
3.15 UTILITIES/SERVICE SYSTEMS

3.15.1 Introduction

This section evaluates the potential impacts on utilities and service systems resulting from implementation of the Proposed Project. This includes potential impacts resulting from exceeding wastewater treatment requirements of the applicable Regional Water Quality Control Board; requiring or resulting in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects; having sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed; a determination by the wastewater treatment provider, which serves or may serve the project, that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments; service by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs, compliance with federal, state, and local statutes and regulations related to solid waste. It should be noted that impacts associated with stormwater drainage are analyzed in Section 3.7 (Hydrology) of this EIR.

Data used to prepare this section were taken from various sources, including the City of Lake Forest Recreation and Resources Element, the City of Lake Forest General Plan Final Master EIR, the Water Supply Assessment (WSA) prepared for the Proposed Project, the Irvine Ranch Water District Water Resources Master Plan, Fuscoe Engineering Utility Report for the Project Area, and written and verbal communication with various service providers. Full bibliographic entries for all reference materials are provided in Section 3.15.8 (References) of this section.

One comment letter was received from the Irvine Ranch Water District to the Notice of Preparation. The letter indicated that the proposed changes in land use could necessitate the preparation of a sub area master plan (SAMP), that the project would require a WSA, and that the project proponents would be responsible for any "fair-share costs" associated with any improvements to existing facilities.

3.15.2 Environmental Setting

■ Water Supply and Treatment

The City of Lake Forest is served by the El Toro Water District, the Trabuco Canyon Water District, and the Irvine Ranch Water District (IRWD). The IRWD is the primary service provider for the City including the Project Area. The Santa Margarita Water District owns and operates a trunk line through vacant land near Glenn Ranch Road and El Toro Road, but does not provide any service within the City. The Trabuco Canyon Water District serves a small area in the northern portion of the City. The El Toro Water District serves an area in the southeast corner of the City as well as along the southeastern border. Figure 3.15-1 illustrates the service area for each water district in and adjacent to the City. The water supply and treatment portion of this chapter is based on supply and demand data from IRWD.

Water Agencies in (and adjacent to) the City of Lake Forest

Irvine Ranch Water District

As stated, the IRWD serves the Proposed Project area (Figure 3.15-1). IRWD provides potable and nonpotable water supply and wastewater treatment services to a population of approximately 325,000 covering an area of 132 square miles. The IRWD service area boundary, which includes all of the City of Irvine and a majority of the City of Lake Forest, is bounded by the Cities of Tustin, Santa Ana, Costa Mesa, and Newport Beach to the west; the Pacific Ocean and Laguna Beach to the south; the Santa Ana Mountains to the north; and the City of Lake Forest to the east.

Potable Water System

Currently, approximately 50 percent of the IRWD potable water supply comes from imported water deliveries purchased from the Metropolitan Water District of Southern California (MWD). The balance of the IRWD potable supplies come from locally-developed groundwater, primarily the Dyer Road Well Field (DRWF) and the Deep Aquifer Treatment System (DATS), both located in the City of Santa Ana. Other groundwater sources include the Irvine Subbasin wells and the Irvine Desalter. The DRWF produces groundwater from the principal aquifer of the Orange County Groundwater Basin (Basin) and the DATS wells produce groundwater from a deeper aquifer generally assumed to be below the principle aquifer. The Basin is managed by the Orange County Water District (OCWD). Under agreement with OCWD and the City of Santa Ana, IRWD has an annual production limit of 28,000 AFY in the DRWF and 8,000 AFY from the DATS Wells. Currently, 18 wells with a capacity of 5 cfs per well are operational. The groundwater produced from these systems is conveyed to the IRWD distribution system via a 54-inch diameter transmission main located in Dyer Road in the City of Irvine. Figure 3.15-2 illustrates the potable water infrastructure within the City.

Nonpotable Water System

The existing nonpotable water system is supplied by four primary sources: reclaimed water produced at the Michelson Water Reclamation Plant (MWRP) and Los Alisos Water Reclamation Plant (LAWRP), native water collected and stored at Irvine Lake, untreated water purchased from Metropolitan Water District (MWD), and groundwater from the Irvine Sub-Basin and the Irvine Desalter. The nonpotable water system delivers reclaimed water, supplemental untreated water, and limited nonpotable groundwater to landscape, agricultural irrigation customers, high rise office buildings for nonpotable water usage (toilets), and various industrial users. Irvine Lake provides storage and captures local runoff for the untreated water system, and delivered through the Irvine Lake Pipeline; Sand Canyon and Rattlesnake reservoirs provide storage for reclaimed water within the system. Figure 3.15-2 illustrates the nonpotable water system within the City.

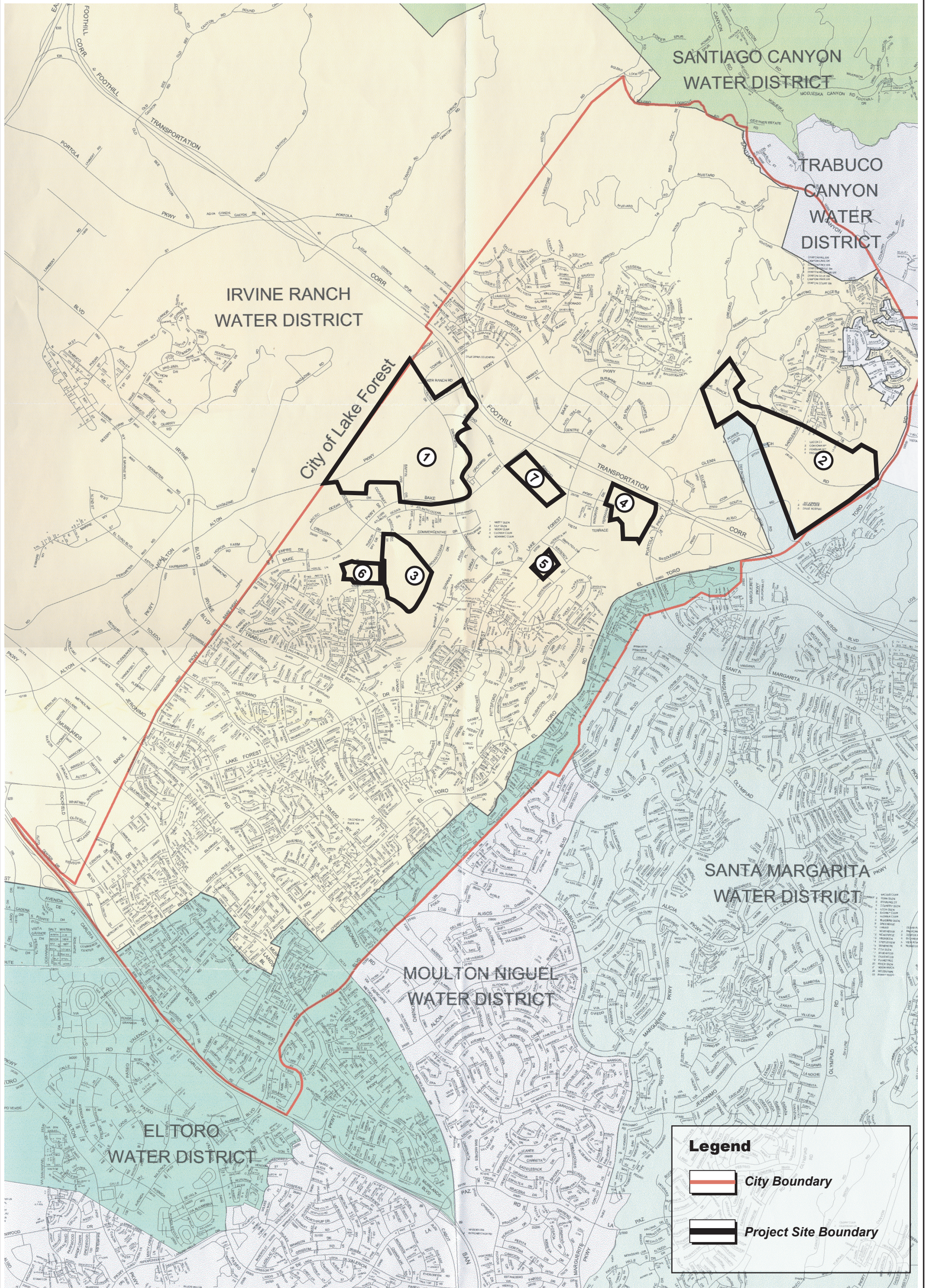


FIGURE 3.15-1
Water Districts in the City of Lake Forest

Not to Scale

10953-00

Sources: Water Resources master Plan

City of Lake Forest



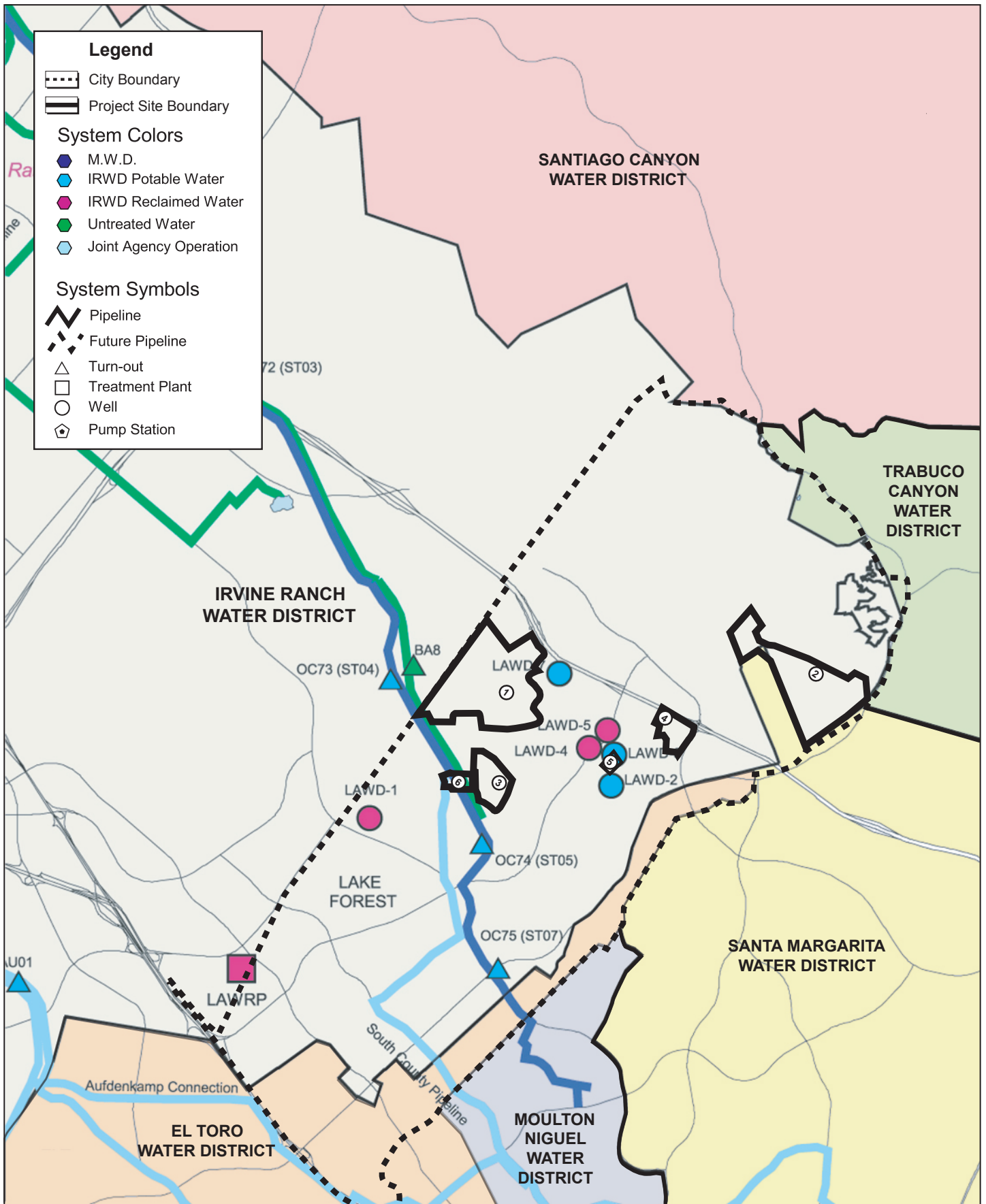


FIGURE 3.15-2
Irvine Ranch Water District Existing Supply Facilities for Potable and Nonpotable Water Systems
Sources: Lake Forest General Plan; State of California Department of Mines and Geology City of Lake Forest

Not to Scale
EIP
 ASSOCIATES

Water Demand

Table 3.15-1 and Table 3.15-2 present normal-year, potable and nonpotable demand for the City and the IRWD service area. This data does not include the demand that would be generated by the Proposed Project. According to Table 3.15-1, annual potable water demand is expected to increase from about 67,700 AFY in 2005 to 95,600 AFY at General Plan buildout in 2025.

	2005	2010	2015	2020	2025
City of Lake Forest Subtotal	15,791	17,367	18,861	18,972	18,972
IRWD Total	67,635	82,402	87,819	92,807	95,654

SOURCE: Irvine Ranch Water District, Opportunities Study Water Supply Assessment (1/24/05); Fuscoe Engineering 2005

According to Table 3.15-2 below, normal-year nonpotable water demand is expected to increase from 1,530 AFY in 2005 to 2,052 AFY in 2025. The demand for nonpotable water is expected to decrease during this time due to the conversion of agricultural land to other uses, as well as changes in the amount of groundwater pumped from the basin.

	2005	2010	2015	2020	2025
City of Lake Forest Subtotal	1,530	1,619	1,843	2,052	2,052
IRWD Total	42,594	41,420	38,525	38,268	39,568

SOURCE: Irvine Ranch Water District, Opportunities Study Water Supply Assessment (1/24/05); Fuscoe Engineering 2005

Water Infrastructure

As stated above, the IRWD provides domestic water service to the Project Area. The existing water distribution system is divided into pressure zones that serve changing elevations, and is developed with several reservoirs, booster stations, and emergency ties. Within the Project Area there are six reservoirs, which are listed below in Table 3.15-3.

Number	Size	Zone	Location
R4	5 mg	3	North of Alton and East of Irvine Road
R5	2.5 mg	4	South of Alton and West of Commerce Center Drive
R6	—	6	End of Touraine Place
R7	2 mg	6A	End of Tessera Avenue
R13	7 mg	3	North of Alton and East of Irvine Road
—	7.5 mg	2	South of Portola and west of El Toro Road
Total	24 mg		

SOURCE: Fuscoe Engineering 2005

Table 3.15-4 details the existing water conveyance system in each site of the Project Area.

Site	Description
1	12" main in Alton Parkway 24" main in Bake Parkway 18" main along eastern property line
2	10" and 12" mains in Glen Ranch Road
3	Two 12" stubs in Indian Ocean Drive 17" main along southern property line
4	16" stubs in Portola Parkway and Rancho Parkway 8" stub in Vista Terrace
5	15" and 12" mains in both Regency Lane and Osterman Road Additional 12" main in Regency Lane
6	8" stub in Peachwood Drive
7	12" and 16" main in Rancho Parkway 24" main in Bake Parkway 12" main along the southern property line

SOURCE: Fuscoe Engineering 2005

Potable and Reclaimed Water

As previously stated, approximately 50 percent of IRWD’s potable water supply is imported water purchased from MWD. The majority of this potable water is supplied from a single source, the MWD Diemer Filtration Plant (DFP), located north of Yorba Linda. The Diemer Filtration Plant receives a blend of Colorado River water from Lake Mathews. The two major transmission pipelines that deliver Diemer-treated water to the IRWD service area are the Allen-McColloch Pipeline (AMP) and Eastern Orange County Feeder-2 (EOCF#2). In addition to Diemer-treated imported water, IRWD receives potable water from MWD’s Weymouth Filtration Plant via the Orange County Feeder (OCF).

IRWD supplies its own reclaimed water from wastewater collected by IRWD and delivered to IRWD’s Michelson Water Reclamation Plant (MWRP) and Los Alisos Water Reclamation Plant (LAWRP). MWRP currently has a dry weather permitted capacity of 18 million gallons per day (MGD). In 2001, average influent flow into MWRP was 14 mgd. Presently IRWD plans to expand its Michelson Water Reclamation Plant, however, it does not plan to expand the Los Alisos Water Reclamation Plan to meet 2025 recycled water demands.

LAWRP currently has a nominal dry weather treatment capacity of 7.5 mgd for secondary treatment and 5.5 mgd for reclaimed water production. In 2001, average influent flow into LAWRP was 4.4 mgd. IRWD plans to increase its capacity on the existing plants to produce sufficient reclaimed water to meet projected demand of its service area in 2025.

Currently, LAWRP provides reclaimed water to most of Lake Forest (Figure 3.15-1), and MWRP provides reclaimed water to Irvine and portions of Tustin, Newport Beach, and unincorporated Orange County.

■ Wastewater

Wastewater generated in the City of Lake Forest is conveyed and treated by LAWRP (see Figure 3.15-3). Treatment at LAWRP is comprised of a pond system for biological treatment followed by a conventional treatment process consisting of rapid mix, flocculation, sedimentation and filtration. Tertiary treated reclaimed water produced at the plant is disinfected with chlorine, and meets Title 22 requirements.

Effluent that is not reclaimed to meet irrigation demands is sent to the South Orange County Water Agency (SOCWA) outfall for ocean disposal. This water receives secondary treatment only. Currently, IRWD owns a 7.5 mgd capacity in this outfall. Discharge only occurs as a result of low winter demand.

Figure 3.15-4 illustrates LAWRP wastewater sewer main infrastructure. The existing wastewater conveyance infrastructure is presented in Table 3.15-5.

Table 3.15-5 Existing Sewer Infrastructure	
Site	Description
1	15" / 21" sewer main in Bake Parkway 8" & 12" sewer stub at the end of Alton Parkway
2	10" S force main 15" / 12" sewer main with 8" stub in Glenn Ranch Road
3	8" sewer stub and 10" sewer stub in Portola Parkway 8" sewer stub in Indian Ocean Drive 8" sewer stub in Commerce Centre Drive
4	8" sewer stub and 10" sewer stub in Portola Parkway 8" sewer stub in Rancho Parkway 8" sewer stub north of the Project Area near the intersection of Portola Parkway and Glenn Ranch Road
5	8" sewer in both Regency Lane and Osterman Road 15" sewer easement on the west side of site
6	8" sewer stub in Peachwood Drive
7	15" sewer main in Bake Parkway 15" sewer main in Lake Forest Drive 8" sewer in Rancho Parkway
8	10" sewer stub to the site off Portola Parkway 12" sewer main in Portola Parkway 10" sewer main in Access Road
9	8" sewer main in Vista Terrace
10	Two 8" sewer stubs in Regency Lane
11	Two 8" sewer stubs in Regency Lane
12	Two 8" sewer lines in Lake Forest Drive
13	8" sewer main and 8" force main in Town Centre Drive
SOURCE: Fuscoe Engineering 2005	

■ Solid Waste

The Orange County Integrated Waste Management Department (IWMD) owns and operates three public landfills in Orange County, California that accept municipal solid waste. These include Frank R. Bowerman Landfill in Irvine, which accepts commercial waste only; the Olinda Alpha Landfill in Brea, which accepts both public and commercial waste; and the Prima Deshecha Landfill in San Juan Capistrano, which also accepts both public and commercial waste. All three landfills are Class III (only accept non-hazardous municipal waste).

Frank R. Bowerman Landfill is permitted to receive a daily maximum of 8,500 tons per day (tpd). The landfill consists of approximately 725 acres, with 326 acres permitted for refuse disposal. It opened in 1990 and is scheduled to close in approximately 2022. The IMWD is currently conducting a study that may extend the life and disposal capacity of the landfill.

Olinda Alpha Landfill is permitted to receive a daily maximum of 8,000 TPD. The landfill consists of approximately 565 acres with approximately 420 acres permitted for refuse disposal. The landfill opened in 1960 and is currently scheduled to close in December 2013. The Integrated Waste Management Department is conducting a study that may extend the life and disposal capacity of the landfill.

Prima Deshecha Landfill is permitted to accept up to 4,000 tons of waste per day (TPD). The Prima Landfill is approximately 1,530 acres with 699 acres permitted for refuse disposal. The landfill was opened in 1976 and is scheduled to close in approximately 2067. A General Development Plan is being prepared for this landfill, which indicates end use as a regional park.

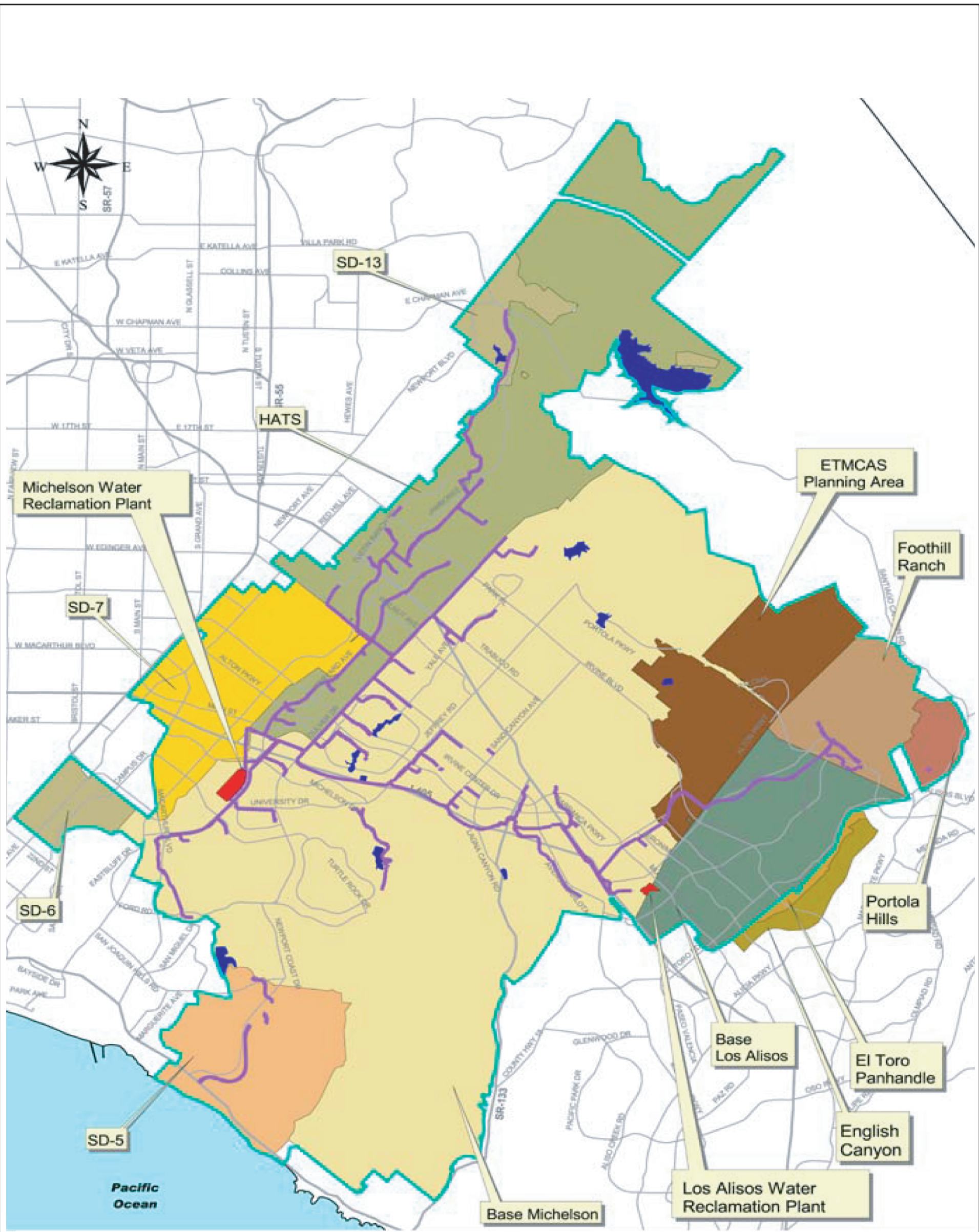
■ Electricity and Natural Gas

Electricity

The City and the Project Area are within the service area of the Southern California Edison Company (SCE), an electricity provider. SCE owns and operates the electric power delivery network and substations in its service area. A subsidiary of Edison International, SCE has 5,000 megawatts of generating capacity from interests in nuclear, hydroelectric, and fossil-fueled power plants. Individual businesses and communities within the service areas are able to have contracts with independent power generators, as allowed by the deregulation of the electric power industry.

Natural Gas

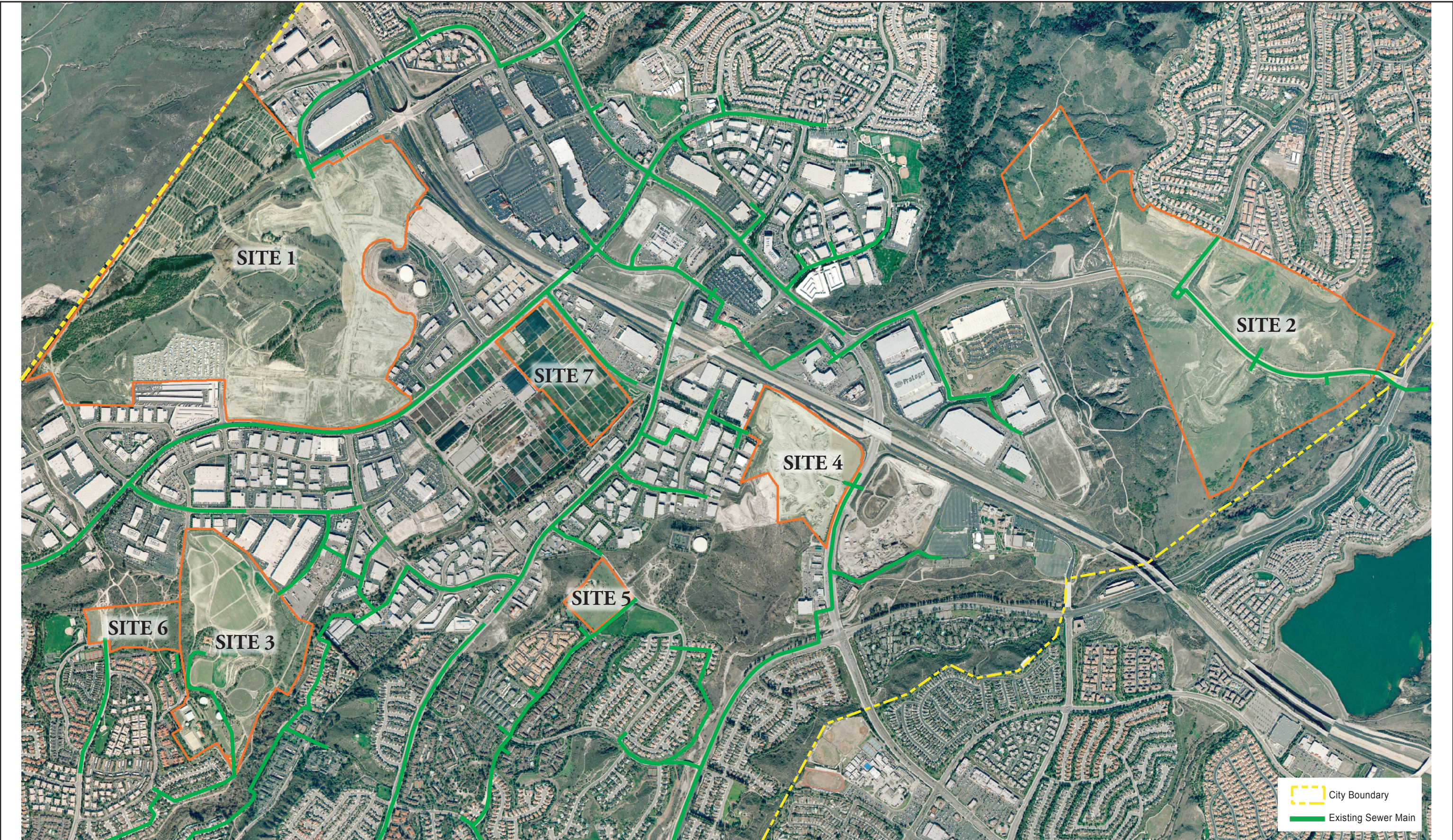
The Project Area is within the service boundary of the Southern California Gas Company, the largest natural gas utility in the Country. A subsidiary of Sempra Energy, the utility annually delivers approximately 1 trillion cubic feet of gas. Similar to electricity, gas customers within the Project Area have the option of purchasing their natural gas from a private gas supplier.



Tributary Areas	
■	Base Los Alisos
■	English Canyon
■	ETMCAS Planning Area
■	Foothill Ranch
■	HATS
■	Base Michelson
■	El Toro Panhandle
■	SD5
■	SD7

Features	
■	Reclamation Plants
—	>12" Sewer pipes
■	Lakes/Reservoirs
□	IRWD Boundary
■	Pacific Ocean

FIGURE 3.15-3
Wastewater Tributary Areas
 Sources: Irvine Ranch Water District





 City Boundary
 Existing Sewer Main



FIGURE 3.15-4
Existing Sewer Main Plan

10953-00

Source: Fuscoe Engineering, 2005

Not to Scale

City of Lake Forest


3.15.3 Planning and Regulatory Framework

■ Water Supply and Treatment

Federal and State

IRWD is responsible for meeting federal and state laws and regulations regarding water supply and water quality. Such regulations include water supply treatment system testing and monitoring, as specified in Title 23, Division 4, Chapter 1, Article 4 of the California Code of Regulations (CCR), and federal regulations promulgated by the Environmental Protection Agency.

Urban Water Management Planning Act (California Water Code, Division 6, Part 2.6, Section 10610 et seq.)

The Urban Water Management Planning Act was developed due to concerns for potential water supply shortages throughout the State of California. It requires information on water supply reliability and water use efficiency measures. Urban water suppliers are required, as part of the Act, to develop and implement UWMPs to describe their efforts to promote efficient use and management of water resources. IRWD completed its most recent UWMP in 2005.

Water Conservation Projects Act

The State of California's requirements for water conservation are codified in the Water Conservation Projects Act of 1985 (Water Code Sections 11950–11954), as reflected below:

11952. (a) It is the intent of the Legislature in enacting this chapter to encourage local agencies and private enterprise to implement potential water conservation and reclamation projects....

Local

Currently, a Water Master Plan has not yet been completed for the City. Instead, existing water-related regulations are based on the City's Municipal Code and General Plan, as discussed below.

City of Lake Forest Municipal Code

Chapter 15.04 (Water Conservation)

This chapter defines the regulations associated with the construction and reconstruction of wells to the end that the groundwater of Orange County will not be impaired in quality and that water obtained from such wells will be suitable for the purpose for which used and will not jeopardize the health, safety, or welfare of the people of Orange County. In addition, this chapter provides for the destruction of abandoned wells or wells found to be public nuisances to the end that such wells will not impair the quality of groundwater or otherwise jeopardize the health, safety, or welfare of the people of Orange County.

City of Lake Forest General Plan

The City of Lake Forest General Plan contains goals, policies, and plans that are intended to guide land use and development decisions. The General Plan consists of a Land Use Policy Map and the following six elements, or chapters, which together fulfill the state requirements for a General Plan:

- Land Use Element
- Housing Element
- Circulation Element
- Recreation and Resources Element
- Safety and Noise Element
- Public Facilities/Growth Management Element

Policies that relate to water supply and treatment are listed below.

Recreation and Resources Element

Water Supply and Treatment

- Goal 2.0** Preservation and enhancement of important natural resources and features.
- Policy 2.2** Coordinate water quality and supply programs with the responsible water agencies.
- Policy 2.3** Encourage the expansion of reclaimed water production and use.

Public Facilities/Growth Management Element

Water Supply and Treatment and Wastewater Treatment

- Goal 1.0** Effective coordination with local water and sewer service districts.
- Policy 1.1** Work closely with local water and sewer districts in determining and meeting community needs for water and sewer service.

■ Wastewater

Federal

Federal Water Pollution Control Act

The major piece of federal legislation dealing with wastewater is the federal *Water Pollution Control Act*, which is designed to restore and preserve the integrity of the nation's waters. In addition to the federal *Water Pollution Control Act*, other federal environmental laws have a bearing on the location, type, planning, and funding of wastewater treatment facilities.

State

Wastewater operation of the City of Lake Forest is subject to regulations set forth by the California Department of Health Services (DHS) and State Water Resources Control Board (SWRCB).

Regional Water Quality Board

Under the Regional Water Quality Board (RWQCB) National Pollution Discharge Elimination System (NPDES) permit system, all existing and future municipal and industrial discharges to surface waters within the City would be subject to regulations. NPDES permits are required for operators of municipal separate storm sewer systems (MS4s), construction projects, and industrial facilities. These permits contain limits on the amount of pollutants that can be contained in each facility's discharge. Specifically, all development within the City would be subject to the provisions of the Orange County NPDES Storm Water Permit. The Orange County NPDES storm water permit was issued by RWQCB to the municipalities in the drainage area of Orange County. The Orange County Drainage Area Management Plan (DAMP) was also prepared to meet the requirements of the storm water permit by describing the overall storm water management strategies planned by Orange County to protect the beneficial uses of the receiving waters in the Orange County drainage area. Thus, developments would also be subject to the provisions of the DAMP.

Local

City of Lake Forest Municipal Code

Chapter 7.08 (Standards of Design)

Section 7.08.110 (Sewers) of this chapter requires that all lots intended for development shall be connected to a sanitary sewer system unless the Health Officer has determined that each lot is adequate to accept a private septic system.

Chapter 15.12 (Sewage and Solid Waste Disposal)

The purpose of this chapter is to set forth regulations associated with the construction of sanitary facilities and industrial waste disposal.

Chapter 15.14 (Stormwater Quality Management)

This chapter of the Lake Forest Municipal Code implements the Federal Water Pollution Control Act and the California Water Code by prohibiting the discharge of any pollutant to navigable waters of the United States from a point source unless the discharge is authorized by a permit issued pursuant to the NPDES, and prohibits nonstormwater discharges into the MS4.

City of Lake Forest General Plan

See Water Supply and Treatment General Plan Goals and Policies, above.

■ Solid Waste

Federal

With the exception of determining where disposal sites are located and operational standards, there are no applicable federal laws, regulations, or policies that pertain to solid waste.

State

At the state level, the management of solid waste is governed by regulations established by the California Integrated Waste Management Board (CIWMB), which delegates local permitting, enforcement, and inspection responsibilities to Local Enforcement Agencies. In 1997, some of the regulations adopted by the State Water Quality Control Board (SWQCB) pertaining to landfills (Title 23, Chapter 15) were incorporated with CIWMB regulations (Title 14) to form Title 27 of the California Code of Regulations.

Local

AB 939—California Integrated Waste Management Act

In 1989, the Legislature adopted the California Integrated Waste Management Act of 1989 (AB 939), which established an integrated waste management hierarchy that consists of the following in order of importance: source reduction, recycling, composting, and land disposal of solid waste. The law also required that each County prepare a new Integrated Waste Management Plan. The Act further required each city to prepare a Source Reduction and Recycling Element (SRRE) by July 1, 1991. AB 939 also requires cities and counties to prepare SRREs in their General Plans. Senate Bill (SB) 2202 made a number of changes to the municipal solid waste diversion requirements under the Integrated Waste Management Act. These changes included a revision to the statutory requirement for 50 percent diversion of solid waste to clarify that local governments shall continue to divert 50 percent of all solid waste on and after January 1, 2000.

City of Lake Forest General Plan

The City of Lake Forest General Plan contains goals, policies, and plans that are intended to guide land use and development decisions. The General Plan consists of a Land Use Policy Map and the following six elements, or chapters, which together fulfill the state requirements for a General Plan:

- Land Use Element
- Housing Element
- Circulation Element
- Recreation and Resources Element
- Safety and Noise Element
- Public Facilities/Growth Management Element

Policies that relate to solid waste are listed below.

Recreation and Resources Element

Solid Waste

Goal 6.0 Reduction of the per capita volume of solid waste produced in the community.

Policy 6.1 Reduce the per capita production of solid waste in Lake Forest in concert with the County of Orange source reduction and recycling plans for reducing solid waste.

■ Electricity and Natural Gas

Federal

There are no federal regulations or policies related to electricity and natural gas that are applicable to the Proposed Project.

State

Assembly Bill (AB) 1890

In 1996, state legislation was enacted, which restructured California's electricity market. In accordance with AB 1890, the generation of electricity is open to competition, but the transmission and distribution remain a regulated monopoly. The utilities are required to purchase all their electricity needs from the wholesale market. The goal of the legislation was to open the state's energy market to competition, with the expectation that competition would drive down the cost of electricity. The legislation gave the customers of investor-owned utilities, such as SCE, the ability to choose who provides their electric energy, much the same way they can choose long distance telephone companies.

Title 20 and Title 24, California Code of Regulations (CCR)

New buildings in California are required to conform to energy conservation standards specified in Title 24 of the California Code of Regulations (CCR). The standards establish "energy budgets" for different types of residential and nonresidential buildings, with which all new buildings must comply. The energy budget has a space-conditioning component and a water-heating component, both expressed in terms of energy (BTU) consumed per year. The regulations allow for trade-offs within and between the components to meet the overall budget.

Energy consumption of new buildings in California is regulated by the State Building Energy Efficiency Standards, embodied in Title 24 of the CCR. The efficiency standards apply to new construction of both residential and nonresidential buildings, and regulate energy consumed for heating, cooling, ventilation, water heating, and lighting. The building efficiency standards are enforced through the local building or individual agency permit and approval processes.

Local

City of Lake Forest General Plan

The City of Lake Forest General Plan contains goals, policies, and plans that are intended to guide land use and development decisions. The General Plan consists of a Land Use Policy Map and the following six elements, or chapters, which together fulfill the state requirements for a General Plan:

- Land Use Element
- Housing Element
- Circulation Element
- Recreation and Resources Element
- Safety and Noise Element
- Public Facilities/Growth Management Element

Policies that relate to energy are listed below.

Public Facilities/Growth Management Element

Goal 2.0 Effective coordination with providers of natural gas, electricity, telephone, and cable television service.

Policy 2.1 Work closely with local providers of energy and communications in determining and meeting community needs for energy and communications, and to underground overhead transmission facilities.

3.15.4 Methodology

To estimate the potential for implementation of the Proposed Project to affect levels of service for utilities and service systems in a manner to require new or physically altered facilities, future demands on these services were estimated based on the increase in residential units, mixed use development, and public facilities that would result from implementation of the Proposed Project. The analysis of utility and service systems impacts is based on the increases in demand compared to existing and projected service levels.

■ Water Supply and Treatment

Two separate reports associated with water supply were provided for the Proposed Project, including (1) the Utility Report and (2) the WSA. Provided as Appendix J to this EIR, the Utility Report serves as a summary of the projected water demands and sewage flows, and provides an inventory of the existing facilities adjacent to each site. In addition, the WSA (Appendix G) was completed by IRWD to confirm that adequate water supplies are available to serve future development under the Proposed Project in accordance with Water Code Section 10910. The WSA considered a project scenario that included 950 acres and a total of 5,844 dwelling units. However, as described in Chapter 2 (Project Description), the Project Area consists of approximately 838 acres, and a maximum of approximately 5,415 maximum residential units. Thus, the calculations presented in the WSA represent a more conservative approach to the water supply and demand analysis.

To determine impacts on water supply resulting from implementation of the Proposed Project, the two reports use different methods estimating future water demand. The Utility Report uses standard demand factors, while the WSA evaluates whether the projected increase in water use in the Project Area falls within IRWD projected potable and nonpotable water demand projections. The WSA also evaluates whether there will be an adequate and reliable source of water for the Proposed Project, while the Utility Report examines whether any infrastructure improvements would be necessary. Although the reports project slightly different water demands, and they are both useful tools in evaluating the potential effects of the Proposed Project; however, where the results may differ, the WSA shall supersede the Utility Report in evaluating the Proposed Project's water supply and demand. Both methods are discussed in greater detail below.

As discussed above, the Utility Report uses standard use (or demand) factors that correlate the type of land use with a water use rate to determine projected water demand for the Proposed Project. Table 3.15-6 below shows the standard demand factors for the Proposed Project and calculates the projected water demand that would result from implementation of proposed development.

Site	Land Use	Units	Duty Factor GPD/Unit	Average GPD
1	L-MDR	2,815	350	985,250
	Park	26 AC	20	520
	Commercial	320,000 sf	220/1,000 sf	70,400
2	LDR	1,132 DU	385	435,820
	Park	10 AC	20	200
	Commercial	178,720 SF	220/1,000 sf	39,318
3	MDR	833 DU	310	258,230
	Park	11 AC	20	220
4	MDR	475 DU	310	147,250
	Commercial	150,000 sf	220/1,000 sf	33,000
	Park	4 AC	20	80
5	L-MDR	75 DU	385	28,875
6	LDR	85 DU	405	34,425
7	PF (park)	39 AC	20	780
	PF (business park) ¹	6	60	360
Total				2,034,728 gpd (2,279 AFY)²
¹ For purposes of this analysis, Business Park includes the Civic Center and Community Center				
² 1 acre foot = 325,851 gallons (www.onlineconversion.com)				
SOURCE: Fuscoe Engineering 2005				

In accordance with Water Code Section 10910, the WSA evaluates normal, single dry and multiple dry year supply and demand. For the purposes of this analysis, the most conservative analysis was used—multiple dry-year supply and demand. Although development in the Project Area would not occur until 2007, rather than 2005, the WSA relies upon existing IRWD documentation in order to make accurate estimations of future water supply and demand. Since the existing IRWD documentation is based on 5-

year increments, the WSA, and, in turn, this analysis is based on the same 5-year increments for a 20-year projection.

According to the WSA and the information shown below in Table 3.15-7, the potable water demand for the Proposed Project is estimated to be 252 AFY in 2005, and would eventually increase to approximately 3,012 in 2025 (Demand with Project minus Baseline Demand). Although reserve water supplies would eventually decrease with implementation of the Proposed Project, IRWD has stated that an adequate supply of water would be available to serve future development, as discussed below.

Table 3.15-7 IRWD Multiple Dry-Year Supply & Demand—Potable Water (AFY)					
	2005	2010	2015	2020	2025
Current Potable Supplies					
MWD Imported (EOCF#2, AMP, OCF)	49,916	49,916	49,916	49,916	49,916
DRWF/ Deep Aquifer Treatment System (DATS)	35,200	35,200	35,200	35,200	35,200
Irvine Subbasin	4,800	4,800	4,800	4,800	4,800
Irvine Desalter	3,982	3,982	3,982	3,982	3,982
Supplies Under Development					
West Irvine Wellfield	—	12,700	12,700	12,700	12,700
Maximum Supply Capability	93,898	106,598	106,598	106,598	106,598
Demand					
Baseline Demand	72,117	85,223	90,254	95,206	98,124
Proposed Project Demand	252	2,592	2,992	3,011	3,012
Total Demand with Project	72,369	87,815	93,246	98,217	101,136
WRMP Buildout demand	72,370	88,170	93,967	99,303	102,350
Reserve Supplies					
Reserve Supply with Project	21,528	18,763	13,351	8,380	5,462
SOURCE: IRWD 2005a					

According to the WSA, the water demand at project buildout would result in a future water demand of approximately 2.6 million gallons per day (mgd) or 3,012 AFY. The Utility Report had slightly different demand at buildout, approximately 2.0 mgd, or 2,279 AFY; however, as previously stated, for purposes of the impact analyses provided within this section, the information provided in the WSA is used as it provides a more conservative and comprehensive approach to future water demands. In addition, the information in the WSA is used for purposes of this impact analysis because it was completed by the public water system for the project, IRWD, as required by Section 10910 of the Water Code and it supersedes any other utility report.

In addition, as indicated in Table 3.15-8, demand for nonpotable water would decrease upon project implementation until 2015 at which point demand would begin to increase. This trend in decreasing demand of nonpotable water is due to the conversion of agricultural land to other uses.²²

²² Irvine Ranch Water District, Water Resources Master Plan, November 1999.

Table 3.15-8 IRWD Multiple Dry-Year Supply & Demand—Nonpotable Water (AFY)

	2005	2010	2015	2020	2025
Current Nonpotable Supplies					
Existing MWRP & LAW RP	18,657	18,657	18,657	18,657	18,657
MWD Imported (Baker, ILP)	24,262	24,262	24,262	24,262	24,262
Irvine Desalter	2,282	2,282	2,282	2,282	2,282
Native Water	1,000	1,000	1,000	1,000	1,000
Supplies Under Development					
Future MWRP & LAW RP	--	6,794	6,311	7,687	9,107
Maximum Supply Capability	46,201	52,995	52,512	53,888	55,308
Demand					
Baseline Demand	45,561	44,134	40,984	40,682	41,978
Demand with Project	42,829	41,554	41,175	40,873	42,169
WRMP Buildout demand	45,576	44,320	41,221	40,946	42,337
Reserve Supplies					
<i>Reserve Supply with Project</i>	<i>3,372</i>	<i>11,441</i>	<i>11,337</i>	<i>13,013</i>	<i>13,139</i>

SOURCE: Water Supply Assessment, IRWD, January 24, 2005

The WSA reviews supply and demand through 2025, which represents buildout or “ultimate development” of the Proposed Project. The calculations for water demand are based on three development projections: baseline, with-project, and buildout demand scenarios. The first projection includes the existing and committed demand without the project (“baseline demand”), which provides the baseline conditions (as of January 2005 when the WSA was prepared). The baseline conditions consist of demand from existing and approved development. The second scenario consists of the baseline conditions plus the project (“with-project demand”), which adds the Proposed Project water demands to the baseline demands. The third scenario consists of full build-out of IRWD’s Water Resources Master Plan (WRMP—“buildout demand”). This projection adds potential demands for all presently undeveloped areas within IRWD’s service boundary based on current general plan information, modified by more specific information available to IRWD. Thus, the Proposed Project’s demands are included in the buildout demand along with other potential future development in order to get an accurate assumption of future conditions.

■ Wastewater Service

The sewer demand calculations are presented in the Utility Report prepared by Fuscoe Engineering (Appendix J). The calculations are based on the existing allowable development under the Proposed Project and IRWD generation factors. IRWD will prepare a Subarea Master Plan that will evaluate the ability of the existing system to accommodate development within the Opportunities Project Area. Table 3.15-9 presents total wastewater generation with development of the Proposed Project.

Table 3.15-9 Wastewater Generation						
Site	Land Use	Units	Duty Factor GPD/Unit	Average Daily		Peak* Daily CFS
				GPD	CFS	
1	L-MDR	2,815	215	605,225	0.94	2.35
	Park (25.9 AC)	29 AC	—	—	—	—
	Commercial	320,000 sf	209 / 1,000 sf	66,900	0.10	0.30
2	LDR	1,132 DU	223	254,700	0.39	0.98
	Park	10 AC	—	—	—	—
	Commercial	178,720 SF	209 / 1,000 sf	37,400	0.06	0.18
3	MDR	833 DU	200	166,600	0.26	0.65
	Park	11 AC	—	—	—	—
4	MDR	475 DU	200	95,000	0.15	0.38
	Commercial	150,000 sf	209 / 1,000 sf	31,400	0.05	0.15
	Park	4 AC	—	—	—	—
5	L-MDR	75 DU	215	16,125	0.03	0.08
6	LDR	85 DU	225	19,100	0.03	0.08
7	PF	45 AC	900	40,500	0.06	0.16
Total				1,332,950 gpd (1.3 mgd)	2.07 cfs	5.3 cfs

SOURCE: Fuscoe Engineering 2005

* Nonresidence Peak Flow = 3.0 X Average Flow, Residence Peak Flow = 2.5 X Average Flow.

■ Solid Waste

The projected solid waste generation for the Proposed Project was developed based on Orange County Sanitation District generation factors. Table 3.15-10 illustrates the anticipated solid waste generation that would occur for each of the seven sites under the Proposed Project.

Table 3.15-10 Solid Waste Generation

Site	Land Use	Units	Generation Factor	Average Daily		Annual Tons/Year
				Lbs/Day	Tons/Day	
1	Residential	2,815 DU	7 lbs/day/DU	19,705	9.85	3,596.2
	Park	29 AC	—	—	—	—
	Commercial	320 ksf	6 lbs/day/ksf	1,920	0.96	350.4
2	Residential	1,132 DU	7 lbs/day/DU	7,924	3.96	1,446.1
	Park	10 AC	—	—	—	—
	Commercial	178.72 ksf	6 lbs/day/ksf	1,072	0.54	195.6
3	Residential	833 DU	7 lbs/day/DU	5,831	2.92	1064.2
	Park	11 AC	—	—	—	—
4	Residential	475 DU	7 lbs/day/DU	3,325	1.66	606.8
	Commercial	150 ksf	6 lbs/day/ksf	900	0.45	164.3
	Park	4 AC	—	—	—	—
5	Residential	75 DU	7 lbs/day/DU	525	0.25	95.8
6	Residential	85 DU	7 lbs/day/DU	595	0.30	108.6
7	Public Facilities	45 AC	7 lbs/day/DU	315	0.14	51.1
<i>Total</i>				<i>42,112 lbs/day</i>	<i>21.04 tons/day</i>	<i>7,679.6 tons/year</i>

SOURCE: City of Lake Forest 1994

■ Gas and Electricity

The projected electricity generation for the Proposed Project was developed based on the generation factors presented in the City of Lake Forest General Plan Final Master EIR. These factors are very similar to those used by other agencies—most notably the South Coast Air Quality Management District (CEQA Air Quality Handbook, 1993)—and, thus, for consistency, the factors used in this EIR are based on the City’s General Plan EIR. Table 3.15-11 illustrates the anticipated increase in electricity demand that would occur for each of the seven sites under the Proposed Project.

The projected electricity generation for the Proposed Project was developed based on the generation factors presented in the City of Lake Forest General Plan Final Master EIR. Table 3.15-12 illustrates the anticipated increase in natural gas demand that would occur for each of the seven sites under the Proposed Project and six sites.

Table 3.15-11 Electricity Demand				
<i>Site</i>	<i>Land Use</i>	<i>Units / Area (Proposed Project)</i>	<i>Generation Factor (kWh/day)</i>	<i>Total (mWh/day)</i>
1	Residential	2,815 DU	15.4	43.35
	Park	29 AC	—	—
	Commercial	320 ksf	41.9	13.41
2	Residential	1,132 DU	15.4	17.43
	Park	10 AC	—	—
	Commercial	178.72 ksf	41.9	7.49
3	Residential	833 DU	15.4	12.83
	Park	11 AC	—	—
4	Residential	475 DU	15.4	7.32
	Commercial	150 ksf	41.9	6.29
	Park	4 AC	—	—
5	Residential	75 DU	15.4	1.16
6	Residential	85 DU	15.4	1.31
7	Public Facility	45 AC	30.1	1.35
Total				111.94 mWh/day

Table 3.15-12 Natural Gas Demand				
<i>Site</i>	<i>Land Use</i>	<i>Units / Area (Proposed Project)</i>	<i>Generation Factor (cf/day)*</i>	<i>Total (mcf/day)</i>
1	Residential	2,815 DU	177.05	0.498
	Park	29 AC	—	—
	Commercial	320 ksf	95.3	0.030
2	Residential	1,132 DU	177.05	0.200
	Park	10 AC	—	—
	Commercial	178.72 ksf	95.3	0.017
3	Residential	833 DU	177.05	0.147
	Park	11 AC	—	—
4	Residential	475 DU	177.05	0.084
	Commercial	150 ksf	95.3	0.014
	Park	4 AC	—	—
5	Residential	75 DU	177.05	0.013
6	Residential	85 DU	177.05	0.015
7	Public Facility	45 AC	95.3	0.004
Total				1.022 mcf/day

3.15.5 Thresholds of Significance

As the City's 2001 CEQA Significance Thresholds do not cover issues related to utilities and service systems, the following thresholds of significance are based on Appendix G of the 2005 CEQA Guidelines. For purposes of this EIR, the Proposed Project would result in significant impacts related to utilities and service systems if they would:

■ Water

- Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.
- Create a shortfall of sufficient water supplies available to serve the Project from existing entitlements and resources, or may require issuance of new or expanded entitlements.

■ Wastewater

- Exceed wastewater treatment requirements of the Santa Ana Regional Water Quality Control Board or the San Diego Regional Water Quality Control Board.
- 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.

■ Solid Waste

- Result in the permitted capacity being exceeded, of the landfill serving the Project's solid waste needs.
- Result in non-compliance with federal, state, and local statutes and regulations related to solid waste.

■ Energy

- Require or result in the construction of new energy production and/or transmission facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

3.15.6 Impacts

CEQA requires that the Proposed Project's potential environmental impacts be compared to on-the-ground conditions in the Project Area at the time the Notice of Preparation is issued or at the time the analysis of such impacts is commenced. Such on-the-ground conditions are considered, and often referred to as, the environmental or CEQA "baseline." Thus, the following section analyzes the Proposed Project's potential environmental impacts on baseline conditions. However, it should be noted that the land under consideration for the Proposed Project, while currently undeveloped, would not necessarily remain undeveloped. Most sites within the Project Area are subject to existing development agreements or entitlements and, in the absence of the Proposed Project, would in the future likely be developed with approximately 9.8 million square feet of industrial and commercial space under the existing General Plan. Given this, the analysis of alternatives to the Proposed Project in Chapter 4 of this EIR, under the "No Project/Reasonably Foreseeable Development" alternative, analyzes the potential environmental impacts associated with buildout of the existing General Plan. That analysis includes a comparison of the impacts of buildout of the existing General Plan with the potential environmental impacts of the Proposed Project.

Water

Impact 3.15-1 Development under the Proposed Project would not require or result in the construction of new water conveyance infrastructure or treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

Significance Level: Less than significant

Water Conveyance Infrastructure

Table 3.15-4 describes the existing water conveyance infrastructure in and surrounding the Project Area. However, since a detailed Subarea Master Plan has not yet been completed for this project, the current service demand and water infrastructure capacity in the Project Area are unknown.

To accommodate the Proposed Project's water demand, it is anticipated that development of the Proposed Project would require incremental extensions of water infrastructure to serve the Project Area. However, these extensions would not require substantial demolition, as much of the Proposed Project area is currently vacant. As required by law, all water utility connections would be constructed in accordance with all applicable Uniform Codes, City Ordinances, Public Works standards, and Water Division criteria.

Development of the Proposed Project would include landscaped areas, thus creating a demand for irrigation that could be met using reclaimed water. Some sites within the Proposed Project area may be conditioned to physically separate any reclaimed water system constructed onsite from the potable water system.

General Plan Policies related of the Public Facilities/Growth Management Element require the City of Lake Forest to coordinate water quality and supply programs with the responsible water agencies as well as work with local water and sewer districts in determining and meeting community needs for water and

sewer service. Because of the reasons listed above, it is anticipated that environmental impacts resulting from construction or expansion of water conveyance systems would be less than significant.

Water Treatment Facilities

As mentioned, much of the nonpotable water in the IRWD service area and what would be necessary to serve the Proposed Project would be supplied primarily from treated water at the MWRP or the LAWRP. As of 2001, the MWRP had 4 mgd of remaining capacity. As of 2001, LAWRP had approximately 2.1 mgd (combined secondary and tertiary treatment) of additional capacity. As discussed, plans are underway to increase the capacity of the MWRP to 33 mgd. Table 3.15-8 illustrates that between the years of 2005 and 2015 demand for nonpotable water with development of the Proposed Project would decrease. Demand for nonpotable water would only increase slightly between 2015 and 2025 but would continue have a consistent reserve supply totaling between 11,337 AFY and 13,139 AFY.

The majority of IRWD's imported potable water is supplied from a single source, the MWD Diemer Filtration Plant (DFP), located north of Yorba Linda. The WSA indicated that there would be sufficient potable water supplied to the IRWD from the DFP. Thus, because MWD can adequately supply potable water to the Proposed Project, it is not anticipated that construction of new water treatment facilities would be required.

Consequently, because adequate capacity exists in the MWRP and the LAWRP to accommodate the demand of the Proposed Project and because capacity improvements are planned at MWRP to accommodate future development, implementation of the Proposed Project would not require or result in the construction of new treatment facilities. In addition, with regard to potable water, IRWD has also indicated that there will be a reserve supply of potable water available upon project implementation. This impact would be considered less than significant.

Impact 3.15-2 Development under the Proposed Project would not generate an additional demand for water or require water supplies in excess of existing entitlements and resources or result in the need for new or expanded entitlements.

Significance Level: Less than significant

The Proposed Project as presented here includes a GPA and Zone Change that would introduce new land uses on Sites 1 through 6 in the Project Area. The GPA would change the allowed land uses on Sites 1 through 6 under the City's existing General Plan from industrial and commercial land uses to residential and mixed-uses. Overall, the Proposed Project would include development of approximately 5,400 residential units, 648,720 square feet of commercial space, and 96.4 acres of park space plus the public facilities overlay to allow the 45-acre sports park and Community/Civic Center on Site 7. In general, the Proposed Project is a mixed-use plan with a large residential component.

As previously stated, the WSA prepared for the Project Area calculates project demand using additional development beyond what the current Proposed Project entails. That is, an additional 429 residential units and 36 gross acres are included in the calculation of demand upon project implementation. Under

these circumstances, the project parameters analyzed in the WSA would cause an increase in potable water demand within the IRWD service area by 2,442 AFY in 2005 to 2,815 AFY in 2025 (see Appendix 2 Figure 1 of the WSA). This represents approximately 2.96 percent of total potable water use in the IRWD's service area in 2010 and an average of 3.05 percent of total potable water demand between 2015 and 2025. Additionally, as indicated in WSA, there would be a reserve supply of potable water in the IRWD service area that ranges from 26,263 AFY in 2005 to 12,078 AFY in 2025.

The project parameters analyzed in the WSA would cause a decrease in nonpotable water demand by 2,732 AFY in 2005 and an increase of 191 AFY in 2025. This represents an average decrease of 6 percent under baseline demand between 2005 and 2010. Between 2015 and 2025, project implementation would increase overall nonpotable by approximately 0.46 percent.

As indicated in the WSA and shown in Table 3.15-1 and 3.15-2, water demands from future development under the Proposed Project would be served with imported water obtained from MWD and from local groundwater. As stated in the WSA, these two sources can meet the demand of the Proposed Project. IRWD depends on MWD to provide imported water supply to meet future demand, and MWD projects that 100 percent of its member agencies supplemental water demands can be met over the next 20 years. Because IRWD has determined that it is able to provide adequate water supplies to the Proposed Project in addition to existing and future users, impacts to water supply would be less than significant.

Wastewater

Impact 3.15-3 Development under the Proposed Project would not exceed wastewater treatment requirements of the Santa Ana Regional Water Quality Control Board or the San Diego Regional Water Quality Control Board.

Significance Level: Less than significant

The Proposed Project would include a GPA and Zone Change of the 793 acres on Sites 1 through 6, plus the public facilities overlay to allow the 45-acre sports park and Community/Civic Center on Site 7. As such, demand for wastewater treatment in the City would increase due to the potential new developments in the Project Area.

The City of Lake Forest Municipal Code requires a compliance with IRWD wastewater discharge permit requirements for industrial facilities and certain commercial facilities that plan to discharge industrial wastewater to the City's sewage collection and treatment system. The purpose of the wastewater discharge permit program is to ensure the City's compliance with the NPDES program, as administered by the RWQCB, for all facilities discharging to navigable waters of surface water of the state, including sewage treatment plants.

Development under the Proposed Project would comply with all provisions of industrial wastewater permits, if required, which regulate discharges. Through compliance with the City's wastewater discharge permit, which is administered subject to the requirements and limitations of the NPDES program and enforced by the Regional Water Quality Control Boards, it can be assumed that development of the Project Area would not result in an exceedance of the Board's wastewater treatment requirements.

Further, as analyzed in detail in Section 3.8 (Hydrology), the NPDES permit system also regulates both point source discharges (a municipal or industrial discharge at a specific location or pipe) and nonpoint source discharges (diffuse runoff of water from adjacent land uses) to surface waters of the state (e.g., stormwater systems). For point source discharges, each NPDES permit contains limits on allowable concentrations and emissions of pollutants contained in the discharge. For nonpoint source discharges, Phase I of the NPDES program establishes a comprehensive stormwater quality program to manage urban stormwater and minimize pollution of the environment for all areas of ground disturbance associated with construction activities that exceed 1 acre. Development under the Proposed Project would be required to apply for a Phase I permit, and would be required to comply with all applicable wastewater discharge requirements issued by the SWRCB and RWQCB's. Therefore, development under the Proposed Project would not exceed applicable wastewater treatment requirements of the Regional Water Quality Control Boards with respect to discharges to the sewer system or stormwater system. A less-than-significant impact would occur, and no mitigation is required.

Impact 3.15-4 Development under the Proposed Project would not 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.

Significance Level: Less than significant

Development of the Proposed Project would not generate wastewater that would exceed the capacity of the existing wastewater treatment system in combination with the provider's existing service commitments. Implementation of the Proposed Project would increase the amount of building space and population, which would result in the generation and discharge of additional wastewater above that of existing conditions. An average of 14 mgd of wastewater flows to the IRWD-operated MWRP, which currently has a capacity of 18 mgd. MWRP is proposed for expansion to 33 mgd. An average of 4.4 mgd of wastewater flows to LAWRP which currently has a capacity of 7.5 mgd.

The additional 1.3 mgd of wastewater generated by the Proposed Project can be adequately treated by IRWD. It is anticipated that LAWRP would treat all wastewater from the Proposed Project, and that existing capacity is adequate to serve the project. However, IRWD has the option of directing flows from Site 1 to the MWRP.

Consequently, because adequate capacity exists in LAWRP and MWRP to accommodate the demand of the Proposed Project and because capacity improvements are planned at MWRP to accommodate anticipated development recycled water demands, implementation of the Proposed Project would not require or result in the construction of new wastewater treatment facilities or the expansion of existing facilities, and this impact would be less than significant.

Solid Waste

Impact 3.15-5 **Development under the Proposed Project would not reduce the capacity of the landfill(s) providing landfill disposal services to the City.**

Significance Level: **Less than significant**

As shown above in Table 3.15-10, the Proposed Project would result in an additional 20.9 tons of solid waste per day to be disposed of in Orange County. The additional solid waste would be collected by Waste Management of Orange County, a private hauler, and disposed of at one of the three landfills (described above) that are owned and operated by the Orange County IMWD. Table 3.15-13 displays the daily capacity of the three nearby landfills. It is possible that the solid waste generated by the Proposed Project would be distributed over more than one of the landfills listed in Table 3.15-13. However, for the purposes of this analysis, to determine the potential for the Proposed Project to exceed the permitted capacity of a landfill, it is assumed that all of the Proposed Project’s solid waste would be taken to one of the three Orange County landfills.

<i>Landfill</i>	<i>Permitted Capacity (tons/day)</i>	<i>Daily Tonnage (tons/day)</i>	<i>Remaining Daily Capacity with Proposed Project (tons/day)</i>	<i>Percentage Increase of Daily Tonnage</i>
Frank R. Bowerman (Class III)	8,500	7,424	1,055	0.28%
Olinda Alpha (Class III)	8,000	6,834	1,145	0.31%
Prima Descheca (Class III)	4,000	2,656	1,323	0.79%

SOURCES: Hagthorp 2005; City of Lake Forest 1994

As shown in Table 3.15-13, the Proposed Project would increase the daily tonnage at local landfills by 0.28 percent to 0.79 percent, depending on the landfill used. This increase would not exceed the permitted daily capacity of any of the nearby landfills. Therefore, the nearby landfills would have sufficient permitted capacity to accommodate the Proposed Project’s disposal needs, and this impact would be less than significant.

Impact 3.15-6 **The Proposed Project would comply with applicable federal, state, and local statutes and regulations related to solid waste.**

Significance Level: **No impact with compliance with statutory requirements**

AB 939 mandates the reduction of solid waste disposal in landfills. The Bill mandates a minimum 50 percent diversion goal and also requires cities and counties to prepare Source Reduction Recycling Elements (SRRE) in their General Plans. The City averages between 62 percent and 69 percent annual reduction of solid waste, consistent with AB 939 and remains committed to waste reduction and minimization efforts. The Proposed Project would be implemented in a manner consistent with the City’s commitment and in compliance with AB 939. Policy 6.1 of the City of Lake Forest General Plan Recreation and Resources Element (Section 3.15.3) requires that the City continue to reduce the per-capita production of solid waste in conjunction with the County of Orange to generate recycling plans. Further, the Proposed Project would be subject to and comply with the conditions of Chapter 16 of the

City of Lake Forest Municipal Code, which regulates solid waste disposal practices. As such, this impact would be less than significant.

Electricity and Gas

Impact 3.15-7 **The Proposed Project would not require or result in the construction of new energy production or transmission facilities, the construction of which could cause a significant environmental impact.**

Significance Level: **Less than significant**

The Proposed Project would include a GPA and Zone Change of the 793 acres on Sites 1 through 6, plus the public facilities overlay to allow the 45-acre sports park and Community/Civic Center on Site 7. While much of the area surrounding the Project Area has been developed with industrial and office buildings similar to those found adjacent to the site (specifically, along Bake Parkway), there are currently approximately 965 acres of vacant land. As such, implementation of the Proposed Project would increase use of electricity at the Project Area, in particular, the demand for electricity to light, heat, and air condition the residential, commercial, and business development. Based on the information provided in Table 3.15-11, the total daily electricity consumption by the Proposed Project is estimated to be approximately 111.94 mWh. Since the annual electricity consumption in the City of Lake Forest, as presented in the City of Lake Forest General Plan Final Master Plan EIR, is approximately 855.64 mWh/day for all uses, the additional electricity demand by the Proposed Project would represent a 13-percent daily increase over existing conditions.

General Plan Policy 2.1 requires the City to work closely with local providers of energy and communications in determining and meeting community needs for energy. Compliance with this policy would help ensure that impacts related to electricity supply remain less than significant. In addition, the electrical distribution system is continually being upgraded as growth occurs. Currently, SCE is constructing the Viejo System Project in the City of Lake Forest, which includes a new substation and related distribution lines that will serve the growing need in south Orange County. The project is expected to be operational in summer 2005 in time to meet the peak demand season. This investment is part of SCE's commitment to sustaining reliability for customers as well as the overall grid operations.

In 2001, the California Energy Commission licensed two additional power plants that are anticipated to provide California with electrical energy supply capacity and the ability to meet peak load demand in excess of forecasts of regional energy supplies. Consequently, although the Proposed Project would result in an increased electricity demand in the City, an adequate supply of electricity would be available. In addition, because SCE is currently in the process of upgrading their distribution systems within the City, it is anticipated that the electricity demand generated by the project could be supplied without the need for additional construction or expansion of energy facilities beyond that which was previously planned. Further, development under the Proposed Project would be required to comply with the energy conservation measures contained in Title 24, which would reduce the amount of energy needed for the operation of any buildings constructed as a part of the Proposed Project. Therefore, this impact would be less than significant.

Impact 3.15-8 **The Proposed Project would not require or result in the construction of new natural gas production or transmission facilities, the construction of which could cause a significant environmental impact.**

Significance Level: **Less than significant**

Based upon the information provided in Table 3.15-12, the project-generated demand for natural gas would be approximately 1.022 mcf/day. SCGC declares itself a “reactive” utility and will provide natural gas as customers request its services. SCGC has also indicated that an adequate supply of natural gas is currently available to serve additional development, and that the natural gas level of service provided to the surrounding area would not be impaired by the Proposed Project. Any expansion of service necessitated by implementation of the Proposed Project would be in accordance with SCGC’s policies and extension rules on file with the California Public Utilities Commission at the time contractual agreements are made. Because the natural gas demand projected for the proposed would not exceed available or planned supply, new infrastructure would not be required to serve the Proposed Project. Therefore, this impact would be less than significant.

3.15.7 Summary of Impacts

Table 3.15-14 summarizes the potential long-term adverse impacts of the Proposed Project related to utilities and service systems in the Project Area, and identifies the significance of those impacts.

Table 3.15-14 Summary of Impacts		
<i>Impact</i>	<i>Threshold</i>	<i>Significance</i>
3.15-1	Development under the Proposed Project would not require or result in the construction of new water conveyance infrastructure or treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.	Less than Significant
3.15-2	Development under the Proposed Project would not generate an additional demand for water or require water supplies in excess of existing entitlements and resources or result in the need for new or expanded entitlements.	Less than Significant
3.15-3	Development under the Proposed Project would not exceed wastewater treatment requirements of the Santa Ana Regional Water Quality Control Board or the San Diego Regional Water Quality Control Board.	Less than Significant
3.15-4	Development under the Proposed Project would not 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.	Less than Significant
3.15-5	Development under the Proposed Project would not reduce the capacity of the landfill(s) providing landfill disposal services to the City.	Less than Significant
3.15-6	The Proposed Project would comply with applicable federal, state, and local statutes and regulations related to solid waste.	No impact with compliance with statutory requirements
3.15-7	The Proposed Project would not require or result in the construction of new energy production or transmission facilities, the construction of which could cause a significant environmental impact.	Less than Significant
3.15-8	The Proposed Project would not require or result in the construction of new natural gas production or transmission facilities, the construction of which could cause a significant environmental impact.	Less than Significant

3.15.8 References

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