These projects would be required to comply with all applicable permit requirements requiring retention and/or detention prior to discharge, and total discharge volumes would be required to be analyzed as part of the CEQA review for individual projects.

The Proposed Project would provide its own stormwater facilities and would not connect to existing on-site stormwater facilities, since no on-site facilities currently exist. Improvements to the drainage system for the Proposed Project would occur within the Project Area's watershed area and would not affect drainage outside of the Project Area. The Upper Otay Reservoir has sufficient capacity to accommodate any increase in the stormwater runoff. Any project that would construct new stormwater drainage facilities would be required to comply with the County Grading Ordinance and other applicable laws and regulations protecting environmental resources. As such, the Proposed Project would not contribute to a cumulative stormwater facility impact, and therefore cumulative impacts associated with storm drain facilities would be **less than significant**.

Solid Waste

Cumulative impacts to landfill capacity were addressed on a Countywide basis in the County General Plan Update Final EIR (County of San Diego 2011b) and in the Chula Vista General Plan EIR (City of Chula Vista 2005). The County cited the Integrated Waste Management Plan estimate that solid waste disposal would increase from 3.7 million tons in 2002 to 6.1 million tons in 2017, and that additional landfill capacity would be needed by 2016 or increased diversion technologies would need to be developed. The County also cited the need to increase the waste recycling rate to 75% to avoid the need to construct additional landfills (County of San Diego 2011b).

Additional cumulative projects have been proposed and/or approved that would increase the demand for solid waste disposal. These projects include the Otay Ranch Village 8 West SPA Plan (approved), the Otay Ranch Village 9 SPA Plan (approved), the Otay Ranch Village 2 Comprehensive SPA Plan Amendment (approved), the Otay Ranch University Villages (Village 3 North and Portion of Village 4, Village 8 East, and Village 10) SPA Plan (pending), Otay Ranch Village 13 SPA Plan (pending), and Otay Ranch Planning Area 12 SPA Plan (pending). These projects would result in more than 100 additional tons of solid waste per day generated within the vicinity of the Project Area, which would likely be disposed of at the Otay Landfill and/or Sycamore Landfill. Village 15 is no longer expected to be developed, nor are portions of Village 14 in the City of Chula Vista and state lands, as well as portions of Planning Area 16. However, because the underlying land uses for these areas permit development, they could potentially contribute to solid waste disposal.

Otay Landfill currently operates at 826 tons per day less than its maximum permitted daily intake. The current permit (37-AA-0010) anticipates that Otay Landfill would be in operation until 2030, based on current waste generation rates; however, operation of the landfill may be extended by increasing the maximum height and permitted capacity. At closure of the Otay Landfill, the Sycamore Canyon landfill would be used and would also have sufficient capacity to serve cumulative projects, with a maximum permitted capacity of 71,233,171 cubic yards and a remaining capacity of 39,608,998 cubic yards (CalRecycle 2016b). Sycamore Canyon Landfill is scheduled to cease operation and close in December 2042; however, much like the Otay Landfill, operation of the Sycamore Landfill may be extended by increasing the permitted capacity.

In July 2012, AB 341 went into effect with a goal of 75% of solid waste generated statewide to be source reduced, recycled, or composted by 2020. AB 341 also requires that “a business that generates more than four cubic yards of commercial solid waste per week or is a multifamily residential dwelling of five units or more shall arrange for recycling services, consistent with state or local laws or requirements, including a local ordinance or agreement, applicable to the collection handling, or recycling of solid waste, to the extent that these services are offered and

reasonably available from a local service provider.” All planned and proposed projects would be required to be consistent with applicable statutes and regulations (required as conditions of SPA approvals per the Otay Ranch PEIR, Section 3.13.3.3). The Proposed Project would not have cumulatively considerable impacts with respect to either compliance with applicable plans and policies, or capacity of solid waste collection and management; therefore, cumulative impacts associated with solid waste would be **less than significant**.

3.1.8.4 Conclusion

As discussed previously, the Proposed Project would result in a less-than-significant impact to water supply, wastewater treatment facilities, storm drainage facilities, and solid waste facilities. Further, the Proposed Project would comply with all applicable laws and regulations associated with utilities and service systems, and would result in a less-than-significant cumulative impact to water supply, wastewater treatment facilities, storm drainage facilities, and solid waste facilities. Therefore, the Proposed Project would result in **less-than-significant** impacts relative to utilities and service systems.

Table 3.1.8-1
Otay Ranch Village 14 and Planning Areas 16/19 Projected Potable Water Demands

Neighborhood	Land Use Designation	Gross Acres	Quantity, Units	Water Duty Factor	Total Average Water Demand (gpd)
<i>980 Zone</i>					
R-1	SF Residential	18.0	81	435 gpd/unit	35,235
R-2	SF Residential	38.5	82	700 gpd/unit	57,400
R-3	SF Residential	41.1	73	700 gpd/unit	51,100
R-4	Residential	13.8	116	435 gpd/unit	50,460
R-5 (portion)	SF Residential	30.0	88	700 gpd/unit	61,600
R-6 (portion)	SF Residential	17.4	48	700 gpd/unit	33,600
R-7 (portion)	SF Residential	2.6	7	700 gpd/unit	4,900
R-10 (portion)	SF Residential	14.4	28	700 gpd/unit	19,600
R-11 (portion)	SF Residential	6.1	13	700 gpd/unit	9,100
R-12	SF Residential	18.9	4	1,000gpd/unit	4,000
MU-C	Mixed Use-Com	1.7	—	1,785 gpd/ac	3,035
P-1	Park	2.9	—	1,900 gpd/ac	5,510
P-2	Park	7.2	—	1,900 gpd/ac	13,680
P-3	Park	3.7	—	1,900 gpd/ac	7,030
PP-1	Private Park	1.0	—	1,900 gpd/ac	1,900
PP-4	Private Park	1.5	—	1,900 gpd/ac	2,850
PPP	Private Park	2.5	—	1,900 gpd/ac	4,750
FS-1	Public Safety	2.3	—	1,785 gpd/ac	4,105

Table 3.1.8-1
Otay Ranch Village 14 and Planning Areas 16/19 Projected Potable Water Demands

Neighborhood	Land Use Designation	Gross Acres	Quantity, Units	Water Duty Factor	Total Average Water Demand (gpd)
S-1	School	9.7	97 ^a	435 gpd/unit	42,195
<i>Subtotal 980 Zone</i>			637		412,050
<i>1296 Zone</i>					
R-5 (portion)	SF Residential	5.1	15	700 gpd/unit	10,500
R-6 (portion)	SF Residential	8.3	23	700 gpd/unit	16,100
R-7 (portion)	SF Residential	38.1	101	700 gpd/unit	70,700
R-8	SF Residential	28.7	75	700 gpd/unit	52,500
R-9	SF Residential	30.3	74	700 gpd/unit	51,800
R-10 (portion)	SF Residential	10.7	21	700 gpd/unit	14,700
R-11 (portion)	SF Residential	22.3	48	700 gpd/unit	33,600
R-13	SF Residential	14.3	13	1,000 gpd/unit	13,000
R-14	SF Residential	192.0	71	1,000 gpd/unit	71,000
R-16 (portion)	SF Residential	27.1	7	1,000 gpd/unit	7,000
P-3	Park	1.4	—	1,900 gpd/ac	2,660
PP-2	Private Park	1.2	—	1,900 gpd/ac	2,280
PP-3	Private Park	0.7	—	1,900 gpd/ac	1,330
PPP	Private Park	2.5	—	1,900 gpd/ac	4,750
<i>Subtotal 1296 Zone</i>			448		351,920
<i>1460 Zone</i>					
R-15	SF Residential	41.9	11	1,000 gpd/unit	11,000
R-16 (portion)	SF Residential	89.2	23	1,000 gpd/unit	23,000
<i>Subtotal 1460 Zone</i>			34		34,000
Total			1,119		797,970

Source: Appendix 3.1.8-2.

Notes:

^a Units allocated to the school site at 10 dwelling units per acre per Otay Ranch GDP/SRP policies. Water demands were projected based on the residential unit allocation to be conservative (29,100 gpd as residential allocated units compared to 17,315 gpd as school (9.7 acres x 1,785 gpd/ac for schools))

gpd = gallons per day; SF = single family

Table 3.1.8-2
Mandated Water Conservation Devices

Device	Baseline Requirement	2013 Green Building Code Requirements
Showerheads	2.5 gpm	2.0 gpm
Lavatory faucets	2.2 gpm	1.2 gpm
Sink faucets	2.2 gpm	1.8 gpm
Metering faucets in public restrooms	0.25–0.75 gpc	0.25 gpc
Residential water closets	1.6 gpf	1.28 gpf

Table 3.1.8-2
Mandated Water Conservation Devices

Device	Baseline Requirement	2013 Green Building Code Requirements
Flushometer valves	1.6 gpf	1.28 gpf
Commercial water closets	1.6 gpf	1.28 gpf
Urinals	1.0 gpf	0.125/0.5 gpf*

Source: Appendix 3.1.2-3.

Notes:

* Wall mounted urinals shall not exceed 0.125 gpf. All other urinals shall not exceed 0.5 gpf.

gpm = gallons per minute; gpc = gallons per cycle; gpf = gallons per flush.

Table 3.1.8-3
Average/Normal Water Year Supply and Demand Assessment (acre-feet per year)

Local Supplies	2020	2025	2030	2035	2040
Surface water	51,580	51,480	51,380	51,280	51,180
Water recycling	40,459	43,674	45,758	46,118	46,858
Groundwater	17,940	19,130	20,170	20,170	20,170
Groundwater recovery	12,100	12,500	12,500	12,500	12,500
Seawater desalination	6,000	6,000	6,000	6,000	6,000
Potable reuse	3,300	3,300	3,300	3,300	3,300
<i>Imported Supplies</i>					
Imperial Irrigation District Water Transfer	190,000	200,000	200,000	200,000	200,000
Supply from Metropolitan	136,002	181,840	207,413	224,863	248,565
Coachella Canal and All American Canal Lining Projects	80,200	80,200	80,200	80,200	80,200
Lewis Carlsbad Desalination Plant	50,000	50,000	50,000	50,000	50,000
Total projected supplies	587,581	648,124	676,721	694,431	718,773
Total estimated demands^a	587,581	648,124	676,721	694,431	718,773
<i>Difference</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>

Source: SDCWA 2016.

^a With conservation.

Table 3.1.8-4
Single-Dry Water Year Supply and Demand Assessment (acre-feet per year)

Local Supplies	2020	2025	2030	2035	2040
Surface water	6,004	6,004	6,004	6,004	6,004
Water recycling	40,459	43,674	45,758	46,118	46,858
Groundwater	15,281	15,281	15,281	15,281	15,281
Groundwater recovery	12,100	12,500	12,500	12,500	12,500
Seawater desalination	6,000	6,000	6,000	6,000	6,000
Potable reuse	3,300	3,300	3,300	3,300	3,300

Table 3.1.8-4
Single-Dry Water Year Supply and Demand Assessment (acre-feet per year)

Local Supplies	2020	2025	2030	2035	2040
<i>Imported Supplies</i>					
Imperial Irrigation District Water Transfer	190,000	200,000	200,000	200,000	200,000
Supply from Metropolitan	263,340	264,740	263,340	260,680	258,720
Coachella Canal and All American Canal Lining Projects	80,200	80,200	80,200	80,200	80,200
Regional seawater desalination	50,000	50,000	50,000	50,000	50,000
Total projected supplies w/o storage takes	666,684	681,699	682,383	680,083	678,863
Total projected core supplies w/ utilization of carryover storage supplies	666,684	694,147	725,006	720,083	718,863
Total estimated demands^a	629,198	694,147	725,006	743,990	770,765
<i>Difference</i>	<i>37,486</i>	<i>-12,448</i>	<i>-42,623</i>	<i>-63,907</i>	<i>-91,902</i>

Source: SDCWA 2016.

^a With conservation.

Table 3.1.8-5
Multiple-Dry Water Year Supply and Demand Assessment (acre-feet per year)

Scenario	Near Term			Long Term		
	2017	2018	2019	2036	2037	2038
<i>Multiple-Dry Years</i>						
Demands	491,100	495,910	500,869	749,030	756,521	764,086
Supply without storage takes	525,710	558,634	586,587	749,030	718,564	682,327
Potential surplus or (shortage) ^a	34,710	62,724	85,718	0	(37,957)	(81,759)

Source: SDCWA 2016.

^a Potential shortages would be offset through management actions.

Table 3.1.8-6
Proposed Residential Water Conservation Measures

Measure	Location	Yearly Water Savings, gpy/unit	Daily Water Savings, gpd/unit	Percentage of Total Usage ^a	Project Total Water Savings ^b (gpd)
<i>(More than 8 Dwelling Units per Acre)</i>					
Hot water pipe insulation	Indoor	2,400	6.58	1.5	1,402
Pressure-reducing valves	Indoor	1,800	4.93	1.1	1,050
Water-efficient dishwashers	Indoor	650	1.78	0.4	379
<i>Subtotal</i>		<i>4,850</i>	<i>13.29</i>	<i>3.1</i>	<i>2,831</i>
<i>Single-Family Residential (3-8 DU/ac)</i>					
Hot water pipe insulation	Indoor	2,400	6.58	1.5	533

Table 3.1.8-6
Proposed Residential Water Conservation Measures

Measure	Location	Yearly Water Savings, gpy/unit	Daily Water Savings, gpd/unit	Percentage of Total Usage ^a	Project Total Water Savings ^b (gpd)
Pressure-reducing valves	Indoor	1,800	4.93	1.1	399
Water-efficient dishwashers	Indoor	650	1.78	0.4	144
Residential landscaping	Outdoor	9,125	21.75	5.0	1,762
<i>Subtotal</i>		<i>12,790</i>	<i>35.04</i>	<i>8.1</i>	<i>2,838</i>
<i>Single-Family Residential (1-3 DU/ac)</i>					
Hot water pipe insulation	Indoor	2,400	6.58	0.9	4,580
Pressure-reducing valves	Indoor	1,800	4.93	0.7	3,431
Water-efficient dishwashers	Indoor	650	1.78	0.3	230
Residential landscaping	Outdoor	12,775	35.0	5.0	24,360
<i>Subtotal</i>		<i>17,625</i>	<i>48.29</i>	<i>6.9</i>	<i>33,610</i>
<i>Single-Family Residential (<1 DU/ac)</i>					
Hot water pipe insulation	Indoor	2,400	6.58	1.3	840
Pressure-reducing valves	Indoor	1,800	4.93	1.0	636
Water-efficient dishwashers	Indoor	650	1.78	0.4	230
Residential landscaping	Outdoor	18,520	50.0	5.0	6,450
<i>Subtotal</i>		<i>23,100</i>	<i>63.29</i>	<i>6.3</i>	<i>8,165</i>
Total					44,613

Source: Appendix 3.1.2-3.

^a Based on 300 gpd/unit average usage (>8 DU) and 500 gpd/unit average usage (single-family residential units).

^b Based on 213 <8 DU/ac, including units allocated for the school site; Based on 906 single-family residential units.
gpy = gallons per year; gpd = gallons per day; DU/AC = dwelling units per acre

Table 3.1.8-7
Village 14 and Planning Areas 16/19 Projected Sewage Flows

Neighborhood	Land Use Designation	Quantity	Sewage Generation Factor ^a	Total Average Sewage Flow (gpd)	EDUs
<i>Village 14</i>					
R-1	SF Residential	81 units	240 gpd/unit	19,440	81
R-2	SF Residential	82 units	240 gpd/unit	19,680	82
R-3	SF Residential	73 units	240 gpd/unit	17,520	73

Table 3.1.8-7
Village 14 and Planning Areas 16/19 Projected Sewage Flows

Neighborhood	Land Use Designation	Quantity	Sewage Generation Factor ^a	Total Average Sewage Flow (gpd)	EDUs
R-4	Residential	116 units	192 gpd/unit	22,272	92.8
R-5	SF Residential	103 units	240 gpd/unit	24,720	103
R-6	SF Residential	71 units	240 gpd/unit	17,040	71
R-7	SF Residential	108 units	240 gpd/unit	25,920	108
R-8	SF Residential	75 units	240 gpd/unit	18,000	75
R-9	SF Residential	74 units	240 gpd/unit	17,760	74
R-10	SF Residential	49 units	240 gpd/unit	11,760	49
R-11	SF Residential	61 units	240 gpd/unit	14,640	61
R-16	SF Residential	4 units	240 gpd/unit	960	4
MU-C	Commercial	1.7 acres	1,500 gpd/acre	2,550	10.6
P-1	Park	2.9 acres	500 gpd/acre	1,450	6
P-2	Park	7.2 acres	500 gpd/acre	3,600	15
P-3	Park	3.7 acres	500 gpd/acre	1,900	7.9
PP-1	Park	1.0 acres	500 gpd/acre	500	2.1
PP-2	Park	1.2 acres	500 gpd/acre	600	2.5
PP-3	Park	0.7 acres	500 gpd/acre	350	1.5
PP-4	Park	1.5 acres	500 gpd/acre	750	3.1
PPP	Park	5.0 acres	500 gpd/acre	2,500	10.4
FS-1	Public Safety	2.3 acres	1,500 gpd/acre	3,000	14.4
S-1	School	9.7 acres/97 units	192 gpd/unit ^b	18,624	77.6
<i>Subtotal Village 14</i>				245,536	1,023
<i>Planning Areas 16/19</i>					
R-12	SF Residential	13 units	240 gpd/unit	3,120	13
R-13	SF Residential	71 units	240 gpd/unit	17,040	71
R-14	SF Residential	11 units	240 gpd/unit	2,640	11
R-15	SF Residential	30 units	240 gpd/unit	7,200	30
P-4	Park	1.4 acres	500 gpd/ac	700	2.9
<i>Subtotal Planning Areas 16/19</i>				30,000	128
Total				275,536	1,151

Source: Appendix 3.1.8-1.

Notes: gpd = gallons per day; EDU = equivalent dwelling unit.

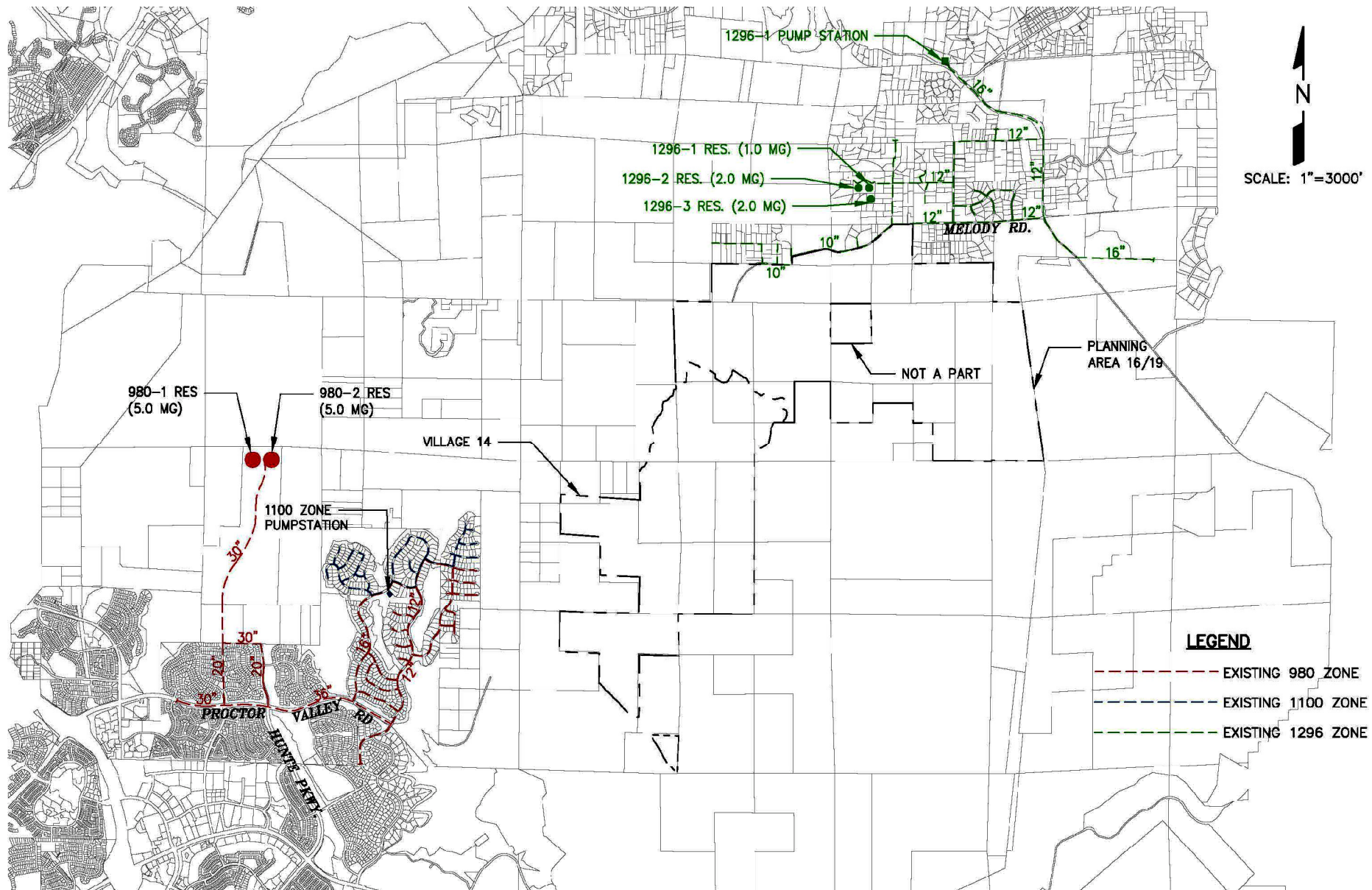
^a County generation rates. Under City of Chula Vista rates, total EDUs are reduced to 1,142 based on lower generation factors.

^b Units allocated to school site at 10 dwelling units per acre per Otay Ranch GDP/SRP policies. Sewer flows were projected based on the residential unit allocation to be conservative (77.6 EDUs as residential versus 800 students × 4.8 gpd/student = 3,840 gpd = 16 EDUs as school).

Table 3.1.8-8
Otay Ranch Village 14 and Planning Areas 16/19 Projected Sewage Flow Summary

Agency	Average Flow (mgd)	Peak Factor	Peak Flow (mgd)
County of San Diego	0.28	2.11	0.58

Source: Appendix 3.1.8-1.
mgd = million gallons per day.



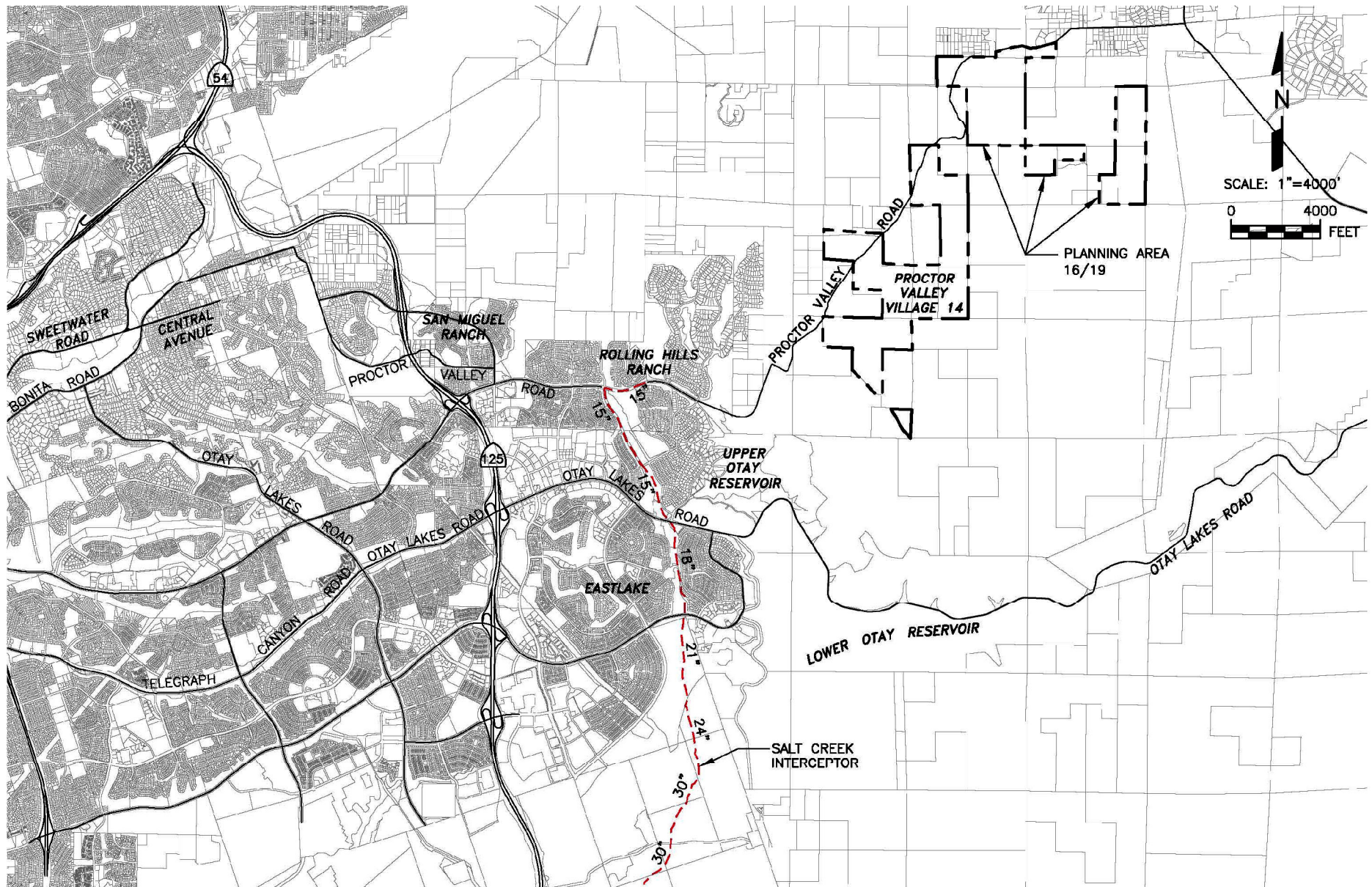
SOURCE: Dexter Wilson Engineering 2017

Otay Ranch Village 14 and Planning Areas 16/19

DUDEK

FIGURE 3.1.8-1
Existing Water Facilities

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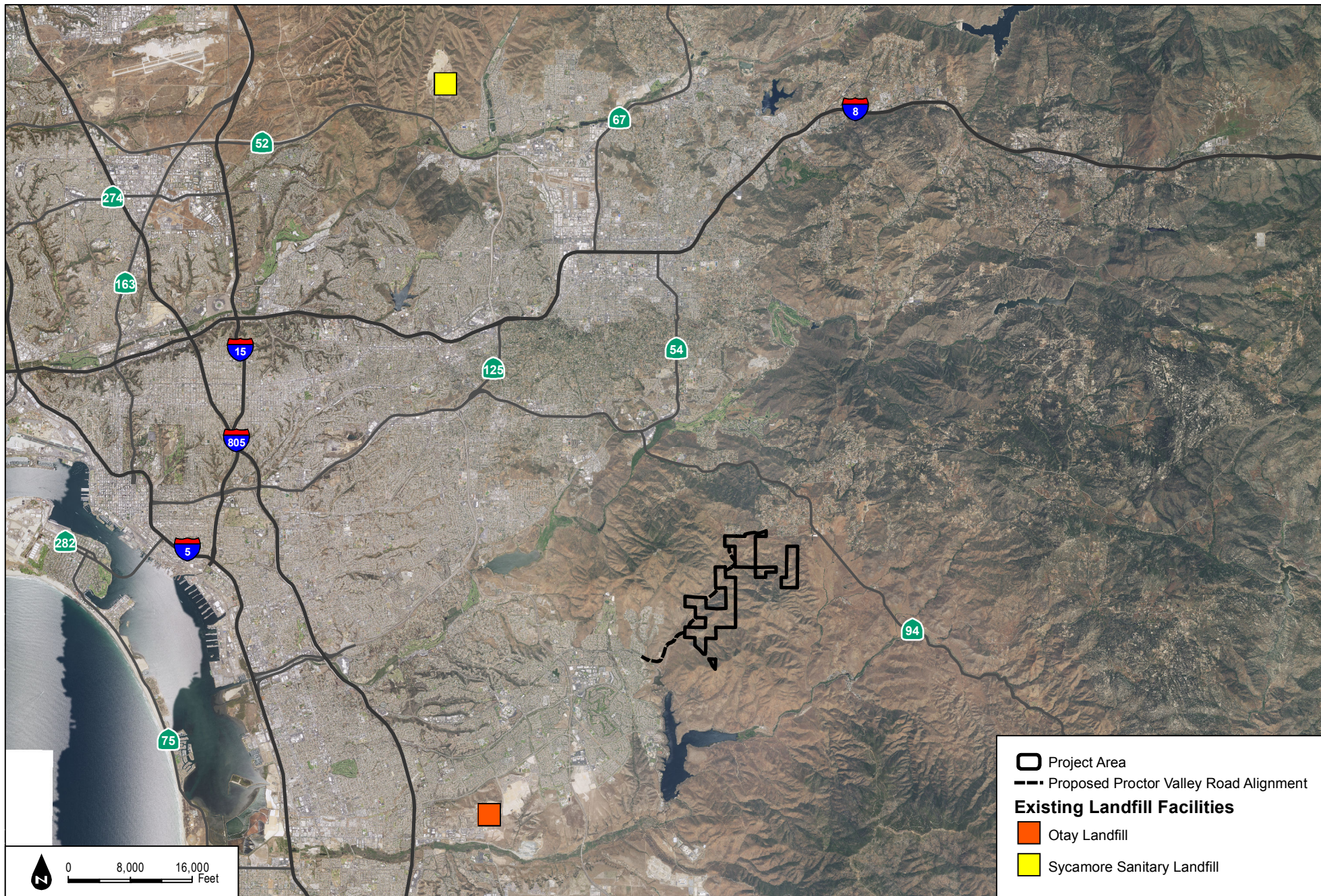


SOURCE: Dexter Wilson Engineering 2017

Otay Ranch Village 14 and Planning Areas 16/19

FIGURE 3.1.8-2
Existing Salt Creek Interceptor

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SOURCE: NAIP 2016; Hunsaker 2017

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Otay Ranch Village 14 and Planning Areas 16/19

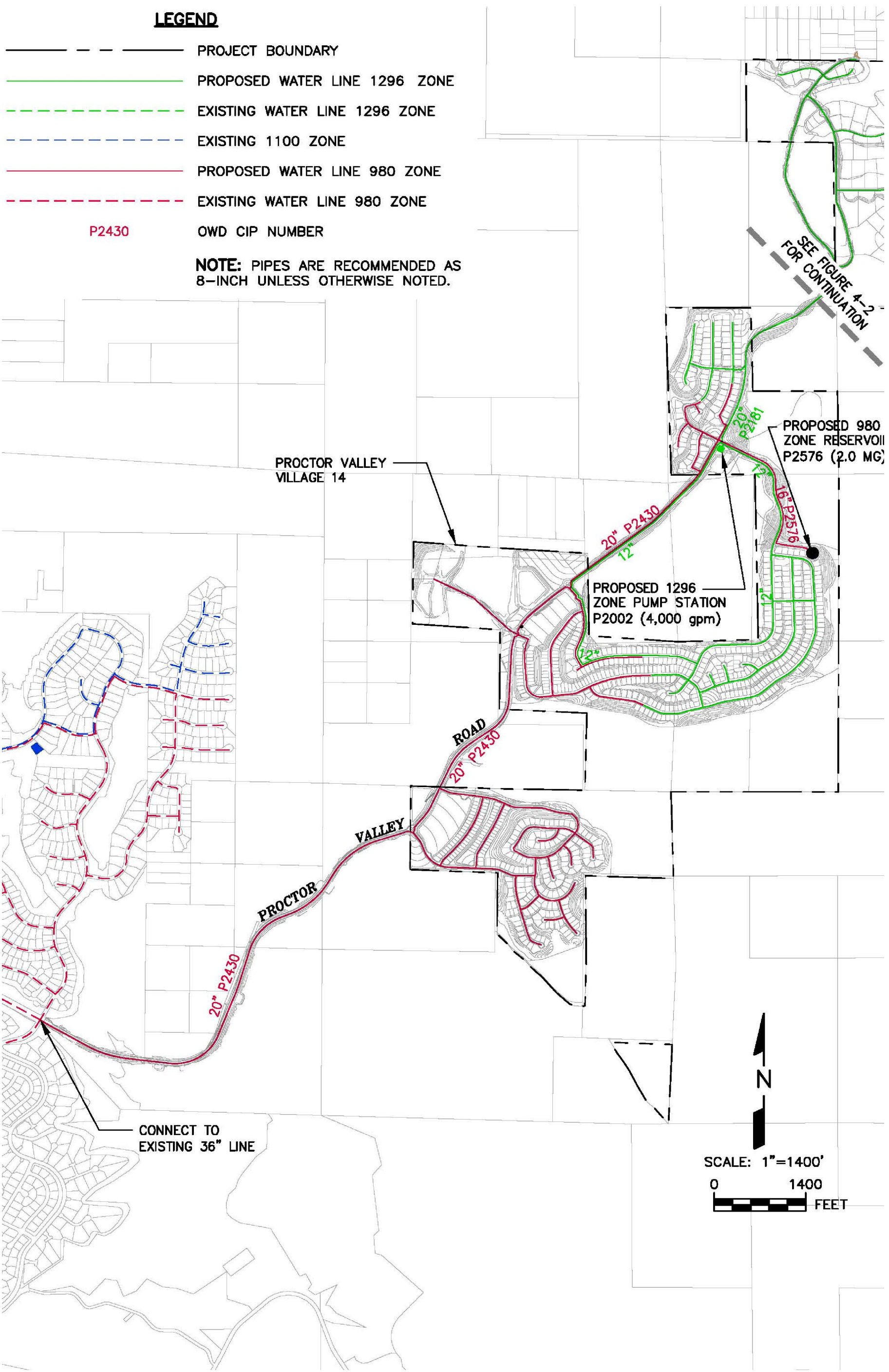
FIGURE 3.8.1-3
Existing Landfill Facilities

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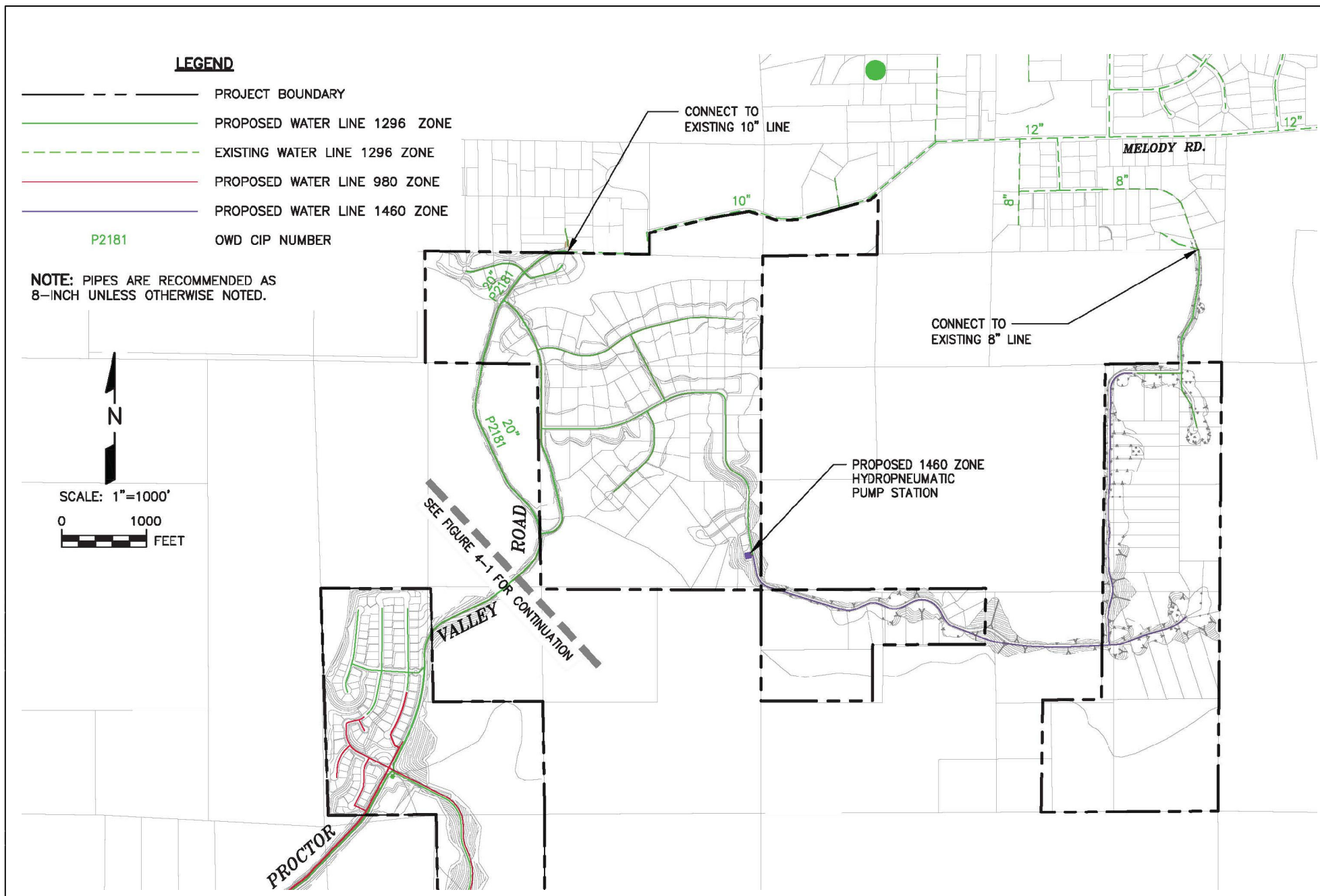
LEGEND

- PROJECT BOUNDARY
- PROPOSED WATER LINE 1296 ZONE
- EXISTING WATER LINE 1296 ZONE
- EXISTING 1100 ZONE
- PROPOSED WATER LINE 980 ZONE
- EXISTING WATER LINE 980 ZONE
- P2430 OWD CIP NUMBER

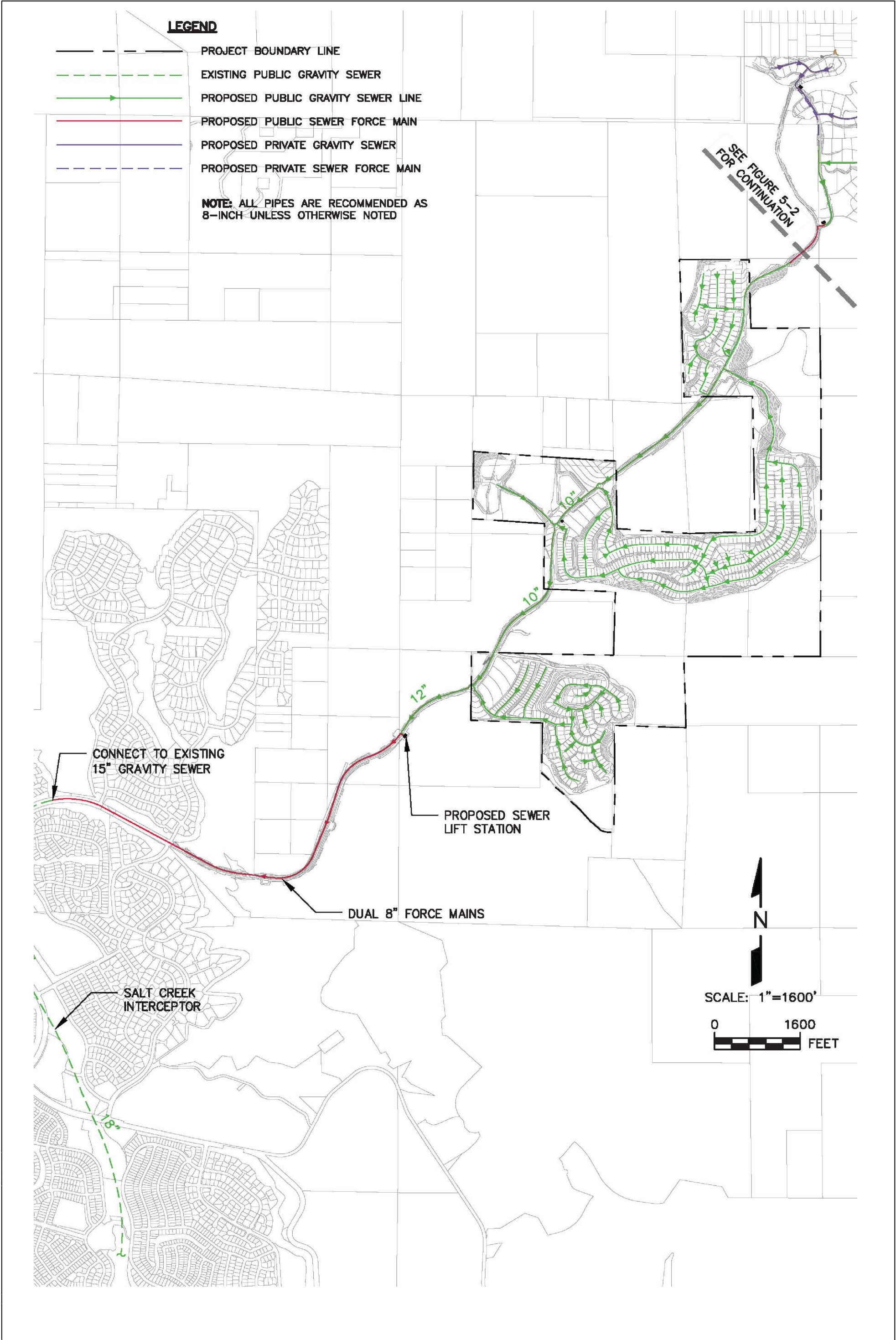
NOTE: PIPES ARE RECOMMENDED AS 8-INCH UNLESS OTHERWISE NOTED.



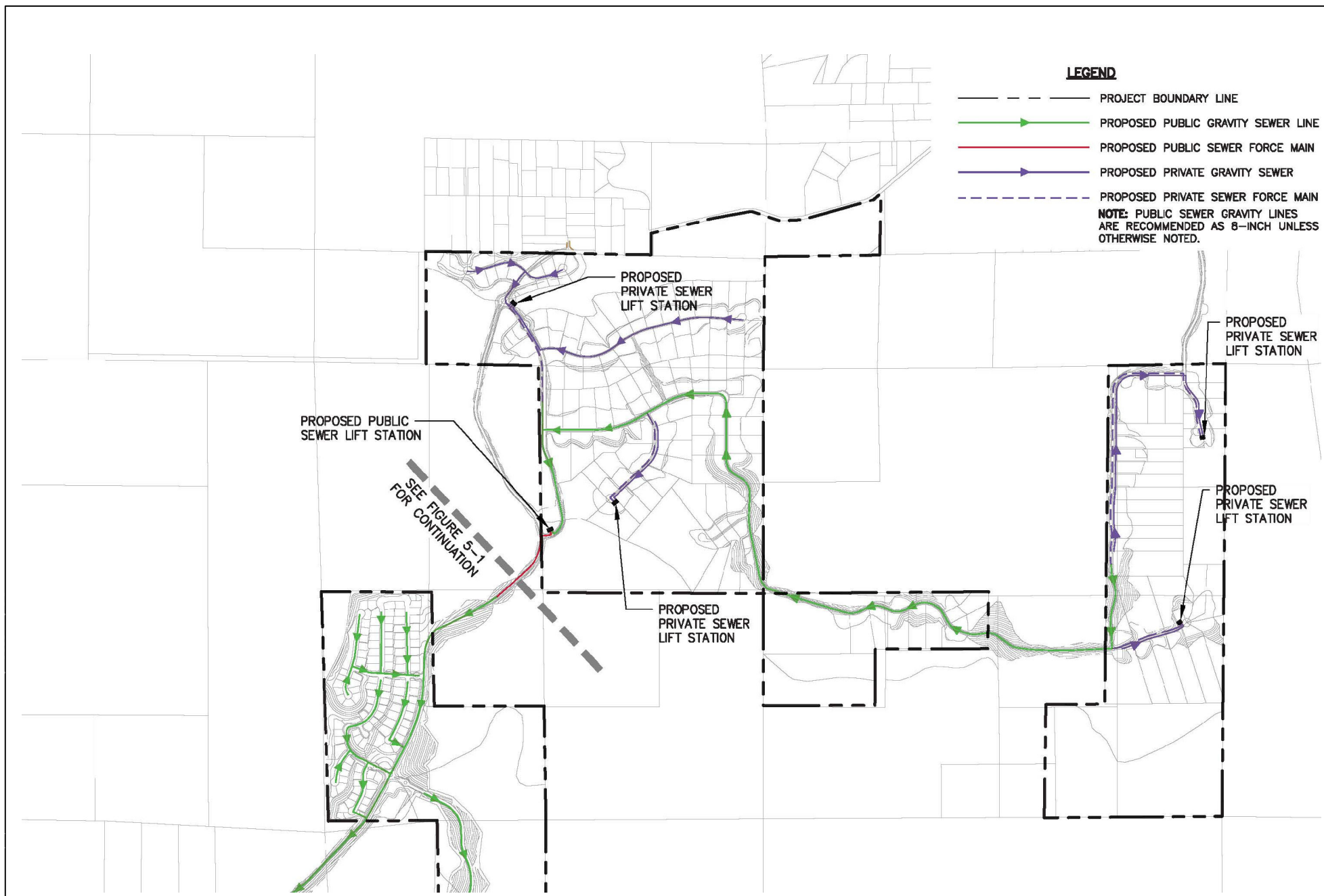
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