

3.14 PUBLIC SERVICES, UTILITIES, AND ENERGY

This section discusses the conditions of public services and utilities of the San Marcos planning area and identifies the related potential environmental impacts and development constraints upon implementation of the San Marcos General Plan. Specifically, this section includes an examination of fire protection and emergency medical services, police services, schools, libraries, water infrastructure, wastewater service, solid waste service, stormwater and drainage facilities, and electrical and natural gas services. Each subsection includes descriptions of existing facilities, service standards, and potential environmental impacts resulting from implementation of the San Marcos General Plan, and mitigation measures where appropriate.

3.14.1 EXISTING ENVIRONMENTAL SETTING

Fire Protection and Emergency Medical Services

The planning area is served by the San Marcos Fire Department. The San Marcos Fire Department is a full-service department. The fire department provides service to the City of San Marcos and the San Marcos Fire Protection District, which covers an area of 33 square miles and a population of approximately 95,000 (update) residents. The Fire Department is rated as an ISO Class 2 department and consists of 77 full-time firefighters and support personnel and provides advanced life support (paramedics) on all apparatus. Staff consists of 9 full-time and 15 part-time emergency medical technicians (EMTs), 24 firefighters/paramedics, 18 fire engineers, 15 fire captains, 2 full-time fire inspectors, 2 division chiefs, 4 battalion Chiefs, 2 staff service members, and one fire chief.

The Fire Department currently has four fire stations and a regional emergency services training facility. The department provides a variety of services to the community, including fire suppression, rescue, emergency medical services, including Advanced Life Support (ALS) 911 response and transportation services, fire prevention, vegetation management, public education, emergency preparedness, and trauma support. In addition, the Fire Department protects and manages several thousand acres of wildland and wildland urban interface lands (City of San Marcos 2009).

The department operates the following emergency resources on a daily basis: 4 paramedic assessment engine companies, one paramedic assessment truck company, 4 paramedic transport ambulances, one shift battalion chief, and one on-call duty chief. The Fire Department also cross-staffs three wildland fire engines and a state of California Office of Emergency Services (OES) water tender (City of San Marcos 2011a).

The San Marcos Regional Emergency Services Training Center offers training opportunities for fire, law enforcement, emergency medical, and other related emergency service organizations. The center is located at 184 Santar Place in San Marcos with access from SR 78. It features a “state-of-the art” fire/rescue drill tower and fully equipped instructional building (City of San Marcos 2011d).

In 2010, the San Marcos Fire Department responded to 7,039 emergency calls, 66% of which were medical emergencies in the City/District. The Fire Department, on average, arrived on scene for medical and rescue emergencies 4 minutes 46 seconds after receiving notification from dispatch. The first fire apparatus arrived on scene for structure fires within an average of 6 minutes 16 seconds. Table 3.14-1 shows the average response time by type of call (City of San Marcos 2011e).

Table 3.14-1
Average Response Times by Call Type
(update % of calls when info is posted on website)

Call Type	Percent of Calls	Average Response Time (minutes)
EMS/Rescue	70.3%	4.76
Good intent	9.3%	5.13
Service calls	8.0%	7.55
Auto/Mutual aid	5.0%	n/a*
Hazardous Conditions	2.8%	5.76
False calls	3.1%	6.1
Other	1.2%	7.17
Structure Fires	0.3%	6.27

*Response time not evaluated.

Source: City of San Marcos 2009

Police Protection

The City of San Marcos contracts with the San Diego County Sheriff's Department for law enforcement services, including patrol, traffic, and investigative services. The Sheriff's San Marcos station is located at 182 Santar Place in San Marcos and serves approximately 100 square miles of territory including the City and the unincorporated areas around San Marcos and Escondido.

As of June 2011, there are 97 sworn officer positions serving the planning area. These officers provide 24 hour per day coverage. Additionally, there are 11 professional staff positions, and 69 Retired Senior Volunteer Patrol members and 4 Reserve Deputy Sheriffs (Stumpfhauser 2011).

Although the City does not have an adopted officer-to-population service ratio, the current service ratios are 1.07 officers per 1,000 residents in the City and 0.61 officers per 1,000 residents in the surrounding unincorporated areas (Stumpfhauser 2011).

In 2009 and 2010, there were 24,572 and 26,074 calls for service, respectively. The Sheriff's Call Response Times for the year 2010 (Stumpfhauser 2011) were:

- Priority 1 – 6.2 minutes
- Priority 2 – 10.7 minutes
- Priority 3 – 14.5 minutes

- Priority 4 – 32.2 minutes

Call priorities are assigned from greatest urgency (Priority 1) through non-emergency calls. Examples of Priority 1 calls include: officer needs help, or foot or vehicular pursuit. Priority 2 calls include: injured person, robbery in progress, bomb threats, carjacking, rape, and stolen vehicles. Priority 3 calls include: assault, prowlers, disturbances, tampering with vehicles, and burglary alarms. Security checks, animal noise disturbances, traffic stops, harassing phone calls, illegal dumping, abandoned vehicles, and numerous other calls are included in Priority 4 (San Diego County 2007).

Schools

Primary education, grades kindergarten through 12 in the City is served by the San Marcos Unified School District (SMUSD). The SMUSD includes 11 elementary, three middle, two comprehensive high schools, one alternative high school, one charter school, and one adult education school. For the 2010-2011 school year, 18,642 students were enrolled in grades kindergarten through 12 in the district. The SMUSD also serves portions of the Cities of Carlsbad, Vista, Escondido, and the County of San Diego.

Table 3.14-2 illustrates schools in the SMUSD as well as the design capacity and the 2010/2011 enrollment. Only two schools, Joli Ann Leichtag Elementary and Mission Hills High School, have an enrollment less than their design capacity. Figure 3.14-1 shows the location of SMUSD schools in relation to other community facilities.

**Table 3.14-2
San Marcos Unified School District Schools**

School	Location	Design Capacity	2010-11 Enrollment	Resulting Excess/ (Deficit) Capacity
Elementary schools				
Alvin M. Dunn	3697 La Mirada Drive, San Marcos	465	617	(152)
Carrillo	2875 Poinsettia Lane, Carlsbad	511	942	(431)
Discovery	730 Applewilde Drive, San Marcos	683	940	(257)
Joli Ann Leichtag	653 Poinsettia Avenue, Vista	854	820	34
Knob Hill	1825 Knob Hill Road, San Marcos	518	836	(318)
La Costa Meadows	6889 El Fuerte Street, Carlsbad	746	890	(144)
Paloma	660 Camino Magnifico, San Marcos	525	900	(375)
Richland	910 East Borden Road, San Marcos	454	729	(275)
San Elijo Elementary	1615 Schoolhouse Way, San Marcos	838	1,108	(270)
San Marcos Elementary	1 Tiger Way, San Marcos	507	809	(302)
Twin Oaks	1 East Cassou Road, San Marcos	693	774	(81)
Total Elementary School				(2,571)
Middle Schools				
San Elijo Middle	1600 Schoolhouse Way, San Marcos	1,280	1,439	
San Marcos Middle	650 West Mission Road, San Marcos	781	1,295	(658)

School	Location	Design Capacity	2010-11 Enrollment	Resulting Excess/ (Deficit) Capacity
Woodland Park	1270 Rock Springs Road, San Marcos	1,260	1,340	(80)
Total Middle School				(782)
High Schools				
Mission Hills	1 Mission Hills Court, San Marcos	2,551	2,538	13
Foothills High (Alternative)	920 Boardwalk, San Marcos	N/A	104	N/A
San Marcos High	1615 West San Marcos Blvd, San Marcos	963	2,211	(1,248)
Twin Oaks High (Continuation)	158 Cassou Road, San Marcos	N/A	177	N/A
Total High School				(1,235)
Charter Schools				
Bayshore Prep	1175 Linda Vista Drive, San Marcos	N/A	143	N/A
Adult Schools				
San Marcos Adult	158 West Cassou Road, San Marcos.	N/A		N/A

Note: Design Capacity may or may not include relocatable capacity of the schools.

Source: California Department of Education Demographics Unit 2011 and SMUSD 2011b

In addition to the public schools, there are also several private and religious academic schools located within the planning area that serve residents. California State University, San Marcos is located at 333 S. Twin Oaks Valley Road in the College District and enrolled 9,767 students in 2010. The campus encompasses more than one million square feet of facilities including a 200,000 square foot library which opened in 2003. Construction and/or planning of new facilities will include a Social and Behavioral Sciences building and a Public Safety building both slated for completion in 2011 (CSUSM 2011). Palomar Community College at 1140 West Mission Road in San Marcos is a public two-year facility enrolling approximately 30,000 full- and part-time students (Palomar College 2011). University of St. Augustine, which opened in 2009, provides professional development of health care providers. The campus is comprised of three buildings and over 56,000 square feet (University of St. Augustine 2011).

Libraries

The City is served by the San Diego County Library (SDCL), San Marcos Branch, located at 2 Civic Center Drive. The San Marcos Branch is 15,394 square feet, seats approximately 40 people, contains public access computers, and has a collection of approximately 8,118 materials. Additional library resources are available to the community through CSUSM and Palomar College colleges.

The minimum space service goal for the SDCL system is 0.50 square feet per capita. As of 2010, the San Marcos branch service ratio is 0.18 square feet per capita (based on the 2010 population of the City of San Marcos), and did not meet the space service goal (County of San Diego 2010).

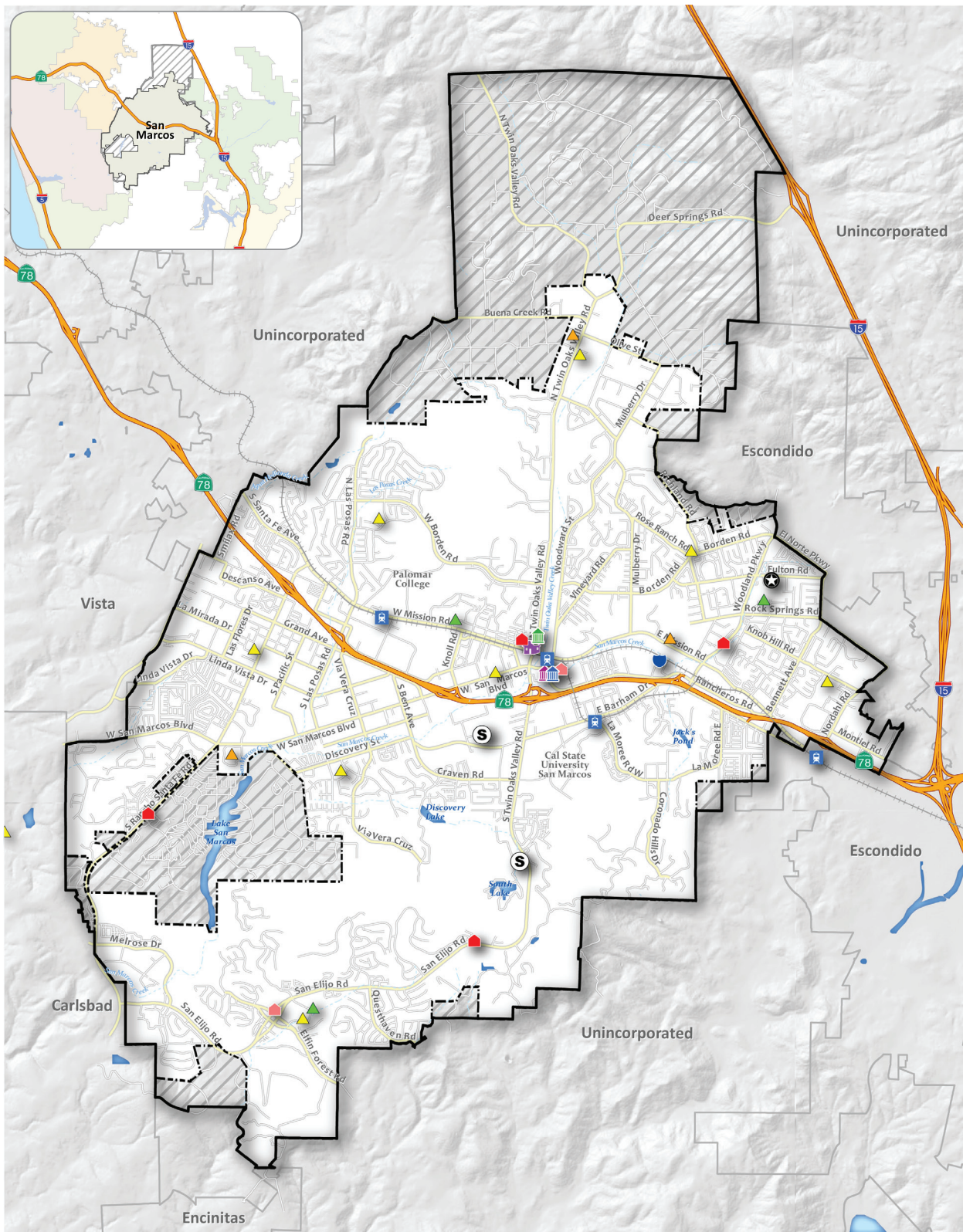


FIGURE 3.14-1

City of San Marcos

Community Facilities

- | | | |
|---------------------------|-------------------|--------------------------------|
| San Marcos City Limits | Elementary School | Activity Site |
| Sphere of Influence | Middle School | Community Center |
| Planning Area | High School | Fire Station |
| Major Hydrologic Features | Future School | Government Office/Civic Center |
| Railroad | | Library |
| Creeks | | Post Office |
| Freeway | | Rail Station/Transit Center |
| Highway | | Senior Center |
| Major Road | | Sheriff Station |
| Minor Road | | |



Water Service

Several agencies administer and control the supply and quality of water and wastewater within the planning area. These agencies include: Vallecitos Water District (VWD), Olivenhain Municipal Water District (OMWD), Vista Irrigation District (VID), and Rincon del Diablo Municipal Water District (Rincon), all members of the San Diego County Water Authority (SDCWA).

San Diego County Water Authority

The SDCWA is San Diego County's predominant source of water, supplying 75 to 95 percent of the region's needs (depending on weather conditions and supply yield). The water service area is the western third of the County with 24 member agencies, including those which service the San Marcos planning area. Imported water supplies are delivered to the member agencies through a system of large-diameter pipelines, pumping stations, and reservoirs. The pipelines that deliver supplies from the Metropolitan Water District of Southern California (Metropolitan) are divided into two aqueduct alignments, both of which originate at Lake Skinner in southern Riverside County and run in a north to south direction through the SDCWA service area. The Water Authority was organized for the primary purpose of supplying imported water to San Diego County for wholesale distribution to its member agencies. These imported water supplies consist of water purchases from Metropolitan, core water transfers from Imperial Irrigation District (IID) and canal lining projects that are wheeled through Metropolitan's conveyance facilities, and spot water transfers that are pursued on an as-needed basis to offset reductions in supplies from Metropolitan. Total water demand for the SDCWA was 566,443 acre-feet (AF) of water in 2010 (SDCWA 2011).

Vallecitos Water District

The majority of the planning area is served by the Vallecitos Water District (VWD). VWD provides water, wastewater services, and reclamation services to San Marcos; the community of Lake San Marcos; and parts of Carlsbad, Escondido, and Vista. As a member agency of the SDCWA, VWD receives most of its water from Metropolitan. Metropolitan imports its water from two sources: a 242-mile-long aqueduct which transports Colorado River water from Lake Havasu to Southern California and a 444-mile-long aqueduct that transports water from the Sacramento-San Joaquin Delta in Northern California. VWD currently serves a population of approximately 87,700 within a 45-square-mile boundary in north San Diego County (VWD 2010a).

VWD receives water from the SDCWA through five potable water connections (turnouts) to the SDCWA aqueduct system (VWD 2010b). VWD holds 121.6 million gallons of water in operational storage, and operates 9 pump stations and 20 reservoirs. The Meadowlark Water Reclamation Facility produces up to 5 million gallons of reclaimed water per day. VWD does not maintain a recycled water service area within its sphere of influence. After being treated to the appropriate level, recycled water is sold to the City of Carlsbad and the Olivenhain Municipal Water District for landscaping purposes. VWD's Twin Oaks Reservoir Facility consists of 33 million gallons and is 392 feet in diameter. The concrete, circular reservoir went into operation in 2000 and serves nearly 95 percent of the district (VWD 2011).

For fiscal year 2009-2010, VWD sold 15,258 acre-feet of water. Water sales were broken down in the following categories: 62 percent for residential use, 17 percent for landscape irrigation, 9 percent for agricultural use, 8 percent for commercial and industrial use, 3 percent for other categories, and 1 percent for construction (VWD 2010a).

Vista Irrigation District

Portions of the Business/Industrial, College, and Twin Oaks communities are served by the VID. VID currently has a variety of water sources including imported, regional, local surface, groundwater and recycled water. Imported water purchased from SDCWA comprises 58 percent of water services and local water from VID's Lake Henshaw facilities comprises 42 percent of water services. VID also has 14 production wells in the Warner Basin to supplement its local surface water supply. VID's population served has increased by 33% from 1990 to 2010 (94,526 to 125,962). However, due to water conservation measures, water received for delivery to its customers has remained relatively constant (21,575 acre-feet per year) (VID 2011).

Olivenhain Municipal Water District

Southern portions of the La Costa/Questhaven community are also served by the OMWD along with eastern portions of the Barham/Discovery community. In addition to portions of the planning area, OMWD serves portions of the cities of Encinitas, Carlsbad, San Diego, and Solana Beach, as well as the communities of Olivenhain, Leucadia, Elfin Forest, Rancho Santa Fe, Fairbanks Ranch, Santa Fe Valley and 4S Ranch. OMWD operates 17 water storage reservoirs with a capacity of nearly 80 million gallons of water. Facilities include the David C. McCollom Water Treatment Plant which treats up to 34 million gallons of water each day, the 4S Ranch Water Reclamation Facility, and the Olivenhain Water Storage Project which includes the Olivenhain Dam and Reservoir. The majority (63 percent) of fiscal year water sales were for residential use, 29 percent for irrigation, 5 percent for commercial use, and 3 percent for agricultural use (OWMD 2011).

Rincon del Diablo Municipal Water District

Richland communities in San Marcos are served by Rincon. The District includes portions of the San Dieguito and Carlsbad watersheds as well as Escondido Valley Groundwater Basin 9-9. Additionally, the District shares service area boundaries with Vallecitos Water District, Olivenhain Municipal Water District, Valley Center Municipal Water District, City of Escondido Water Utilities, the City of San Diego Water Utilities, and Del Dios Mutual Water (Rincon 2011).

Rincon serves potable and recycled water through its two improvement districts, totaling 9,155 acres and 7,860 domestic water connections. Rincon's potable water distribution system includes 112 miles of water main, ten reservoirs with a total storage capacity of 25,742,229 million gallons, and four pump stations. Peak production is calculated at 10 MGD. Rincon's recycled water system consists of 6.7 miles of water mains, two pump stations, and 69 service connections. Rincon delivered 9,372.6 acre-feet of water in 2010, with the majority of water delivery for residential use (Rincon 2011).

Wastewater and Sewage

Wastewater services for the majority of the planning area are provided by VWD. VWD's sewer service area is divided between two principal drainage basins which are named based on the treatment facility which serves it. VWD's current 23-square mile sewer service area is much smaller in size than its water service area due to the use of septic systems in some areas. VWD has over 19,000 sewer service connections with 4 lift stations and 178 miles of pipeline. VWD's wastewater systems currently have a total liquids treatment capacity of 12.54 MGD. The estimated maximum daily flow is approximately 9.54 MGD (VWD 2010c).

VWD utilizes two wastewater treatment facilities, a land outfall, and a sludge pipeline to treat and convey wastewater flows. The Encina Water Pollution Control Facility (EWPCF) is operated by the Encina Wastewater Authority, which is the primary wastewater treatment provider utilized by VWD. The EWPCF capacity rights, as set forth in the 1998 Revised Basic Agreement, included 7.54 MGD of liquids treatment capacity and 7.54 MGD of solids treatment capacity. The recently completed Phase V Expansion of the EWPCF was primarily solids driven. With that expansion, VWD maintained its 7.54 MGD of liquids treatment capacity, and increased its solids treatment capacity to 10.47 MGD (VWD 2010c).

The Meadowlark Water Reclamation Facility (MRF) treats wastewater to meet recycled water standards in accordance with State of California Title 22 requirements and under the provisions of Waste Discharge Permit R9-2007-00186 issued by the State of California Regional Water Quality Control Board for Region 9. The treatment process includes tertiary treatment with disinfection. The MRF was recently upgraded to a capacity of 5 MGD, with a peak wet weather capacity of 8.0 MGD. The plant does not have solids treatment capability. Solids are pumped from the MRF through a sludge pipeline to the land outfall, and subsequently treated at the EWPCF. VWD utilizes the MRF to produce recycled water for two wholesale customers: the Carlsbad Municipal Water District and OMWD (VWD 2010c).

A third drainage basin is located in the northern part of the District which naturally drains away from the existing collection system and is referred to as the Northern Tributary Area. The Northern Tributary Area is entirely made up of rural residential and agricultural land uses, and is served by on-site septic systems or by a neighboring agency.

Wastewater collection, treatment and disposal services within VID's boundaries in the planning area are provided by VWD (VID 2011).

Solid Waste

Solid waste disposal in the City is provided by a private franchise hauler, EDCO Waste and Recycling (EDCO), which handles all residential, commercial, and industrial collections within the City. Waste collected by EDCO is hauled to the Escondido Resource Recovery Transfer Station where it is then transported to the Sycamore Sanitary Landfill in Santee (HDR Engineering 2009). The estimated closure date of the Sycamore Sanitary Landfill is December 31, 2031. The landfill processes a throughput of

3,965 tons per day, with a total capacity of 48,124,462 tons. Currently, the landfill has a remaining capacity of 98.5 percent (CalRecycle 2011).

In 2009 (latest available data), the City of San Marcos disposed of 79,771 tons of solid waste, all of which was landfilled (buried) (CalRecycle 2011).

Waste Diversion

The California Integrated Waste Management Act of 1989 (AB 939) mandates local governments to develop a long-term strategy for the management and diversion of solid waste, by requiring cities and counties to divert 50 percent of its solid waste. The 2006 diversion rate (latest available data) for the City was 57 percent of its solid waste. In 2009 (the latest available data), the Annual Per Capita Disposal Rate for the City of San Marcos was estimated to be 5.3 pounds per person per day for residents and 13.2 pound per person per day for employees. Both figures are below the target amounts of 8.9 pounds per person per day for residents and 19.0 pounds per person per day for employees (CalRecycle 2011b). In addition, EDCO operates the Recycling Buyback Center, which offers recycling services for beverage containers, e-waste, and other items.

Stormwater Conveyance and Drainage Facilities

The street and drainage maintenance division of the City of San Marcos maintains the city's public roadway network and sidewalks, right-of-way electrical facilities, and the public storm drain conveyance system. The primary purpose of the public storm drain conveyance system is to facilitate the conveyance of drainage water from rainfall events away from urban areas. In addition, the facilities are designed to mitigate the increase in runoff volumes and velocities to downstream areas and drainages to prevent flooding of public and private facilities and urbanized areas.

The public storm drain conveyance system is defined both in the San Marcos Municipal Code (SMMC) Section 14.15 and in the Municipal Stormwater Permit (Order R9 2007-0001) under Municipal Separate Storm Sewer System- MS4 as those municipal facilities owned and operated by the City that are a conveyance system or system of conveyances, located within the City. The public stormwater conveyance system is either designated, or used for, collecting or conveying stormwater that may be conveyed to waters of the United States. These include any roads with drainage systems, municipal streets, catch basins, natural and artificial channels, aqueducts, canyons, stream beds, gullies, curbs, gutters, ditches, natural and artificial channels or storm drains.

Energy Facilities

San Diego Gas & Electric

Electricity and natural gas in the planning area is provided by San Diego Gas & Electric (SDG&E). SDG&E, owned by Sempra Energy, is a regulated public utility that provides energy service to 3.3 million consumers through 1.3 million electric meters and more than 800,000 natural gas meters in San Diego and southern Orange counties. The utility's area spans 4,100 square miles.

SDG&E obtains electricity from a variety of sources, including SDG&E-owned facilities and other private and publicly owned facilities that provide electricity through contracts and agreements. Electricity is generated from a variety of energy sources, including coal, natural gas, nuclear, hydroelectric, and a mix of other renewable resources. SDG&E does not directly own any of its own renewable generation resources. The California Renewables Portfolio Standard (RPS) program, established by SB 1078 (Statutes of 2006, Chapter 516), and updated by SB 2 (Chapter 1, Statutes of 2011–12 First Extraordinary Session), requires that the amount of electricity generated from eligible renewable energy resources per year is at least 33 percent of total retail sales of electricity by 2020 for electric utilities in California. SDG&E produced 11.9 percent of its energy from renewable sources in 2010 (SDG&E 2011).

SDG&E has over 1,800 miles of transmission lines in its service territory, but only two connections to the state's electricity grid. Imported resources are received via the Miguel Substation as the delivery point for power flow on the Southwest Power Link (SWPL), which is SDG&E's 500-kilovolt (kV) transmission line that runs from Arizona to San Diego along the U.S. border with Mexico. San Onofre Nuclear Generating Station (SONGS) also has a 230-kV switchyard that is used to import energy into the region (SDG&E 2008).

SDG&E has recently begun to improve its transmission infrastructure. The recently completed 52-mile Otay-Metro Powerloop includes two 230,000-volt electrical lines that create a loop around the heart of San Diego County, linking the cities of San Diego, National City, Chula Vista, and Santee, and unincorporated areas (SDG&E 2010). SDG&E has also recently begun construction on Sunrise Powerlink, a 117-mile, 500-kV transmission line that will carry energy from the Imperial Valley to San Diego.

SDG&E is also developing the East County (ECO) Substation Project, which will provide local renewable energy projects with a connection point to the electric grid. The proposed 58-acre substation will be located on the eastern edge of the community of Jacumba, between I-8 and the United States/Mexico border (SDG&E 2010).

Discovery Valley Utility

Discovery Valley Utility (DVU), a non-profit utility owned by the City of San Marcos, was established in 2000 as a result of the state of California's energy chaos caused by deregulation of the electrical energy industry. Voters approved a City Charter in 1994 that authorized the City to establish a municipal utility. Although the DVU, which is both an electrical and natural gas utility as of 2003, is not yet serving customers, DVU continues to work to establish competition in the electrical and natural gas utility business within San Marcos and is working within a variety of strategic alliances to put a long-term plan in place that will provide competitive electric and natural gas rates to constituents within San Marcos (City of San Marcos 2011b). Chapter 15.04 of the City of San Marcos Municipal Code contains the codifying language for the municipal utility (City of San Marcos 2011c).

3.14.2 REGULATORY SETTING

The following provides a general description of the applicable regulatory requirements for the planning area, including federal, state, regional, and local guidelines.

Federal Regulations

Clean Water Act

Section 402 of the CWA establishes the NPDES permit program to regulate the discharge of pollutants from point sources. The CWA defines point sources of water pollutants as “any discernable, confined, and discrete conveyance” that discharges or may discharge pollutants. These are sources from which wastewater is transmitted in some type of conveyance (pipe and channel) to a waterbody, and are classified as municipal or industrial. Municipal point sources consist primarily of domestic treated sewage and processed water, including municipal sewage treatment plant outfalls and storm water conveyance system outfalls. These outfalls contain harmful substances that are emitted directly into waters of the U.S. Without a permit, the discharge of pollutants from point sources into navigable waters of the U.S. is prohibited. NPDES permits require regular water quality monitoring. For a detailed discussion of the Clean Water Act see Section 3.9 Hydrology.

Resource Recovery and Conservation Act (RCRA) of 1976

RCRA Subtitle D focuses on state and local governments as the primary planning, regulating, and implementing entities for the management of nonhazardous solid waste, such as household garbage and nonhazardous industrial solid waste. To promote the use of safer units for solid waste disposal, Subtitle D provides regulations for the generation; transportation; and treatment, storage, or disposal of hazardous wastes. USEPA developed federal criteria for the proper design and operation of municipal solid waste landfills (MSWLFs) and other solid waste disposal facilities. USEPA approved the State of California's program, a joint effort of the CIWMB, SWRCB, RWQCBs, and LEAs, on October 7, 1993.

State Regulations

State Responsibility Area (SRA) Fire Safe Regulations (Title 14 Natural Resources, Department of Forestry Fire Protection)

These regulations constitute the basic wildland fire protection standards of the California Board of Forestry. They have been prepared and adopted for the purpose of establishing minimum wildfire protection standards in conjunction with building, construction, and development in SRAs. Title 14 regulates that the future design and construction of structures, subdivisions, and developments in an SRA shall provide for basic emergency access and perimeter wildfire protection measures.

California Fire Code

The California Fire Code (CFC) and Office of the State Fire Marshall provides regulations and guidance for local agencies in the development and enforcement of fire safety standards. The CFC also establishes minimum requirements that would provide a reasonable degree of safety from fire, panic, and explosion.

Assembly Bill 16

In 2002, AB 16 created the Critically Overcrowded School Facilities program, which supplements the new construction provisions within the School Facilities Program (SFP). SFP provides state funding assistance for two major types of facility construction projects: new construction and modernization. The Critically Overcrowded School Facilities program allows school districts with critically overcrowded school facilities, as determined by the California Department of Education (CDE), to apply for new construction projects in advance of meeting all SFP new construction program requirements. Districts with SFP new construction eligibility and school sites included on a CDE list of source schools may apply.

Senate Bill 50 – Leroy F Greene Schools Facilities Act of 1998

SB 50, or the Leroy F. Greene School Facilities Act of 1998, restricts the ability of local agencies to deny project approvals on the basis that public school facilities (classrooms, auditoriums, etc.) are inadequate. School impact fees are collected at the time when building permits are issued. Payment of school fees are also collected at the time when building permits are issued. Payment of school fees is required by SB 50 for all new residential development projects and is considered “full and complete mitigation” of any school impacts. School impact fees are payments to offset capital cost impacts associated with new developments, which result primarily from costs of additional facilities, related furnishings and equipment, and projected capital maintenance requirements. As such, agencies cannot require additional mitigation for any school impacts.

California Building Standards Code (Title 24, CCR)

Title 24 applies to all buildings throughout the State of California, and includes requirements for structural, mechanical, electrical, and plumbing systems, and requires measures for energy conservation, green design, construction and maintenance, fire and life safety and accessibility. Cities and counties are required by state law to enforce Title 24. More restrictive ordinances can also be adopted by cities and counties due to specific geographical conditions. Included among the twelve parts of Title 24 are Part 9, which includes the California Fire Code, and is based on the 2009 International Fire Code, and Part 11, which includes the California Green Building Standards Code that includes measures for incorporating energy efficiency into buildings.

State Water Resources Control Board and Regional Water Quality Control Boards

The SWRCB issues individual and general NPDES permits for wastewater and storm water through authorization of USEPA. Discharges that may impact surface or groundwater, and which are not regulated

by an NPDES permit, are issued a waste discharge requirement (WDR) that serves as a permit under the authority of the California Water Code. The RWQCBs issue Land Disposal WDRs that permit certain solid and liquid waste discharges to land to ensure that wastes do not reach surface water or groundwater. Land Disposal WDRs contain requirements for liners, covers, monitoring, cleanup, and closure. The RWQCBs also permit certain point source discharges of waste to land that have the potential to affect surface or groundwater quality. This category of discharges, known as “Non-15” WDR, are the most diverse and include sewage sludge and biosolids, industrial wastewater from power plants, wastes from water supply treatment plants, treated wastewater for aquifer storage and recovery, treated groundwater from cleanup sites, and many others.

Related to wastewater collection and treatment facilities, storm water drainage facilities, and landfills the SWRCB has issued the following regulations:

- Caltrans NPDES Permit (Order 99-06-DWQ): Requires Caltrans to regulate nonpoint source discharge from its properties, facilities, and activities. Among other requirements, Caltrans must annually update an enforceable Stormwater Management Plan (SWMP). See Section 4.10.2 for more detail.
- Statewide General Waste Discharge Requirements for Sanitary Sewer Systems (Order No. 2006-0003-DWQ): Requires all federal and state agencies, municipalities, counties, districts, and other public entities that own, operate, or are otherwise responsible for sanitary sewer systems greater than 1 mile in length that collect and/or convey untreated wastewater to a publicly owned treatment facility in California to prepare sewer system management plans and report all sanitary sewer overflows (SSOs) to the SWRCB. Order No. WQ 2008-0002-EXEC, amended the statewide Monitoring and Reporting Program for SSOs that reach surface waters or storm drains. The RWQCB issued Order No. R9-2007-0005 to reaffirm the prohibition of SSOs upstream of a wastewater treatment facility.

AB885 - On-Site Wastewater Treatment Systems (OWTS) – PENDING

AB885 (Chapter 781, Statutes of 2000) required the SWRCB to draft and implement regulations for siting, installation, operation, and maintenance of OWTS. Proposed regulations were issued in 2009 but have not yet been adopted.

Integrated Waste Management Act of 1989 (AB 939 or IWMA)

The IWMA was enacted by the California legislature to reduce dependence on landfills as the primary means of solid waste disposal, and to ensure an effective and coordinate approach to safe management of all solid waste generated within the state. The IWMA establishes a hierarchy of preferred waste management practices: (1) source reduction (waste prevention), to reduce the amount of waste generated at its source; (2) recycling (or reuse) and composting; (3) transformation; and (4) disposal by landfilling. The IWMA required disposal of waste by the local jurisdictions to be cut by 25 percent by 1995 and by 50 percent by 2000. Waste disposal levels from the year 1990 were used as the base, adjusted for population and economic conditions.

The IWMA also requires the preparation of a Countywide Integrated Waste Management Plan (CIWMP), including a Countywide Siting Element that must demonstrate a remaining landfill disposal capacity of at least 15 years to serve all the jurisdictions in the county. The Countywide Siting Element includes a combination of strategies to demonstrate adequate capacity, including existing, proposed, and tentative landfills or expansions; increased diversion efforts; and the export of solid waste for disposal. In San Diego, the Countywide Siting Element is prepared by county staff and must be adopted by the County Board of Supervisors, and by a majority of the cities within San Diego County. The Countywide Siting Element must be reviewed and updated every 5 years.

As part of the CIWMP, the IWMA also requires that each jurisdiction (cities and the county) prepare (1) a Source Reduction and Recycling Element (SRRE), a Household Hazardous Waste Element (HHWE); and a Non-Disposal Facility Element (NDFE).

Title 14, CCR

CalRecycle regulations pertaining to nonhazardous waste management in California include minimum standards for solid waste handling and disposal; regulatory requirements for composting operations; standards for handling and disposal of asbestos containing waste; resource conservation programs; enforcement of solid waste standards and administration of solid waste facility permits; permitting of waste tire facilities and waste tire hauler registration; special waste standards; used oil recycling program; electronic waste recovery and recycling; planning guidelines and procedures for preparing, revising, and amending countywide IWMP; and solid waste cleanup program.

Title 27, CCR

CalRecycle and the SWRCB jointly issue regulations pertaining to waste disposal on land, including criteria for all waste management units, facilities and disposal sites; documentation and reporting; enforcement, financial assurance; and special treatment, storage, and disposal units.

Senate Bill 610 and Senate Bill 221

SB 610 and SB 221, amended into state law effective January 1, 2002, improve the linkage between certain land use decisions made by cities and counties and water supply availability. The statutes require detailed information regarding water availability and reliability with respect to certain developments to be included in the administrative record to serve as evidentiary basis for an approval action by the City or county on such projects.

Under SB 610, a water supply assessment must be furnished to local government for inclusion in any environmental documentation for certain types of projects, as defined in Water Code Section 10912 [a] and subject to CEQA. A fundamental source document for compliance with SB 610 is the Urban Water Management Plan (UWMP). The UWMP can be used by the water supplier to meet the standard for SB 610.

SB 221 applies to the Subdivision Map Act, conditioning a tentative map on the applicant to verify that the public water supplier has sufficient water available to serve the proposed development. The proposed General Plan is not subject to either SB 610 or SB 221 because the Plan itself does not grant entitlements; instead, it provides a planning framework for future development in the planning area. However, as individual projects are implemented under the General Plan, they will be reviewed for compliance with the requirements of SB 610 and/or SB 221. Adequate water availability must be demonstrated, as required.

California Mutual Aid Plan

The California Mutual Aid Plan establishes policies, procedures, and responsibilities for requesting and providing inter- and intra-agency assistance in emergencies. The plan directs local agencies to develop automatic or mutual aid agreements, or to enter into agreements for assistance by hire (e.g., Schedule A contracts) where local needs are not met by the framework established by the Mutual Aid Plan.

Local Plans and Policies

Urban Water Management Plans

Urban water purveyors are required to prepare and update a UWMP every 5 years. The UWMPs address water supply, treatment, reclamation, and water conservation, and contain a water shortage contingency plan. Local UWMPs, such as those prepared by VWD and other water districts, are supplemental to the regional plans prepared by Metropolitan. The Water Conservation Bill of 2009 (SBX7-7) requires each urban retail water supplier to develop an urban water use target and an interim urban water use target. Notably, SBX7-7 authorizes urban retail water suppliers to determine and report progress toward achieving these targets on an individual agency basis or pursuant to a regional alliance as provided in CWC § 10608.28(a).

OMWD, VWD, San Dieguito Water District, and Rincon have formed a regional alliance pursuant to CWC § 10608.28(a), the DWR Guidebook, and the DWR Methodologies to cooperatively determine and report progress toward achieving their water use targets on a regional basis. The members have prepared an urban water use target and an interim urban water use target for the region, which is further set forth herein and within each of the other members' individual UWMPs. Furthermore, each member of the regional alliance has developed its own set of interim and urban water use targets, along with other supporting data and determinations, all of which is included in each member's individual UWMP (OMWD 2010).

San Diego County Integrated Waste Management Plan

Pursuant to the IWMA, the Countywide Integrated Waste Management Plan for San Diego County describes the goals, policies, and objectives of the county for coordinating efforts to divert, market, and dispose of solid waste during the planning period through the year 2017. Countywide policies for reducing waste and implementing the programs are identified in the individual jurisdiction SRREs and

HHWEs and are intended to reduce costs, streamline administration of programs, and encourage a coordinated and planned approach to integrated waste management.

To avoid duplication of effort, all of the jurisdictions in the county participate in the San Diego County Integrated Waste Management Local Task Force (LTF). The LTF coordinates mandated planning, oversees implementation of new or countywide integrated waste management programs, and carries out an active legislative program. Regulatory reform, changes to state diversion requirements, and reduction of the costs of compliance are considered by the LTF, as well as other solid waste issues of regional or countywide concerns (County of San Diego 2005).

Regional Energy Strategy

SANDAG's 2009 Regional Energy Strategy (RES) establishes goals for the San Diego region to be more energy efficient, increase use of renewable energy sources, and enhance the region's energy infrastructure so that we are able to meet growing energy demand. The RES focuses on opportunities and authorities that SANDAG and its member agencies could take advantage of to address energy issues through their authorities in areas such as land use planning, transportation planning and funding, and the building entitlement process. Although the RES Update does not make recommendations for specific energy projects (e.g., power plants or transmission projects), it does assess regional need for energy resources and infrastructure. The RES also does not replace the long-term electricity plan that San Diego Gas & Electric develops for the CPUC, but it can inform their decision-making (SANDAG 2011).

School Facilities Needs Analysis

The School Facilities Needs Analysis (SFNA) for SMUSD is prepared and adopted by the governing board of a school district to determine the need for new school facilities to house pupils that are attributed to projected enrollment growth from the development of new residential units over the next five years. The analysis takes into account current capacity, surplus property, and dedicated local funding sources. The SFNA dated March 11, 2011 is the most recent SFNA.

City of San Marcos Municipal Code

Title 8 of the City of San Marcos Municipal Code contains regulations and provisions on sewers and sewage disposal plants, sewer connections, septic tanks, waste matter, garbage and refuse collection, and other matters concerning sanitation. Chapter 14.15 contains regulations concerning storm water management and discharge control. Chapter 14.24 contains regulations concerning underground utility facilities. Title 19 regulates subdivision requirements, including the installation of utility facilities and connections and payment or fees for such installations. Chapter 20.12.020 regulates provisions for residential growth management, with the goal to ensure that adequate public facilities and services are available to meet the needs created by and to mitigate the impacts of new development prior to or as it occurs (City of San Marcos 2011c).

3.14.3 THRESHOLDS FOR DETERMINING SIGNIFICANCE

The impact of the proposed project related to public services and utilities would be considered significant if it would exceed the following thresholds of significance, in accordance with Appendix G of the *CEQA Guidelines*:

- Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:
 - Police Protection
 - Fire Protection
 - Schools
 - Libraries
 - Other Public Facilities;
- Exceed wastewater treatment requirements of the applicable RWQCB;
- 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;
- Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects;
- Result in insufficient availability of water supplies to serve the project from existing entitlements and resources, or are new or expanded entitlements needed;
- 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;
- Generate waste materials that would exceed the permitted capacity of local landfills or fail to comply with federal, state, and local statutes and regulations related to solid waste; or
- Violate federal, state, and local statutes and regulations related to solid waste.

Based on Appendix F of the State CEQA Guidelines, an impact on energy conservation is considered significant if the proposed project would:

- result in wasteful, inefficient, and unnecessary consumption of energy during construction, operation, and maintenance of the project;
- result in the siting, orientation, and design that does not provide an opportunity to minimize energy consumption, including transportation energy;

- include features that would increase peak energy demand;
- not provide for alternative fuels (particularly renewable ones) or energy systems; or not provide for recycling of non-renewable resources

3.14.4 ANALYSIS OF ENVIRONMENTAL IMPACTS

Impacts on public facilities that would result from buildout of the proposed General Plan were identified by comparing existing service capacity and facilities, staffing, and equipment against anticipated future demand. Once future service levels have been determined, the analysis determines whether the changes in service levels would require new or expanded public facilities, the construction of which could result in adverse effects on the physical environment. Proposed General Plan policies and programs that would reduce these effects have been identified throughout this EIR. Those policies and programs would apply in various ways to the physical development of public facilities and utilities, and effects related to the operation of public services. As future public investments are approved, the City will review applicable projects for environmental effects, applying proposed General Plan policy and required site specific mitigation to reduce impacts, as feasible.

The analysis of impacts is based on the likely consequences of adoption and implementation of the proposed General Plan, including future land uses consistent with the Land Use plan, and supporting roadways, infrastructure, and public services; along with implementation of proposed General Plan policies and programs.

Fire Protection and Emergency Services

Implementation of the proposed General Plan would result in the development of new growth and infill areas and associated additional population within the planning area. Additional structures and population would create additional demand for fire protection services beyond current demands. The increase in demand would require the construction of new fire protection facilities in order for the Fire Department to maintain the department's current response times as presented in Table 3.14-1. Construction of new fire protection facilities could have adverse effects on the physical environment. New fire protection facilities would be constructed within the footprint of new development envisioned within the proposed General Plan. Therefore, the impacts of construction and operation of these facilities is included in the program-level analysis in each of the individual subject area sections of this EIR.

The proposed General Plan is designed to guide growth and development in the planning area over the long-term, including ensuring adequate access to a range of public services, facilities, and infrastructure. The Land Use and Community Design Element of the proposed General Plan contains a policy designed to ensure adequate fire-fighting and emergency medical services infrastructure, equipment, and personnel to provide a high level of fire and emergency medical service in San Marcos to meet existing and future demands.

Implementation of proposed General Plan policy would ensure that new fire service facilities are funded and constructed to serve new development. Future facility construction would be subject to project-level CEQA analysis and mitigation. Proposed General Plan policies and programs and mitigation measures proposed throughout this EIR would reduce or avoid program-level impacts. Therefore, the impact would be **less than significant**.

Police Protection

Implementation of the proposed General Plan would result in an increase in population and new development within the planning area, increasing the demand for police protection and services. In 2010, the Sheriff's Department's San Marcos operations provided an officer to population (per 1,000 residents) ratio of 1.07. Based on this level of service and the projected 2030 population of approximately 128,040 residents, the Sheriff's Department's San Marcos operations would require a total of 137 officers at buildout of the proposed General Plan, compared to 97 officers in 2010. Additional services and staffing could result in the need to build additional facilities, which could potentially have adverse effects on the physical environment. New police facilities would be constructed within the footprint of development envisioned within the proposed General Plan. Therefore, these indirect adverse effects are included in the program-level analysis in each of the individual subject area sections of this EIR.

The proposed General Plan is intended to achieve steady and orderly growth in the planning area that enables adequate provision of services and community facilities. The Land Use and Community Design Element of the proposed General Plan includes a policy designed to maintain desired levels of service for police protection for existing and new residents. These policies direct the City to work closely with the County of San Diego Sheriff's Department to determine and meet the community needs for adequate personnel, equipment and state-of-the-art technology to effectively combat crime, meet existing and projected service demands.

Implementation of proposed General Plan policy would ensure that police facilities and services would be funded and constructed as-needed to serve new development. Future facility construction would be subject to project-level CEQA analysis and mitigation. Proposed General Plan policies and programs and mitigation measures proposed throughout this EIR would reduce or avoid program-level impacts. Therefore, the impact would be **less than significant**.

Schools

As of 2010, SMUSD data reported an existing capacity deficiency of approximately 4,588 students at schools that serve the planning area. Based on the SMUSD's student generation rates provided in Table 3.14-3, an estimate of 4,815 additional students could be generated in the planning area by the implementation of the proposed General Plan. Assuming that current enrollment rates remain constant over the span of the proposed General Plan, it is anticipated that district capacity would be exceeded in the future.

**Table 3.14-3
San Marcos Unified School District Student Generation Factors
by New Residential Dwelling Unit Type and Education Level**

Dwelling Unit Type	Proposed Dwelling Units	Education Level	Generation factor	Students Generated
Single-Family (detached)	8,059	Elementary	0.273	2,200
		Middle	0.075	604
		High	0.077	621
Total Students from Single-Family Residences				3,425
Multi-Family (attached)	3,138	Elementary	0.273	857
		Middle	0.079	248
		High	0.091	286
Total Students from Multi-Family Residences				1,390
Total Students Generated at General Plan Buildout				4,815

Source: Generation factors SMUSD, 2010; Calculation AECOM, 2011; Single-family and multi-family allocation assumption is from the 2010 US Census for San Marcos.

With adoption of SB 50 and Proposition 1A in 1998, school districts that meet certain requirements now have the option of adopting school fees, also known as Level 2 Fees and Level 3 Fees (Public Resources Code Sections 65995.5, 65995.6 and 65995.7). School fees, which are calculated for each school district, allow districts to collect fees for new construction, including home additions. Current developer fees assessed for residential development is \$4.68 per square foot and \$0.47 per square for commercial and industrial development. SMUSD is able to collect such fees to fund new school construction needed as a result of new development. Payment of alternative school fees would be used to offset the cost to SMUSD of providing education facilities to future students, if and when such facilities are needed. The environmental effects of expansion, construction, and operation of additional school facilities will be evaluated by SMUSD in its efforts to plan for construction of new schools or expansion of existing facilities. SB 50 states that for CEQA purposes, payment of fees to the affected school district reduces school facility impacts to a **less than significant** level.

Libraries

With the increase in population and new development and redevelopment pursuant to the proposed General Plan, additional library services and potentially new or expanded facilities would be required to adequately serve the planning area. The minimum space service goal for the SDCL system is 0.50 square feet of library per capita. As of 2010, the San Marcos branch service ratio is 0.18 square feet per capita (based on the 2010 population of the City of San Marcos), and did not meet the space service goal (County of San Diego 2010).

Development pursuant to the proposed General Plan would require the provision of approximately 48,630 additional square feet of library space to be available within the planning area. The City had recognized this need and is continuing to work with the SDCL to ensure that library development keeps pace with overall City development and population growth. The Land Use and Community Design Element of the proposed General Plan includes a policy directing the City to provide adequate library facilities within the

community. However, the specific environmental impact of constructing a new library or expanded facilities in the planning area cannot be determined at this program level of analysis because no specific projects are proposed. Like the development of other uses allowed under the proposed General Plan, development and operation of new or expanded public facilities, such as a library, may result in potentially significant impacts that are addressed by various City policies included in the proposed General Plan, as well as site-specific mitigation measures identified once a project site and proposal are known. Therefore, impacts associated with libraries would be **less than significant**.

Water

Water Infrastructure

Implementation of the proposed General Plan would result in new residential, commercial, and industrial land uses in the planning area, resulting in additional population within the planning area. The additional population would generate additional water demand and, therefore, require construction of additional water facilities, including supply and distribution facilities. A variety of improvements will be needed to serve demand accommodated by the proposed General Plan, including new groundwater wells and replacement wells, water storage tanks, water mains, and new pipelines. These improvements will be directed by the Water Master Plans of the four water providers operating with the planning area (VWD, VID, OMWD, and Rincon). Improvements will be designed to provide reliable water supply to meet short-term peaks and maximum day demand conditions (i.e., highest expected demand over a 24-hour period). Water infrastructure improvement phasing will relate to the pace of development.

The Land Use and Community Design Element of the proposed General Plan contains policies and programs designed to reduce impacts associated with the construction of new water facilities primarily by limiting the need for additional water supplies. These policies direct the City to actively promote water conservation programs aimed at reducing demand, and encourages exploration and use of deep underground wells to reduce reliance on potable water. Water-based services include the application of state-of-the-art technology and practices; matching water quality to its end use; and financing local wastewater reuse in the same manner in which centralized water supply options are financed. Implementation of these policies would regulate the construction of new water facilities and establish impact fees to fund future extensions of reclaimed water lines; however impacts related to water infrastructure would be **significant**; mitigation is required.

Water Supply

Future land uses consistent with the proposed General Plan would result in a net increase of approximately 11,208 dwelling units, 20.2 million square feet of nonresidential building floor area, and 37,655 persons over existing conditions by 2030. This would result in an increase in water demand. The following analysis estimates 2030 water demand for the planning area with implementation of the proposed General Plan, and describes available water supply sources for each of the four water providers, the reliability of those water supplies, and potential alternative water sources.

Water in the planning area is provided by VWD, VID, OMWD, and Rincon. Future water demand is estimated using 2008 water demand assumptions (gallons/acre/land use type) from the VWD 2010 UWMP. Table 3.14-4 illustrates the water demand assumptions and Table 3.14-5 describes the results of this analysis. Although water consumption is expected to decrease by 2020 due to implementation of SB-7X, this analysis employs the baseline demand. By comparing existing land use patterns to the future land use patterns as contained in the proposed General Plan, the planning area would require approximately 16,000 acre feet of water per year by 2030 to accommodate development pursuant to the proposed General Plan. See Table 3.14-5 Estimated 2030 Water Demand under proposed General Plan at end of Document.

**Table 3.14-4
Unit Water Demands**

Land Use Category	2008 Master Plan (gpd/ac)
Hillside Res. (0.05-0.25 du/ac)	1000
Rural Res. (0.125-1.0 du/ac)	600
Residential (1-2 du/ac)	1,200
Residential (2-4 du/ac)	1,800
Residential (4-6 du/ac)	2,200
Residential (4-8 du/ac)	2,500
Residential (8-12 du/ac)	2,800
Residential (12-15 du/ac)	3,300
Residential (15-20 du/ac)	3,700
Residential (20-30 du/ac)	5,000
Residential (30-40 du/ac)	7,000
Residential (40-50 du/ac)	9,000
Intensive Ag./Res. (0.125-0.5 du/ac)	1,400
Agriculture/Res. (0.125-0.5 du/ac)	800
Commercial	1,500
Hotel / Motel	125/room/day
Office Professional	1,500
Light Industrial	1,800
Industrial	1,000
Schools & Public Facilities	1,400
Palomar College	1,200
San Marcos State University	1,200
Parks/Golf Courses	1,700
Solid Waste Management	0
Open Space	200
Right-of-Way	200

Note: Unit Water Demands for the 2008 Master Plan is the most current information available at the time this document was published.

Source: VWD 2010 UWMP, Table 2-3: Unit Water Demands

**Table 3.14-5
Estimated 2030 Water Demand under Proposed General Plan**

City Land Use Designation	VWD Use Category	Gallons/Day/AC	2030 Acres	MGals/Day	MGals/Year	Acre Feet/Year
City (excluding Focus Areas and SPAs)						
Agricultural/Residential	Agriculture/Res. (0.125-0.5 du/ac)	800	3,675	2.94	1,073.10	3,294
Hillside Residential 1	Hillside Res. (0.05-0.25 du/ac)	1,000	1,098	1.10	400.61	1,230
Hillside Residential 2	Hillside Res. (0.05-0.25 du/ac)	1,000	78	0.08	28.47	87
Rural Residential	Residential (1-2 du/ac)	1,200	769	0.92	336.86	1,034
Very Low Density Residential	Residential (2-4 du/ac)	1,800	1,130	2.03	742.72	2,280
Low Density Residential	Residential (4-6 du/ac)	2,350	782	1.84	671.03	2,060
Low Medium Density Residential	Residential (8-12 du/ac)	2,800	125	0.35	127.36	391
Medium Density Residential 1	Residential (12-15 du/ac)	3,300	63	0.21	75.64	232
Medium Density Residential 2	Residential (15-20 du/ac)	3,700	182	0.67	246.10	756
Medium High Density Residential	Residential (20-30 du/ac)	5,000	35	0.18	64.09	197
High Density Residential	Residential (30-40 du/ac)	8,000	0	0.00	0.00	0
Commercial	Commercial	1,500	173	0.26	94.74	291
Neighborhood Commercial	Commercial	1,500	8	0.01	4.34	13
Industrial	Industrial	1,000	203	0.20	73.96	227
Light Industrial	Light Industrial	1,800	307	0.55	201.56	619
Mixed Use 1 (Residential)	Residential (40-50 du/ac)	9,000	1.4	0.01	4.50	14
Mixed Use 1 (Commercial)	Commercial	1,500	1.4	0.00	0.75	2
Office Professional	Office Professional	1,500	17	0.03	9.24	28
Parks	Parks/Golf Courses	1,700	300	0.51	186.00	571
Open Space	Open Space	200	22	0.00	1.60	5
SPA	NA	0	NA	0	0	0
Public/Institutional	Schools & Public Facilities	1,400	491	0.69	251.07	771
Transportation/Utilities Related	NA	0	31	0	0	0
Urban Core Focus Areas						
Low Density Residential	Residential (4-6 du/ac)	2,200	17	0.04	14.04	43
Low Medium Density Residential	Residential (8-12 du/ac)	2,800	7	0.02	6.81	21
Medium Density Residential 1	Residential (12-15 du/ac)	3,300	17	0.05	19.96	61
Rural Residential	Residential (1-2 du/ac)	1,200	9	0.01	3.81	12
Commercial	Commercial	1,500	62	0.09	34.21	105

**Table 3.14-5
Estimated 2030 Water Demand under Proposed General Plan**

City Land Use Designation	VWD Use Category	Gallons/Day/AC	2030 Acres	MGals/Day	MGals/Year	Acre Feet/Year
Industrial	Industrial	1,000	60	0.06	22.01	68
Light Industrial	Light Industrial	1,800	6	0.01	3.74	11
Mixed Use 1 (Residential)	Residential (40-50 du/ac)	9,000	86	0.77	281.23	863
Mixed Use 1 (Commercial)	Commercial	1,500	86	0.13	46.87	144
Mixed Use 3	Commercial	1,500	19	0.03	10.57	32
Mixed Use 4	Commercial	1,500	7	0.01	3.72	11
Business Park	Office Professional	1,500	20	0.03	11.10	34
Office Professional	Office Professional	1,500	2	0.00	1.30	4
SPA	NA	0	NA	0	0	0
Public/Institutional	Schools & Public Facilities	1,400	13	0.02	6.87	21
Parks	Parks/Golf Courses	1,700	31	0.05	19.38	60
Open Space	Open Space	200	7	0	0	0
Urban Core Focus Areas						
SPA Richmar Specific Plan Area)	NA	0	NA	0	0	0
Additional Focus Areas						
Agricultural/Residential	Agriculture/Res. (0.125-0.5 du/ac)	800	62	0.05	18.23	56
Rural Residential	Residential (1-2 du/ac)	1,200	5	0.01	2.34	7
Medium Density Residential 1	Residential (12-15 du/ac)	3,300	12	0.04	14.67	45
Medium Density Residential 2	Residential (15-20 du/ac)	3,700	8	0.03	10.84	33
Neighborhood Commercial	Commercial	1,500	9	0.01	4.77	15
Commercial	Commercial	1,500	26	0.04	14.39	44
Industrial	Industrial	1,000	18	0.02	6.51	20
Light Industrial	Light Industrial	1,800	47	0.08	30.89	95
Mixed Use 1 (Residential)	Residential (40-50 du/ac)	9,000	4	0.03	12.52	38
Mixed Use 1 (Commercial)	Commercial	1,500	4	0.01	2.09	6
Mixed Use 3	Commercial	1,500	19	0.03	10.13	31
Business Park	Office Professional	1,500	21	0.03	11.50	35
Office Professional	Office Professional	1,500	3	0.01	1.84	6
SPA	NA	0	NA	0	0	0

Source: AECOM 2011 using data from City of San Marcos proposed land use plan and VWD 2010 UWMP

The 2010 UWMPs indicate that the districts expect to have adequate water supply available to meet the projected demand within their jurisdictions to 2030 due to facility developments or expansions and/or meeting SB7X water conservation goals. Metropolitan, the primary supplier of water for the SDCWA, indicated in the Metropolitan 2010 Regional UWMP that retail that supply capabilities would be sufficient to meet expected demands from 2015 through 2035 under the single dry-year and multiple dry-year conditions. However, the SDCWA could experience shortages during multiple dry years under its projected preferential right formula with Metropolitan. Shortages during multiple-dry years could occur in early years prior to the scheduled start dates of desalination projects and transfer agreements, and in later years due to increased growth and demand in the region (SDCWA 2011).

For all water purveyors discussed below, 2030 demand projections were developed by applying the SANDAG 2050 Regional Growth Forecast Update coverage to the average daily demand of all water use sectors within the service district. Water use sectors include single-family and multi-family residential, commercial, industrial, institutional/governmental, landscape, agricultural, and unaccounted/unbilled losses. Single Dry Year and Multiple Dry Year Assessments include existing and planned supplies from the Imperial Irrigation District transfer, canal lining projects, and seawater desalination.

Vallecitos Water District

Table 3.14-6 shows a comparison between the supply and demand of VWD water during multiple dry, single dry, and average water years for 2010, 2015, 2020, 2025, and 2030. Water need assumptions are based on currently approved land use and projected future demand as analyzed in the VWD 2010 UWMP. VWD anticipates relying on the SDCWA for 100 percent of its water supply in the foreseeable future.

**Table 3.14-6
VWD Projected Water Supply and Demand Comparison 2015-2030 in AF/YR**

	2015	2020	2025	2030
Normal Year				
Demand (2008 Master Plan projections)	27,117	30,143	32,608	34,961
Supply	21,897	20,216	21,650	22,525
Difference	(5,220)	(9,927)	(10,958)	(12,436)
Demand (meeting SB7 requirements)	21,897	20,216	21,650	22,525
Supply	21,897	20,216	21,650	22,525
Difference	0	0	0	0
Single Dry Year*				
Demand	23,026	21,270	22,932	23,905
Supply	23,026	21,270	22,932	23,905
Difference	0	0	0	0
Multiple Dry Year (3rd Year Supply)*				
Demand	22,681	23,072	24,499	25,230
Supply	22,681	23,072	24,499	25,230
Difference	0	0	0	0

Note: For a Normal Year, the demand projections given in the 2008 Master Plan must be reduced with additional conservation by 19.3 percent in 2015, 32.9 percent in 2020, 33.6 percent in 2025, and 35.6 percent in 2030. The Single Dry and Multiple-Dry Year Assessments use target demands necessary to meet Senate Bill X7-7 (SB7) supply objectives.

Source: VWD 2010b

As discussed above, VWD obtains 100 percent of its water supplies from SDCWA. According to the SDCWA 2010 UWMP, potential water supply shortages of varying degrees could occur under multiple dry year conditions. If these shortfalls occur as projected, additional conservation measures will be necessary to balance supply against the regional demands in the SDCWA's service area (VWD 2010b).

Vista Irrigation District

Table 3.14-7 shows a comparison between the supply and demand of VID water during multiple dry, single dry, and average water years for 2010, 2015, 2020, 2025, and 2030. Water need assumptions are based on currently approved land use and projected future demand as analyzed in the VWD 2010 UWMP. VWD anticipates relying on the SDCWA and VID surface water and groundwater for its water supply in the foreseeable future.

**Table 3.14-7
VID Projected Water Supply and Demand Comparison 2015-2030 (in AF/Year)**

	2015	2020	2025	2030
Normal Year				
Demand (without meeting SB7 targets)	21,491	24,985	27,360	29,916
Supply (without meeting SB7 targets)	22,400	21,372	22,365	23,236
Difference	(91)	(3,613)	(4,995)	(6,680)
Demand (meeting SB7 targets)	22,400	21,372	22,365	23,236
Supply (meeting SB7 targets)	22,400	21,372	22,365	23,236
Difference	0	0	0	0
Single Dry Year				
Demand	23,520	22,441	23,483	26,682
Supply	23,520	22,441	23,483	26,682
Difference	0	0	0	0
Multiple Dry Year (3rd Year Supply)				
Demand	22,872	23,065	24,032	24,855
Supply	22,872	23,065	24,032	24,855
Difference	0	0	0	0

In an effort to meet its water use reduction goals, VID plans to implement the water conservation programs and policies. Over the next five years, VID will periodically assess trends in per capita water use and evaluate its programs/policies to ensure the attainment of SB7 targets. As shown in Table 3.14-7, if SDCWA, Metropolitan, and VID supplies are developed as planned and SB7X conservation targets are achieved, no shortages are anticipated within VID's service area in a normal year or single-dry year through 2035. For the multi-dry year reliability analysis, the conservative planning assumption is that Metropolitan will be allocating supplies to its member agencies. As a result, some level of shortage could be potentially experienced. When shortages occur, the SDCWA will use carryover storage, dry-year transfers, and additional regional shortage management measures will be taken to ensure adequate supply (VID 2011).

Olivenhain Municipal Water District

Table 3.14-8 shows a comparison between the supply and demand of OMWD water during multiple dry, single dry, and average water years for 2010, 2015, 2020, 2025, and 2030. Water need assumptions are based on currently approved land use and projected future demand as analyzed in the OMWD 2010 UWMP. OMWD anticipates relying on the SDCWA, recycled water, and desalinated water for its water supply in the foreseeable future (OMWD 2010).

**Table 3.14-8
OMWD Projected Water Supply and Demand Comparison 2015-2030 (in AF/Year)**

	2015	2020	2025	2030
Normal Year				
Demand (meeting SB7 targets)	24,318	26,212	27,972	29,986
Supply (meeting SB7 targets)	24,318	26,212	27,972	29,986
<i>Difference</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Single Dry Year				
Demand	24,318	26,212	27,972	29,986
Supply	24,318	26,212	27,972	29,986
<i>Difference</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Multiple Dry Year (3rd Year Supply)				
Demand	28,988	30,335	32,372	34,703
Supply	28,638	31,432	33,392	35,406
<i>Difference</i>	<i>(350)</i>	<i>1,097</i>	<i>1,020</i>	<i>703</i>

If Metropolitan, CWA, and OMWD supplies are developed as planned of SB7 retail conservation target, no shortages are anticipated within OMWD's service area in a normal year or single dry year through 2030. However, some level of shortage could potentially be experienced in the early years primarily because of possible project delays. OMWD also recognizes that some increase in water demands will be due to growth. When shortages occur, the SDCWA will use carryover storage, dry-year transfers, and additional regional shortage management measures will be taken to ensure adequate supply (OMWD 2010).

Rincon del Diablo Municipal Water District

Table 3.14-9 shows a comparison between the supply and demand of Rincon water during multiple dry, single dry, and average water years for 2010, 2015, 2020, 2025, and 2030. Water need assumptions are based on currently approved land use and projected future demand as analyzed in the Rincon 2010 UWMP. Rincon anticipates relying on the SDCWA for all potable water in its water supply in the foreseeable future, and recycled water supplies would continue to be purchased directly from the Hale Avenue Resource Recovery Facility (HARRF) or the Indirect Potable Reuse Project (Water Factory), which will increase Rincon water reliability using recycled water as a source enhancement in the groundwater basin (Rincon 2010).

**Table 3.14-9
Rincon Projected Water Supply and Demand Comparison 2015-2030 (in AF/Year)**

	2015	2020	2025	2030
Normal Year				
Demand	9,669	9,823	10,041	10,263
Supply	9,400	9,600	9,800	10,000
<i>Difference</i>	<i>(269)</i>	<i>(223)</i>	<i>(241)</i>	<i>(263)</i>
Single Dry Year				
Demand	9,669	9,823	10,041	10,263
Supply	9,400	9,600	9,800	10,000
<i>Difference</i>	<i>(269)</i>	<i>(223)</i>	<i>(241)</i>	<i>(263)</i>
Multiple Dry Year (3rd Year Supply)*				
Demand	8,748	8,888	9,085	9,286
Supply	9,400	9,600	9,800	10,000
<i>Difference</i>	<i>652</i>	<i>712</i>	<i>715</i>	<i>714</i>

Note: Projections do not include unaccounted water loss, which is typically 3 percent of water supply.

*Data includes indirect potable water from the Water Factory. Rincon will utilize local supplies as feasible. Shortfalls will be augmented with SDCW imported supplies.

Indirect potable water resulting from the Water Factory should be “drought proof” as it uses recycled water and would offset any shortfall from increased water demands during normal and single-dry years. In addition, Rincon would actively promote a “voluntary 10% reduction in use” message in a single-dry year. Past experience during a single dry year indicates Rincon customers have responded and exceeded voluntary calls for conservation. No shortage of supplies would be anticipated in the Rincon’s service area during a single dry year (Rincon 2010).

For multi-year analysis, the planning assumption is that Metropolitan will be allocating supplies to its member agencies according to its Water Supply Allocation Plan. Under parameters assumed in multi-dry year analysis, and by past experience, some level of shortage could potentially be experienced. When shortages occur, the SDCWA will use carryover storage, dry-year transfers, and additional regional shortage management measures will be taken to ensure adequate supply (Rincon 2010).

Conclusion

The long-term supply of water to the planning area from VWD, VID, OMWD, and Rincon is uncertain. Although all four agencies indicate adequate water supplies based on their UWMPs, water from Metropolitan makes up a substantial portion of their supply. Potential climate change effects, variable hydrology, environmental impacts in the Bay-Delta, and other factors underlie uncertainty regarding Metropolitan’s water supply, which has increased since each water agency prepared its UWMP in 2005. Metropolitan is taking actions (including conservation programs, increasing local storage and groundwater storage, and water transfers) to ensure an adequate supply, and the successful implementation of these long-range actions would reduce the uncertainty surrounding Metropolitan’s supply.

The Land Use and Community Design Element of the proposed General Plan contains policies designed to reduce impacts associated with the construction of new water facilities primarily by limiting the need for additional water supplies. These policies direct the City to work closely with local and regional water providers to ensure high quality water supplies are available for the community, actively promote water conservation programs aimed at reducing demand, and encourage exploration and use of deep underground wells to reduce reliance on potable water. In addition, the City of San Marcos has undertaken voluntary measures to significantly reduce water use. Agreements to purchase water from the future Carlsbad desalination plant would further reduce demand for new fresh water sources.

Actions described in the proposed General Plan, Metropolitan's IRP, and the districts' water management plans present a range of activities being undertaken by multiple agencies to ensure reliable water supplies that meet the future needs of the planning area.

Although implementation of proposed General Plan policies would result in water conservation and the requirement for new developments to provide proof of adequate water supply, and the districts are taking action to improve supply, uncertainty surrounding future water supply to the planning area and southern California as a whole results in a **significant** water supply impact. Mitigation is required.

Alternative Water Source Options

Because long-term water supply is considered uncertain, the California Supreme Court's decision in *Vineyard Area Citizens for Responsible Growth v. City of Rancho Cordova* (the *Vineyard Case*) requires an explanation of how long-term demand for adequate water supplies is likely to be met with other water source options. The following section describes other water source options, potential environmental impacts of exploiting those options, and how such impacts would be mitigated. Other water source options that may be available to offset potential uncertainty of long-term water supply to the southern California region are described. Potential impacts of other water source options identified in the following discussion and the mitigation for those potential impacts do not represent direct impacts of, or necessary mitigation for, the proposed General Plan. Rather, they are provided in accordance with guidance under the California Supreme Court decision in the *Vineyard Case*.

Desalination of Seawater

Carlsbad Desalination Project

Development of seawater desalination in San Diego County will assist the region in diversifying its water resources, reduce dependence on imported supplies, and provide a new drought-proof, locally treated water supply. The Carlsbad Desalination Project (CDP) is a fully-permitted seawater desalination plant and conveyance pipeline currently being developed by Poseidon, a private investor-owned company that develops water and wastewater infrastructure. The CDP, located at the Encina Power Station in Carlsbad, has been in development since 1998. The CDP has obtained all required permits and environmental clearances and, when completed, will provide a highly reliable local supply of 56,000 AF/YR for the region. The CDP is expected to be completed and online by early 2016. Once the CDP is fully

operational, it will supply an estimated 56,000 AF/year (VID 2011). The CDP is considered a verifiable SDCWA supply (SDCWA 2011).

MCB Camp Pendleton Seawater Desalination Project

The SDCWA, in collaboration with Marine Corp Base (MCB) Camp Pendleton, is studying the potential for a 50 to 150 million gallon per day (MGD) seawater desalination project on Camp Pendleton. Technical studies are expected to be underway in early 2011 and be completed by the end of 2012. The earliest on-line date of a potential Camp Pendleton desalination project is 2020. The Camp Pendleton desalination project is considered an additional planned project and is utilized in the SDCWA's scenario planning as a potential strategy to manage future uncertainty planning scenarios (VID 2011).

Rosarito Beach Bi-National Desalination Plant

The SDCWA is participating with U.S. and Mexican agencies in a bi-national review of potential water management and water supply programs that could benefit Colorado River water users of both countries. As part of this effort, a bi-national workgroup formed to study potential new water supplies recommended the evaluation and preliminary design of an initial 25 MGD (expandable to 50 MGD) seawater desalination plant that would be located at Rosarito Beach in Baja California, Mexico. U.S. water agencies, including the SDCWA, Metropolitan, Southern Nevada Water Authority, and the Central Arizona Water Conservation District, have collaborated to fund a feasibility evaluation and preliminary design of the plant (VID 2011).

Expansion of Water Reclamation Facilities

In the 1990s, the United States Bureau of Reclamation, in cooperation with Metropolitan, the California Department of Water Resources, and six other Southern California water agencies, studied the feasibility of regional water reclamation projects in Southern California. This study identified 34 potential regional projects within Metropolitan's service area with an estimated yield of 450 thousand acre-feet (TAF) per year. Metropolitan and its member agencies continue to explore these and other projects and develop updated plans on a regular basis. Metropolitan has identified a potential for more than 1.0 million acre-feet (MAF) of recycled water to be developed by 2050. The majority of these projects are currently in conceptual planning phases (Metropolitan 2010).

The recycled water yield in 2010 was 27,931 AF/YR for SDCWA, and is projected to increase in future years to 48,278 AF/YR by 2030, primarily from the expansion of existing facilities. OMWD will be expanding its use of recycled water from its connection with the City of San Diego's North City Water Reclamation Plant to 800 AF/YR of recycled water for customers within OWMD's Southeast Quadrant, which encompasses 4S Ranch, Santa Fe Valley, and the Rancho Santa Fe/Fairbanks Ranch area. OMWD's connection from the VWD's Meadowlark Water Recycling Facility will ultimately provide approximately 1,000 AF/YR of recycled water to OWMD customers. There are also numerous other planned recycled water projects throughout the region to come online in future years, including MCB Camp Pendleton's expanded production and use of recycled water (SDCWA 2011).

Potential Environmental Impacts

Both construction and operation-related environmental impacts associated with a desalination plant and/or the expansion of reclaimed (recycled) water distribution system would be determined by future environmental analysis on a project-by-project basis and appropriate mitigation measures would also be identified to reduce any significant environmental impacts at the time the project is proposed. However, in an effort to supply a general overview of the potential environmental impacts associated with the construction and operation of these types of projects, relevant projects in close proximity to the planning area were examined for general environmental impacts as well as typical mitigation for those impacts.

Those projects are:

- Poseidon Resources – Final EIR for the Carlsbad Desalination Project dated 2005.
- SDCWA – Camp Pendleton Water Desalination Feasibility Study Final Report dated 2009.

These projects serves as reasonable examples for the general types of potential environmental impacts and potential mitigation measures that can be expected for these types of projects in the San Diego region. The environmental issues surrounding these types of projects have similarities and are therefore summarized in Table 3.14-10. While the information included in Table 3.14-10 has been gathered from the documents mentioned above, this discussion is meant to be general in nature and does not directly apply to any other specific desalination project, reclaimed water expansion project, or the proposed General Plan.

**Table 3.14-10
Potential Environmental Impacts Associated with Desalination Projects***

Environmental Issue Area	Potential Impact	Possible Mitigation
Aesthetic/Visual Impact on Landscape	Construction activities may alter scenic views. Addition of new visual features that may block views and cause additional sources of light and glare.	Project applicant shall implement short-term construction equipment staging areas with appropriate screening; provide a vegetative buffer around facility; install fencing that is complimentary with surrounding environment; shield exterior light sources away from adjoining uses.
Air Quality	The following may occur: temporary construction air quality impacts; emission of toxic air contaminants; and conflict with local Air Quality Management Plan.	Project applicant shall comply with applicable federal, state, and local air quality guidelines.
Biological Resources	Construction and operation activities may impact terrestrial and marine biological resources.	Project applicant shall comply with applicable federal, state, and local regulatory agencies to ensure proper safeguards are in place protecting all sensitive biological resources before, during, and after construction.

**Table 3.14-10
Potential Environmental Impacts Associated with Desalination Projects***

Environmental Issue Area	Potential Impact	Possible Mitigation
Cultural Resources	Construction and operation activities may potentially disturb undiscovered archeological and paleontological resources.	Project applicant shall perform pre-construction surveys; require a professional archeologist and/or paleontologist on site during construction; flag and monitor Areas of Potential Effect (APE).
Geology and Soils	Seismic-related hazards including earthquakes; Geologic related hazards including landslides and liquefaction, soil and topsoil erosion, and water and wind erosion	Project applicant shall comply with standards set forth in the Uniform Building Code (most current edition) to assume seismic safety. A detailed site-specific geotechnical study must be prepared. Compliance with the recommendations set forth in site-specific geologic and/or geotechnical studies will be made a condition of the site development permit for subsequent projects.
Global Climate Change	Project may increase the emission of greenhouse gases.	Project shall implement and comply with all state and local initiatives to reduce the emission of greenhouse gases.
Hazards and Hazardous Materials	Project may create hazards due to the storage, transportation, and/or handling of hazardous materials, thereby increasing the risk of exposure to hazards and hazardous materials.	All hazardous materials shall be handled, and stored, transported, and disposed in accordance with all applicable federal, state, and local codes and regulations.
Hydrology and Water Quality	Stormwater runoff and flooding may occur.	Project applicant shall have a Water Quality Management Plan specifically identifying best management practices. The project applicant shall demonstrate compliance with all applicable regulations established by the U.S. Environmental Protection Agency as set forth in the National Pollutant Discharge Elimination System permit requirements for urban runoff and stormwater discharge and any regulations adopted by the jurisdiction within which construction will take place; appropriate hydrology and hydraulic analysis shall be performed for the project prior to grading or building permits; and appropriate onsite drainage systems shall be installed.
Noise	Construction and operation may cause impacts to nearby sensitive receptors.	Project applicant shall prepare acoustical analysis reports and appropriate construction plans, and all stationary equipment shall be designed to comply with the appropriate noise standards set by the jurisdiction in which the project is located.
Public Services and Utilities	Increased solid waste production may occur.	Project must be in compliance with the appropriate waste reduction and recycling regulations; project must be in compliance with Assembly Bill 939.
Traffic and Circulation	Short-term project construction could potentially impact traffic.	Prior to improvement plan approval, a traffic control plan will be prepared for approval by each jurisdiction within which the project is proposed to be located; the traffic control plan will show all signage and striping, and delineate detours, flagging operations, and any other devices that will be used during construction to guide motorists

**Table 3.14-10
Potential Environmental Impacts Associated with Desalination Projects***

Environmental Issue Area	Potential Impact	Possible Mitigation
		safely through the construction zone and allow for adequate access and circulation, to the satisfaction of the jurisdiction or agency.

Source: AECOM 2010

Wastewater Capacity

Implementation of the proposed General Plan would result in future residential, commercial, and industrial land uses in the planning area, resulting in additional population. The additional population would generate additional wastewater and, therefore, additional demand wastewater collection, conveyance, and treatment services over current levels.

Wastewater services for the majority of the planning area are provided by VWD. The average daily flow is approximately 6.7 MGD or approximately 64% of the facility's current treatment capacity of 10.5 MGD (VWD 2010c). As shown in Table 3.14-11, the Vallecitos Water District Master Plan projects that wastewater generation from land uses consistent with the proposed General Plan (including both existing uses as of 2007 and future uses consistent with the proposed General Plan) would be on average 12.5 MGD in 2030. This level of wastewater generation would exceed the district's current treatment capacity of and additional capacity would need to be developed.

**Table 3.14-11
Existing and Projected Wastewater Flows - Existing and 2030**

Year	Average Annual Flows (MGD)	Peak Dry Weather Flows (MGD)	Peak Wet Weather Flows (MGD)
Existing (2007)	6.7	10.7	15.8
2030	12.5	17.9	27.9

Source: Vallecitos Water District Master Plan, Chapter 7, Table 7-9, November 2010

Current regulations require compliance with water quality standards and these mitigation measures would preclude development lacking adequate utility capacity, including wastewater treatment capacity. Individual developments would be reviewed by the City and the applicable wastewater providers to determine that sufficient sewer capacity exists to serve the specific development. The City must continue to coordinate with the water district to make sure that new development does not exceed the capacity of wastewater conveyance and treatment facilities, and that new development pays its fair share to increase capacity of those facilities. Implementation of these requirements would ensure that new wastewater facilities are constructed to meet performance standards and allow for future maintenance to occur.

VWD plans wastewater collection system and treatment system expansions and upgrades to meet future demand. VWD's collection system Capital Improvement Program (CIP) includes short and medium term improvement priorities. Following adoption of the proposed General Plan, future updates to the CIP for collection systems and planning for wastewater treatment plant expansion will consider future land uses anticipated by the proposed General Plan. Future uses consistent with the proposed General Plan will contribute to the need for (and the environmental impacts of) these improvements, as well as improvements and expansions of new wastewater treatment infrastructure. To the extent that these improvements occur within the planning area, they are addressed at a program-level in this EIR.

The Land Use and Community Design Element of the proposed General Plan contains policies aimed at reducing the impacts on wastewater quality standards and wastewater facilities. These policies direct the City to work closely with local service providers to ensure an adequate wastewater system for existing and future development is in place, and ensure development approval is related to commitments for the construction of primary water, wastewater, and circulation systems.

Although these policies illustrate the City's intent to maintain adequate wastewater facilities, they do not require specific actions related to provision of these facilities, and therefore it is possible that new development associated with the proposed General Plan could result in a **significant impact** to the City's wastewater treatment systems; mitigation is required.

Solid Waste

Landfill Capacity

Solid waste generated within the planning is transported to and disposed of at the Sycamore Sanitary Landfill located in Santee, CA by a private franchise hauler, EDCO Waste and Recycling (EDCO). The Sycamore Sanitary Landfill had a total remaining capacity of approximately 47.4 million tons as of October 2011, or approximately 98.5% of its total permitted capacity of 48.1 million tons. Annually, about 79,711 tons of the City of San Marcos's solid waste is landfilled here, accounting for approximately 0.2% of total remaining capacity. The Sycamore Sanitary Landfill is expected to remain open until approximately 2031, beyond the build out horizon of the proposed General Plan.

Future land uses consistent with the proposed General Plan would result in additional businesses, houses, schools, and industries, which would contribute to increased solid waste generation within the planning area. Proposed General Plan policies are designed to reduce impacts to solid waste facilities. Policy COS-10.1 directs the City to promote the curbside recycling program to divert residential refuse from the landfills. Policy COS-10.2 requires the City to enforce programs requiring recycling and reuse of construction and demolition materials that divert solid waste from area landfills. Policy COS-10.3 directs the City to encourage the use of reusable and recyclable goods through incentives, educational programs, and City purchasing policies and practices. With implementation of the proposed General Plan, this would be a **less than significant** impact.

Compliance with Solid Waste Regulations

The California Integrated Waste Management Act of 1989 (AB 939) requires that local governments to divert 50 percent of their community's solid waste. The 2006 diversion rate (latest available data) for the City was 57 percent of its solid waste. In 2009 (the latest available data), the Annual Per Capita Disposal Rate for the City of San Marcos was estimated to be 5.3 pounds per person per day for residents and 13.2 pound per person per day for employees. Both figures are below the target amounts of 8.9 pounds per person per day for residents and 19.0 pounds per person per day for employees (CalRecycle 2011b). With continued implementation of existing programs, this would be a **less than significant** impact.

Stormwater Drainage Facilities

Implementation of the proposed General Plan would result in future land uses that would generate increased stormwater volumes in portions of the planning area. Increased flows would in turn create a need for new infrastructure in growth areas, to accommodate infiltration of stormwater or to convey stormwater to detention basins to prevent flooding.

The City of San Marcos Stormwater Standards Manual lists the permanent stormwater best management practices and the maintenance requirements that apply to new development within the planning area. While constructing new stormwater infrastructure could have adverse effects on the physical environment, the required improvements would occur within rights-of-way and other already disturbed areas within the development footprint envisioned within the proposed General Plan. Thus, direct and indirect construction and operational impacts of these facilities are considered in the program-level analysis in this EIR. Therefore, this impact is considered **less than significant**.

Energy

Future land uses consistent with the proposes General Plan would increase energy consumption in the planning area, requiring that additional energy resources be delivered to residents and businesses by San Diego Gas and Electric (SDG&E). SDG&E will need to consider the future generation of electricity and provision of natural gas with careful consideration of the anticipated peak usage within their service areas. Future projects proposed consistent with the proposed General Plan would be required to complete an environmental review process which would assess whether SDG&E can accommodate the energy needs of that project. In addition, future development would be required to comply with the current energy performance standards found in Title 24 as well as proposed General Plan energy conservation policies and actions. Policy COS-4.5 directs the City to encourage energy conservation and the use of alternative energy sources within the community. Policy COS-4.6 directs the City to promote efficient use of energy and conservation of available resources in the design, construction, maintenance and operation of public and private facilities, infrastructure and equipment. Policy COS-4.7 requires City facilities and services to incorporate energy and resource conservation standards and practices as they are constructed or upgraded. Policy COS-4.8 directs the City to encourage and support the generation, transmission and use of renewable energy.

Future land uses consistent with the proposed General Plan would increase the population and employment in the planning area, with corresponding increase to the demand for energy resources above current consumption demands. However, despite the overall increase in demand for energy, the State's current and future energy code and the proposed General Plan policies will ensure energy efficient designs in new development and encourage energy efficiency upgrades in existing development, both of which would minimize wasteful, inefficient energy consumption. With implementation of the proposed General Plan, this would be a **less than significant** impact.

3.14.5 MITIGATION MEASURES

Implementation of the San Marcos General Plan would result in significant impacts related to public services and utilities. The following mitigation measures are general and programmatic in nature, and would be refined in project-specific CEQA documents. Implementation of the following programmatic mitigation measures will reduce potential impacts to a less than significant level at this Program EIR level of analysis.

Fire Protection and Emergency Services

Implementation of the proposed General Plan would result in **less than significant** impacts. No mitigation is required.

Police Protection

Implementation of the proposed General Plan would result in **less than significant** impacts. No mitigation is required.

Schools

Implementation of the proposed General Plan would result in **less than significant** impacts. No mitigation is required.

Libraries

Implementation of the proposed General Plan would result in **less than significant** impacts. No mitigation is required.

Water

Water Infrastructure

- PSU-1 Require wastewater to be recycled and used for irrigation of open space and recreational areas to the extent possible. (Implementation Program LU-8.7)
- PSU-2 Update existing fee programs, and revise as needed, to ensure adequate funding is available to provide infrastructure improvements and community facilities for new development.

Amend appropriate codes to require new projects to pay for the infrastructure and services they necessitate, including through private financing or grants. Affordable housing developments that meet specified criteria may warrant full or partial fee reductions. (Implementation Program LU-7.2)

- PSU-3 Consider water-based services that reduce demand and draw on alternative supplies to be equivalent to new supplies. Water-based services include the application of state-of-the-art technology and practices; matching water quality to its end use; and financing local wastewater reuse in the same manner in which centralized water supply options are financed. (Implementation Program LU-8.6)

Water Supply

See PSU-1 and PSU-3 above.

- PSU-4 Review development and redevelopment proposals and require necessary studies, as appropriate, water conservation, and mitigation measures to ensure adequate water and wastewater service. (Implementation Program LU-8.5)

Wastewater Capacity

See PSU-4 above.

- PSU-5 The City shall require new development to demonstrate adequate utility capacity and provide necessary facilities prior to approval.
- PSU-6 The City shall require new development to install sufficient sewer facilities to meet wastewater collection agency performance standards.
- PSU-7 The City shall require new development to pay its fair share for wastewater infrastructure improvements.

Solid Waste

Implementation of the proposed General Plan would result in **less than significant** impacts. No mitigation is required.

Stormwater Drainage Facilities

Implementation of the proposed General Plan would result in **less than significant** impacts. No mitigation is required.

Energy

Implementation of the proposed General Plan would result in **less than significant** impacts. No mitigation is required.

3.14.6 SIGNIFICANCE AFTER MITIGATION

Fire Protection and Emergency Services

Impacts associated with fire protection and emergency services would be **less than significant** without mitigation.

Police Protection

Impacts associated with police protection would be **less than significant** without mitigation.

Schools

Impacts associated with schools would be **less than significant** without mitigation.

Libraries

Impacts associated with libraries would be **less than significant** without mitigation.

Water Infrastructure

Mitigation Measures PSU-1, PSU-2 and PSU-3 are proposed to address this impact. Mitigation Measure PSU-1 directs the City to require wastewater to be recycled and used for irrigation of open space and recreational areas to the extent possible. Mitigation Measure PSU-2 directs the City to update existing fee programs, and revise as needed, to ensure adequate funding is available to provide infrastructure improvements and community facilities for new development. Mitigation Measure PSU-3 directs the City to consider water-based services that reduce demand and draw on alternative supplies to be equivalent to new supplies. Water-based services include the application of state-of-the-art technology and practices; matching water quality to its end use; and financing local wastewater reuse in the same manner in which centralized water supply options are financed.

Constructing new water infrastructure could have adverse effects on the physical environment. However, required improvements would occur within rights-of-way and other already disturbed areas within the development footprint envisioned within the proposed General Plan. Implementation of Mitigation Measures PSU-1, PSU-2 and PSU-3 would support the policies of the proposed General Plan ensure that new water facilities are constructed to meet water providers' performance standards. Therefore, this impact would be reduced to a **less than significant** level.

Water Supply

Mitigation Measures PSU-1, PSU-3 and PSU-4 are proposed to address this impact. Mitigation Measure PSU-1 and PSU-3 are discussed with Water Infrastructure above. Mitigation Measure PSU-4 directs the City to review development and redevelopment proposals and require necessary studies, as appropriate, water conservation, and mitigation measures to ensure adequate water and wastewater service. Furthermore, Mitigation Measure PSU-3 would preclude the approval of development in the future which could not be supplied with an adequate amount of water. No additional program level mitigation measures beyond these actions would be feasible.

Implementation of Mitigation Measures PSU-1, PSU-3 and PSU-4, in conjunction with existing City use reductions, future desalinization purchase agreements, and the policies of the proposed General Plan, the water supply impact at this program level EIR would be reduced to **less than significant** level.

Wastewater Capacity

Mitigation Measure PSU-4, PSU-5, PSU-6, and PSU-7 are proposed to address this impact. Mitigation Measure PSU-4 is discussed as part of Water Supply above. Mitigation Measure PSU-5 requires new development to demonstrate adequate utility capacity. Mitigation Measure PSU-6 requires installation of sufficient sewer facilities for all new development. Mitigation Measure PSU-7 requires new development to pay its fair share for wastewater infrastructure improvements.

Although the wastewater conveyance and treatment facilities needed to serve the proposed General Plan are not yet constructed, the mitigation measures described here, would require that future projects implementing the proposed General Plan provide and/or fund wastewater facilities. Implementing these policies would prevent development from moving forward in the absence of adequate wastewater collection and treatment capacity. Implementation of these measures would prevent the construction of new residential units or non-residential uses which could not be provided with adequate wastewater conveyance and treatment. Implementation of Mitigation Measures PSU-4, PSU-5, PSU-6, and PSU-7, in conjunction with the policies of the proposed General Plan, would reduce this impact to a level **less than significant**.

Landfill Capacity

Impacts associated with landfill capacity would be **less than significant** without mitigation.

Compliance with Solid Waste Regulations

Impacts associated with compliance with solid waste regulations would be **less than significant** without mitigation.

Stormwater Drainage Facilities

Impacts associated with stormwater drainage facilities would be **less than significant** without mitigation.

Energy

Impacts associated with energy would be **less than significant** without mitigation.