4.14 UTILITIES AND SERVICE SYSTEMS

This section evaluates the effects of the proposed project on utilities and service systems by identifying the anticipated demand for utilities, as well as existing and planned utility availability. For purposes of this EIR, utilities include water supply, wastewater conveyance and treatment, and solid waste collection and disposal. In addition, although not identified in the Initial Study/Notice of Preparation (IS/NOP) prepared for the project, this section also analyzes electricity and natural gas utilities. Stormwater drainage facilities are discussed in Section 4.7 (Hydrology and Water Quality) of this report.

Data used to prepare this section were taken from the *Water Supply Assessment for the Beach-Edinger Corridors Specific Plan* (WSA [Appendix G]), the *Beach and Edinger Corridors Specific Plan Sewer Analysis Report* (PBS&J 2009a [Appendix H]), as well as contacts with utility providers and City staff. Full bibliographic entries for all reference materials are provided in Section 4.14.14 (References) at the end of this section.

Unlike other EIR issue areas, the increase in usage for each utility is most accurately estimated through the difference between existing land uses versus proposed land uses (net growth) that could occur under the Specific Plan. Impacts associated with water supply and sewer generation are particularly important to estimate as accurately as possible. Separate technical reports (WSA and Sewer Study) were prepared for these issue areas in concert with City staff to ensure that impacts are based upon correct assumptions regarding net growth. Data for net land uses may vary among the different utility and service systems. The WSA and the Sewer Study each identify the methodology used in calculating net increases in land uses for the proposed project. The estimates of sewer flow are slightly higher than the estimates of water demand. Duty factors used for sewer generation rates were more conservative because they were prepared for sizing the conveyance system and for designing facilities. Actual wastewater generation for the specific plan would be closer to estimates of water demand. For solid waste and energy, the net growth was extrapolated from the Traffic Study prepared for the proposed project (Appendix F1 [Traffic Study]). Hence, these data also match those presented in Section 4.15 (Climate Change).

All comments received in response to the Initial Study/Notice of Preparation (IS/NOP) circulated for the proposed project were taken into consideration during preparation of this EIR, and if relevant, have been addressed in this section or others within this document.

Water Supply

4.14.1 Environmental Setting

The information presented herein is summarized from the WSA prepared for the proposed Specific Plan.

Potable Water

The City of Huntington Beach is the principal water retailer within the City boundaries and the Sunset Beach area of unincorporated Orange County. The water service area includes the Beach-Edinger Corridors Specific Plan area. The Huntington Beach Public Works Department (Public Works) is

responsible for operating and maintaining wells, reservoirs, imported water connections, distribution pipelines, fire hydrants, water meters, and related infrastructure. In addition, Public Works also conducts comprehensive water quality testing and monitoring programs and develops long-range operational and engineering plans designed to prepare for future needs and contingencies. Figure 4.14-1 (Water Service Area) shows the City limits and service areas.

The City of Huntington Beach is 56.1 percent owner and acts as General Manager/Engineer for the West Orange County Water Board (WOCWB). The WOCWB is a joint powers agreement between the cities of Huntington Beach, Garden Grove, Westminster, and Seal Beach for the ownership and operation of two large capacity turnouts (OC-9 and OC-35) connected to the imported water system.

Water Sources and Supplies

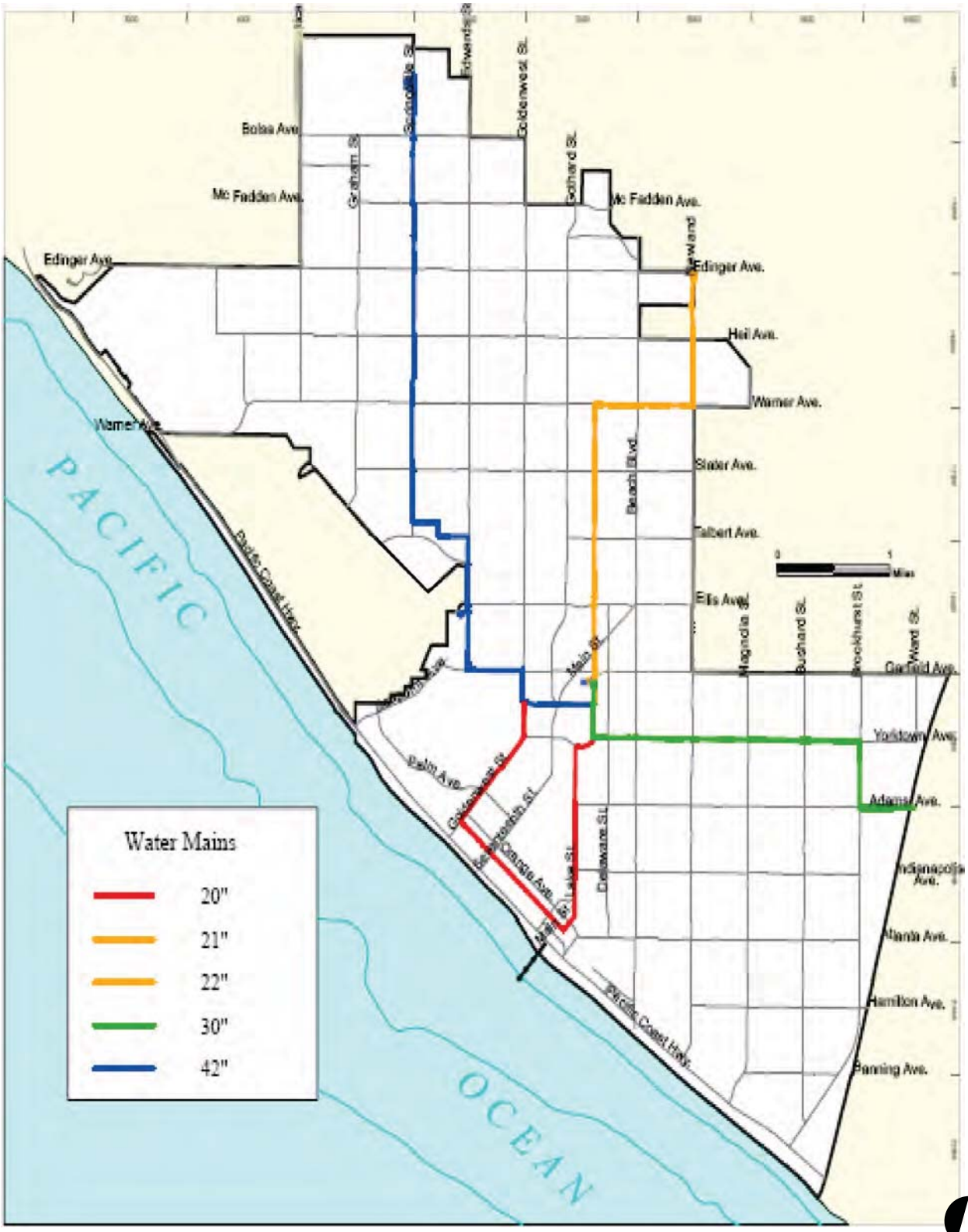
The City's drinking water is a blend of surface water imported by the Metropolitan Water District of Southern California (Metropolitan) via its member agency Metropolitan Water District of Orange County (MWDOC), and groundwater pumped from the Santa Ana River basin.

Metropolitan's imported water sources are from the Colorado River Aqueduct (CRA) and the State Water Project (SWP), which draws water from the San Francisco-San Joaquin Bay Delta via the California Aqueduct. The amount of water delivered to the City by MWDOC currently accounts for about one-third of the total water used in the City. The City maintains three imported water connections with Metropolitan. As stated above, two connections are operated under the WOCWB joint powers agreement and the third is controlled solely by the City. One connection (OC 9) enters Huntington Beach at Newland Street and Edinger Avenue, and has the capacity to deliver 6,300 gpm into the water system. The second connection (OC 35) is located at Springdale Street and Glenwood Drive with a capacity of 9,000 gpm. The third connection (OC 44) enters Huntington Beach at the Santa Ana River and Adams Avenue with a capacity of 6,700 gpm.

Groundwater comes from a natural underground reservoir managed by the Orange County Water District (OCWD) that stretches from the Prado Dam and fans across the northwestern portion of Orange County, excluding the communities of Brea and La Habra, and as far south as the El Toro "Y". In general, approximately two-thirds of the City's water supply comes from groundwater wells accessing the Orange County Basin. OCWD's allowable Basin Pumping Percentage (BPP) establishes the annual pumping percentage per OCWD member and may vary annually. Within the City, groundwater for potable use is produced from ten operating wells that vary in depth from 306 feet to 996 feet, with production ranging from 500 gallons per minute (gpm) to 3,400 gpm. Total capacity of the ten wells is 25,050 gpm (Huntington Beach 2005c).

Current Conditions

California is currently facing a significant water crisis. After experiencing two years of drought and the driest spring on record (2008), water reserves are low. With the Sacramento-San Joaquin Delta ecosystem



Source:City of Huntington Beach 2005 Urban Water Management Plan; Edited by PBS&J, 2008.

FIGURE **4.14-1**

Water Service Area

waning, recent court-ordered restrictions on water deliveries from the Delta have forced the Department of Water Resources (DWR) to restrict pumping in the Delta to protect the threatened delta smelt, thereby reducing the amount of water available to Metropolitan and other SWP contractors by 20 to 30 percent. Drought conditions in the Colorado River Basin and a Sierra snow-pack that is more unreliable due to global climate variation are leaving many communities throughout California facing mandatory restrictions on water use and/or rising water bills. In June 2008, the Governor issued Executive Order S-06-08 declaring a statewide drought, which directed state agencies and departments to take immediate action to address drought conditions and water delivery reductions that exist in California.

Due to drought conditions and uncertainty regarding future pumping operations from the SWP, Metropolitan has worked with member agencies to put together a Water Supply Allocation Plan (Met WSAP). The plan allocates water to members based on the Regional Shortage Level experienced in Metropolitan's service area; higher regional shortages result in larger supply cutbacks. Metropolitan's service area is shown in Figure 4.14-2 (Metropolitan Water District of Southern California Water Service Area).

Supply Considerations

The WSA for the proposed Specific Plan was prepared during a very unique period in California's water history. Water year 2007 was a dry year throughout California, with parts of Southern California setting new records for minimum annual precipitation (California DWR 2009). As previously stated, statewide water supplies are currently limited by below-normal precipitation in much of the State, nine dry years in the Colorado River Basin, and SWP currently having pumping restrictions. These circumstances continue to threaten statewide water supplies; however, the statewide supply situation is subject to change and precipitation could return to normal or above-normal in the near-term and then extend over many years. This assumes that precipitation history will repeat itself and cyclical wet hydrologic periods return. In addition, forthcoming case law or new pumping technology could lift the SWP pumping restrictions; thereby, returning the system to firm delivery capacity. Therefore, for comparison purposes normal "Base Year" supply, "WSAP Year" supply, and various demand scenario comparisons will be presented in this analysis.

Metropolitan Water Supply Planning

For future years in which Metropolitan's supplies are insufficient to meet firm demands, imported supplies to MWDOC will be managed in accordance with the Met WSAP. Because the City is not a direct Metropolitan member, the effects of the Met WSAP on MWDOC and its subsequent supply actions as it relates to member agencies follows later in this section. The plan includes sample calculations for determining a particular member agency's allocation, as well as estimated retail and wholesale reliability for member agencies based on a given percent reduction in total supply (shortage percentage).

On February 12, 2008, the Metropolitan Board of Directors officially adopted the Met WSAP. The Met WSAP includes estimated retail and wholesale reliability for member agencies based on shortage

percentage. The shortage percentages, which correspond to designated shortage levels outlined in the plan, cover 5 percent increments from 5 to 50 percent. Under each shortage level, there are specific wholesale minimum allocations for each member agency. The Met WSAP also includes graphs and tables showing an estimate of the wholesale minimum allocations for each of the member agencies in a Level 2 Regional Shortage (10 percent), Level 4 Regional Shortage (20 percent), and in a Level 6 Regional Shortage (40 percent). Table 4.14-1 (Wholesale Reliability for Imported Supplies within the Basin [AFY]) shows the level of regional shortage by percentage for the MWDOC basin.

Table 4.14-1 Wholesale Reliability for Imported Supplies within the Basin (AFY)

Shortage Percentage (Regional Shortage)	*Level 2 Regional Shortage 10%*	*Level 4 Regional Shortage 20%*	*Level 6 Regional Shortage 40%*
MWDOC (in basin)	94.9%	89.2%	78.3%

SOURCE: Metropolitan Water District of Southern California. Board of Directors, Water Planning and Stewardship Committee. February 12, 2008 Board Meeting. *Attachment* 2. *Values shown are for the proposed formula*.

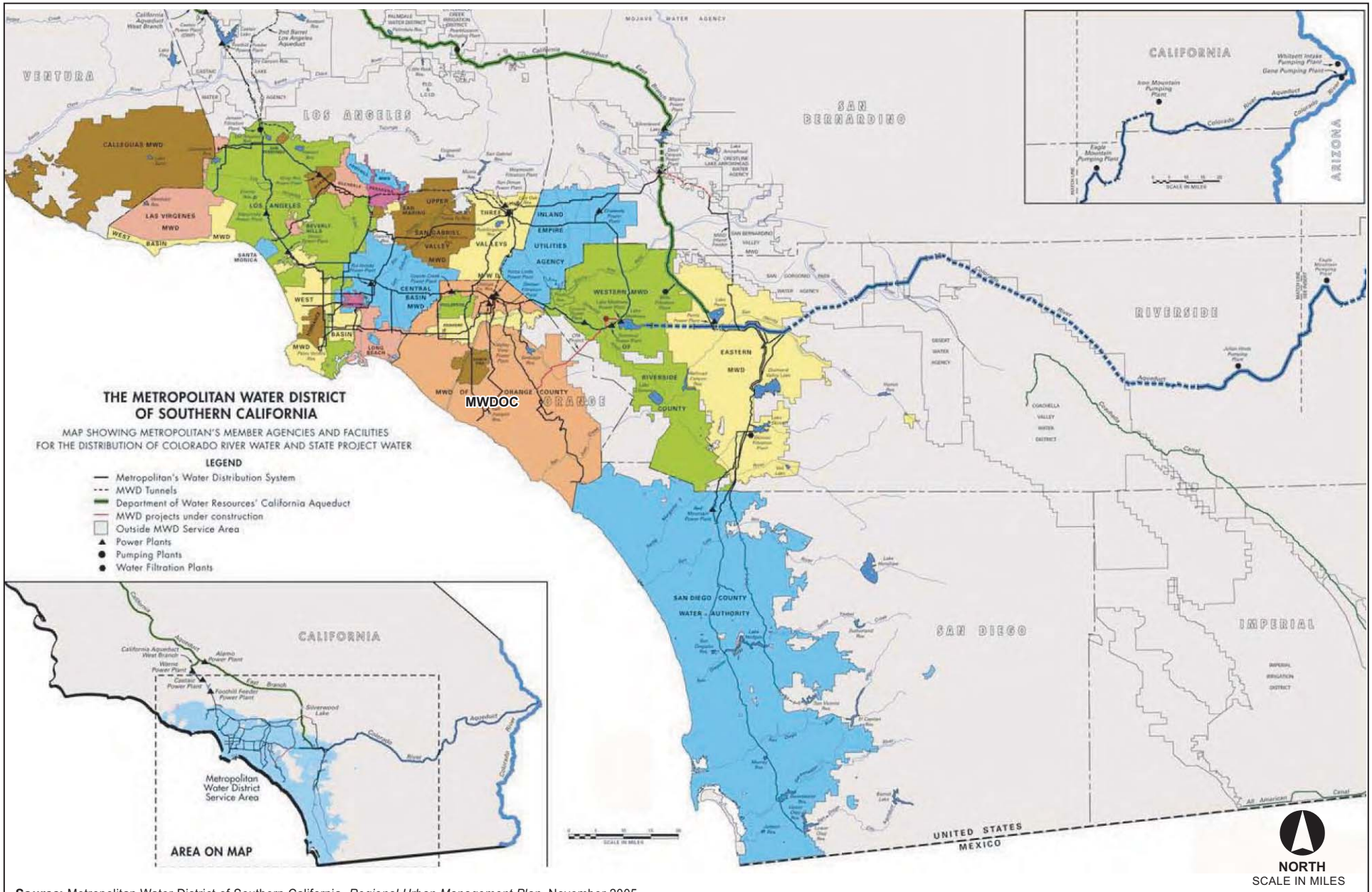
Recent Activity

The Metropolitan Board of Directors approved the implementation of Metropolitan's Met WSAP at a Level 2 on April 14, 2009. This action was taken in order to manage demands through the period of July 1, 2009, through June 30, 2010, given the limited supplies available in the current calendar year, including limiting withdrawals of storage in order to maintain reasonable reserve levels.

Metropolitan's monthly report provides updates for regional water supply and demand conditions and potential actions under the Water Surplus and Drought Management Plan (WSDM Plan). The WSDM Plan provides the overall strategy for managing Metropolitan's resources to meet the range of estimated demands for the current calendar year. This report considers conditions as of May 21, 2009.[49] The May 2009 WSDM Report can be found in Appendix G(d).

The WSDM Plan calculates reliable supply capacity for the current and next calendar years, which includes the supplies in Metropolitan's Five Year Supply Plan Resource Option. Based on these estimates, Metropolitan determines its supplies in the region that are currently available to meet customer demands. The WSA prepared for the proposed project assumed that based on the Delta pumping limitations and year three of a statewide drought, the water supply situation will not change radically over the next twenty years. With this understanding, for conservative water supply planning purposes, supplies are held constant per allocation over this same period. Table 4.14-2 (New Metropolitan Supply and Allocation CY 2009 with Five-Year Supply Plan Resource Option [MAF]) shows the supplies available to Metropolitan beginning 2010 and extending annually to 2015 and out to 2030.

[49] Water Surplus and Drought Management Plan on water supply and demand as of May 21, 2009.



***Source*:** Metropolitan Water District of Southern California, *Regional Urban Management Plan*, November 2005.

FIGURE **4.14-2**

Metropolitan Water District of Southern California Water Service Area

Table 4.14-2 New Metropolitan Supply and Allocation CY 2009 with Five-Year Supply Plan Resource Option (MAF)										
Year	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	*2015*	*2020*	*2025*	*2030*
CRA[a]	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
SWP[b]	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Total	***2.01***	***2.01***	***2.01***	***2.01***	***2.01***	***2.01***	***2.01***	***2.01***	***2.01***	***2.01***

SOURCE: Metropolitan, Water Surplus and Drought Management Plan Report, May 2009 (Appendix G[d])
The numbers in this table don't add up due to original rounding.MAF = million acre-feet
CY = calendar year
a. *Metropolitan Water Surplus and Drought Mgt Plan*, 5/ 21/2009, Attachment 1 Table CY 2009 Projected CRA & SWP Supplies, p. 1.
b. *Metropolitan Water Surplus and Drought Mgt Plan*, 5/ 21/2009, Attachment 1 Table CY 2009 Projected CRA & SWP Supplies, p. 2.

MWDOC's Water Supply Planning

MWDOC was formed for the purpose of contracting with Metropolitan to acquire supplemental imported water supplies from northern California and the Colorado River for use within Orange County. MWDOC is a regional water wholesaler and resource planning agency, managing all of Orange County's imported water supply with the exception of water imported to the cities of Anaheim, Fullerton, and Santa Ana. MWDOC serves more than 2.3 million residents in a 600-square-mile service area and is Metropolitan's third largest member agency. Its service area and member agencies are shown in Figure 4.14-2. It is through MWDOC that the City of Huntington Beach purchases imported water from Metropolitan.

Direct-use water (water directly piped from treatment facilities or wells to homes and commercial and institutional buildings, as opposed to indirect use, which is water needed to replenish groundwater storage and to serve as a barrier against saltwater intrusion) in MWDOC's service area comes from both local and imported supplies. Local supplies developed by individual member agencies, primarily groundwater, presently account for about 50 percent of MWDOC's direct water use. Other local supplies include recycled wastewater and surface water. The remaining 50 percent of direct water use demand is met by imported water from Metropolitan.

Recent Activity and WSAP

For the past year, MWDOC staff has nearly completed its work on the development of MWDOC's WSAP, in response to the actions under Metropolitan's Met WSAP (refer to Appendix G[e]). Through MWDOC Board's recommended policy principles, member agency technical workshops, and MWDOC Committee meetings, staff developed a plan to allocate imported water in a fair and equitable manner to all of its 28 member agencies within its service area.[50]

As of spring 2009, MWDOC's Board of Directors voted unanimously for implementation of MWDOC's WSAP. In conjunction with the WSAP, the MWDOC Board officially declared a regional water shortage.

[50] Resolution Adopting MWDOC Supply Allocation Plan, February 6, 2009, page 2.

The WSAP is being implemented at Stage 2—a 10 percent reduction in available imported water supply—and will be effective July 1, 2009, through June 30, 2010. MWDOC's Board took action as a result of Metropolitan's Board of Directors calling for a Stage 2, or 10 percent reduction, on April 14, 2009.[51] The WSAP uses the water supply data provided via imported supplies from Metropolitan conveyed to MWDOC and groundwater supplies managed by OCWD. MWDOC determined the supplies that will be available to each retailer in its service area.

OCWD Water Supply Planning

OCWD was formed in 1933 by a special act of the California Legislature to protect the groundwater basin. The District is neither a wholesale nor a retail water provider; rather, the District manages the groundwater basin through regional recharge programs. Recharge is accomplished with local and imported water supplies to offset pumping from the Basin. Because OCWD is the manager of the Basin and not an urban water supplier, it is not required to develop an UWMP; however, in 2004, OCWD adopted a Groundwater Management Plan (GMP) in its capacity to ensure sufficient water supplies for present and future beneficial uses within Orange County. An update to the OCWD GMP was released in May 2009. The GMP has objectives to help secure a long-term viable supply of groundwater; this management strategy, described in more detail below, is effectively based upon groundwater recharge programs including the forebay recharge facilities, seawater intrusions barriers, and in-lieu programs and water storage agreements with Metropolitan.

There are twenty-three major producers extracting water from the Orange County groundwater basin, which is managed by OCWD in collaboration with the other water and wastewater agencies.

OCWD's allowable Basin Pumping Percentage (BPP) establishes the annual pumping percentage per OCWD member and may vary annually. The BPP is set uniformly and is a portion of each member's water supply that comes from groundwater pumped from the basin. OCWD members pay a Replenishment Assessment (RA) fee for water pumped from the basin. Groundwater production at or below the BPP is assessed the RA. Any production above the BPP is charged the RA plus the Basin Equity Assessment (BEA). The BEA is calculated so that the cost of groundwater production above the BPP is typically higher than purchasing imported potable supplies. This approach serves to discourage, but not eliminate, production above the BPP. The BEA can be increased as needed to discourage production above the BPP. Currently, the BPP is set at 62 percent, and groundwater pumped between 62 percent to a maximum restriction of 64 percent will be charged the sum of the RA and BEA, which is essentially the same rate as the import water rate purchased through MWDOC.

Supplies within the City of Huntington Beach

Total potable supplies within the City are composed of local groundwater and imported water. The MWDOC's WSAP formula was used to determine water supplies to the City under the current hydrologic conditions. Base Period supplies were formulated by calculating supply deliveries from 2004 - 2006 and then factoring in conservation credits and other specific adjustments.

[51] MWDOC Press Release April 15, 2009. MWDOC Implements Water Supply Allocation Plan.

For conservative water supply planning purposes, these same supply quantities were then extended over the 20-year planning horizon and supplies are held constant according to the prescribed allocation rate. For example, Base Period supplies of 33,323 AFY remain the same over the 20-year planning horizon and each WSAP Stage is presented in the same manner. Table 4.14-3 (MWDOC's WSAP Base Year Supplies [AFY]) shows the supplies available to the City under MWDOC's WSAP Base Period model (no reductions), hereinafter referred to as "Base Year." Under this supply scenario commencing in July 2009 through 2010, the City could expect to receive 33,323 AFY.

Table 4.14-3 MWDOC's WSAP Base Year Supplies (AFY)

Years	2009	2010	2015	2020	2025	2030
Imported Water	12,663	12,663	12,663	12,663	12,663	12,663
Groundwater	20,660	20,660	20,660	20,660	20,660	20,660
Total[a]	***33,323***	***33,323***	***33,323***	***33,323***	***33,323***	***33,323***

a. MWDOC's WSAP Base Year Water Supply Allocation. Assumes 38% Imported Water from MWDOC and 62% BPP of Groundwater from OCWD.

However, as previously discussed, due to reduced statewide water supplies under WSAP Stage 2 supply allocation, the City can expect to receive less than the Base Year water supply allocation, which is estimated to be 31,963 AFY. One short-term solution to compensate for reduction in import supply can be achieved by pumping within the BEA restriction, currently set at 2 percent above BPP, at a rate essentially the same as the purchasing rate through MWDOC. As shown in Table 4.14-4 (MWDOC's WSAP Stage 2 Supplies with 2009 BEA of 2% or 64% Groundwater [AFY]), under MWDOC's WSAP Stage 2, additional groundwater pumping within BEA restriction could increase annual supplies by 1,776 acre-feet.[52] Under MWDOC's WSAP Stage 3, that could increase by 1,688 acre-feet.

Table 4.14-4 MWDOC's WSAP Stage 2 Supplies with 2009 BEA of 2% or 64% Groundwater (AFY)

Years	2009	2010	2015	2020	2025	2030
Imported Water	12,146	12,146	12,146	12,146	12,146	12,146
Groundwater	21,593	21,593	21,593	21,593	21,593	21,593
Total[a]	***33,739***	***33,739***	***33,739***	***33,739***	***33,739***	***33,739***

a. MWDOC WSAP Base Year Water Supply Allocation. Assumes 38% Imported Water from MWDOC and 62% BPP of Groundwater from OCWD, plus 2009 BEA allowance of 2%.

Table 4.14-5 (MWDOC WSAP Water Supply Allocation Schedule) shows the supplies that the City could expect to receive under various MWDOC WSAP allocations. For consistency with Metropolitan's WSDM and Five Year Supply Plan Resource Option allocations and recent implementation of Stage 2 MWDOC reductions, the project WSA takes a conservative approach and assumes that under MWDOC's WSAP Stage 2 beginning July 1, 2009, the City can expect to receive approximately 31,963 AFY in total supplies. Under MWDOC's WSAP Stage 2, the City's allocation reduction equates to

[52] Total supplies would increase from 31,963 AFY (WSAP Stage 2) to 33,739 AFY (Table 4.14-4), which is an increase of 1,776 AFY.

a loss of 517 AFY or 12,146 acre-feet of imported supplies. Under MWDOC's WSAP Stage 3, the City's allocation reduction equates to a loss of 1,120 AFY or 11,543 acre-feet of imported supplies.[53]

Table 4.14-5 MWDOC WSAP Water Supply Allocation Schedule

Allocation Schedule of Shortages[a]	*Import Allocation (AFY)*[b]	*Allocation Reduction Less Base Year Supply*	*Actual Percentage Reduction from Base Year Demand*	*Percent of Supply*	*Supply Total*[c]
10% (Stage 2)	**12,146**	**517**	**4.08**	**95.92%**	**31,963**
15% (Stage 3)	**11,543**	**1,120**	**8.84**	**91.16%**	**30,376**
20%	10,732	1,931	15.25	84.75%	28,242
25%	9,920	2,743	21.66	78.34%	26,105
30%	9,108	3,555	28.07	71.93%	23,968
35%	8,296	4,367	34.48	65.52%	21,832
40%	7,484	5,179	40.90	59.10%	19,695
45%	6,672	5,991	47.31	52.69%	17,558
50%	5,861	6,802	53.71	46.29%	15,424

SOURCE: MWDOC Draft WSAP 2009 from City of Huntington Beach staff August 5, 2009

MWDOC's naming convention of the allocation of shortages shown in column 1 does not equate to an exact percentage of reduction. The actual supply reduction is shown in column 4. For consistency purposes, this EIR utilizes MWDOC's naming convention, though the actual reductions tend to be smaller (e.g., 10% reduction is closer to 4%).

a. Allocation Schedule of Shortages: Stage 2 = 10% and Stage 3 = 15%.

b. Import Allocation based on Base Year allocation of 12,663 AFY.

c. Supply total Base Year Allocation of 33,323 AFY. Assumes 38% Imported Water from MWDOC and 62% BPP of Groundwater from OCWD.

Projected supplies are shown in Table 4.14-6 (City of Huntington Beach Supply Allocations with MWDOC's WSAP Stage 2 and Stage 3 Allocations—Normal, Single-Dry, and Multiple-Dry Years [2009/10–2030]). In addition, Table 4.14-7 (City of Huntington Beach Supply Allocations with WSAP Stage 2 and Stage 3 Allocations with BEA 2% Pumping Allowance Normal, Single-Dry, and Multiple-Dry Years [2009/10–2030]) shows the same projected supply scenario as that presented in Table 4.14-6 but includes the BEA allowance of two percent, thus raising the groundwater supply from 62 to 64 percent. For water supply planning purposes, the WSA prepared for this project projected further MWDOC WSAP reductions the following year and over consecutive dry years. For example, if next year is another dry year, MWDOC could initiate Stage 3 of the MWDOC WSAP and reduce deliveries accordingly. If this were the case, imported water supplies to the City would be curtailed by 1,120 acre-feet, reduced to 11,543 acre-feet, which is 30,376 AFY in total supplies without the additional two percent BEA allowance (Table 4.14-6) and 32,064 AFY in total supplies with the additional BEA allowance (Table 4.14-7). The analysis assumed that the probability of multiple dry year events could commence in any given year and extend over three years.

[53] Assume 38% imported water from MWDOC and 62% BPP of groundwater from OCWD.

Table 4.14-6 City of Huntington Beach Supply Allocations with WSAP Stage 2 and Stage 3 Allocations—Normal, Single-Dry, and Multiple-Dry Years (2009/10–2030)

					Multiple Dry Year Event[2]					
	Base Year Water Supply Allocation[a]		WSAP Stage 2 Allocation Single Dry Year[b]		WSAP Stage 2 Allocation Dry Year 1[c]		WSAP Stage 3 Allocation Dry Year 2[d]		WSAP Stage 3 Allocation Dry Year 3	
Supply Allocation	AFY	%	AFY	%	AFY	%	AFY	%	AFY	%
Huntington Beach Allocation	33,323	100	31,963	90	31,963	90	30,376	85	30,376	85

SOURCE: Developed by PBS&J for Water Supply and Demand Planning Purposes.

a. MWDOC Draft WSAP 2009 from City of Huntington Beach staff August 5, 2009. Assumes 38% imported water from MWDOC and 62% BPP of groundwater from OCWD.

b. PBS&J developed additional dry year planning projections based on Stage 2 and Stage 3 Allocations.

c. Stage 2 Allocation in effect beginning in Dry Year 1 – Same as Single Dry Year.

d. Stage 3 Allocation in effect after Dry Year1 and due to the WSAP model WSAP Stage remains in effect over the next year as well.

Table 4.14-7 City of Huntington Beach Supply Allocations with WSAP Stage 2 and Stage 3 Allocations with BEA 2% Pumping Allowance Normal, Single-Dry, and Multiple-Dry Years (2009/10–2030)

					Multiple Dry Year Event[2]					
	Base Year Water Supply Allocation[a]		WSAP Stage 2 Allocation Single Dry Year[b]		WSAP Stage 2 Allocation Dry Year 1[c]		WSAP Stage 3 Allocation Dry Year 2[d]		WSAP Stage 3 Allocation Dry Year 3	
Supply Allocation	AFY	%	AFY	%	AFY	%	AFY	%	AFY	%
Huntington Beach Allocation	33,323	100	33,739	90	33,739	90	32,064	85	32,064	85

SOURCE: Developed by PBS&J for Water Supply and Demand Planning Purposes.

a. MWDOC Draft WSAP 2009 from City of Huntington Beach staff August 5, 2009. Assumes 38% imported water from MWDOC and 62% BPP of groundwater from OCWD, plus 2009 BEA allowance of 2%

b. PBS&J developed additional dry year planning projections based on Stage 2 and Stage 3 Allocations.

c. Stage 2 Allocation in effect beginning in Dry Year 1 – Same as Single Dry Year plus 2% BEA pumping.

d. Stage 3 Allocation in effect with BEA of 2% after Dry Year1 and due to the WSAP model WSAP Stage remains in effect over the next year.

Water Infrastructure, Treatment and Distribution

The City of Huntington Beach has four reservoirs with a total combined capacity of 55 million gallons. Various booster pumps draw water from the reservoirs and pressurize it into the water system during high demand periods. Overmyer Reservoir has a capacity of 20 million gallons. Peck Reservoir has a capacity of 17 million gallons. Edwards Hill Reservoir is the newest facility and has a capacity of 9 million gallons. Springdale Reservoir has a capacity of approximately 9 million gallons.

The City of Huntington Beach also has ten wells, three imported water connections, and a variety of transmission and conveyance facilities. Wells vary in depth from 306 feet to 996 feet and range in production from 500 gallons per minute (gpm) to 3,400 gpm. The total system capacity of the City's groundwater wells is 25,050 gpm. The booster pumps have a total capacity of 58,690 gpm, which is

adequate to keep the system pressurized under peak flow conditions. The City also maintains three imported water connections to the Metropolitan system.

Water Demand

Demand in Metropolitan's Service Area

Metropolitan defines "firm demands" as projected firm sales plus 70 percent of projected Interim Agricultural Water Program sales. Demand projections are based on growth forecasted in the Southern California Association of Governments 2004 Regional Transportation Plan and the San Diego Association of Governments 2030 forecasts. Metropolitan calculates firm demands as total demands (retail municipal and industrial as well as agricultural demands) less conservation and local supplies (groundwater, recycled water, local surface supplies used by member agencies). Metropolitan projected firm demands from 2010 to 2030 are shown in Table 4.14-8 (Projected Metropolitan Firm Demands in Average-, Single-Dry-, and Multiple-Dry-Year Types [AFY]).

Table 4.14-8 Projected Metropolitan Firm Demands in Average-, Single-Dry-, and Multiple-Dry-Year Types (AFY)

	2010	*2015*	*2020*	*2025*	*2030*
Firm Demands in an Average Year	2,170,200	2,170,492	2,313,613	2,401,926	2,482,325
Firm Demands in a Single-Dry Year	2,344,792	2,380,767	2,363,375	2,363,261	2,344,232
Firm Demands in a Multiple-Dry Year	2,234,558	2,228,203	2,363,908	2,447,761	2,534,113

SOURCE: Metropolitan Water District of Southern California, Personal Communication with Brandon Goshi, July 21, 2009.

MWDOC Water Demands

Regional projected demand in OCWD's service area, shown in Table 4.14-9 (Total Projected Demand within the Basin in a Normal Year [AFY]), is based upon demand estimated by the individual producers and submitted to the MWDOC as part of its Annual Survey in Spring 2008. Demands of member agencies located outside of the Orange County Groundwater Basin were removed from the dataset. Non-potable demands were also removed from the dataset. Dry year demands are typically higher than normal year demands, which is largely due to lack of rainfall and the subsequent need for increased water for landscaping in dry years. However, under the current dry year situation, based on demand reduction measures necessary to support supply reductions, dry year demands are assumed not to increase. In fact, in dry years demands should actually decrease due to water saving efforts; however, due to the speculative nature of conservation achievements, and in order to be conservative, increases in demands are relative to population increases within the City.

Table 4.14-9 Total Projected Demand within the Basin in a Normal Year (AFY)					
	2010	***2015***	***2020***	***2025***	***2030***
MWDOC (in basin)	342,841	362,646	369,814	373,880	375,928
Total Demand[a]	***500,961***	***527,828***	***543,464***	***550,830***	***552,797***

SOURCE: MWDOC. Water Demands in the OCWD Basin. Projections by the Retail Agency. Draft. 2008. Provided by MWDOC staff upon request.

a. Includes demands in the cities of Anaheim, Fullerton and Santa Ana.

City of Huntington Beach Demands

Similar to other water supply agencies, the City estimates a range of different future water demands, such as average-day demands and other adjusted demands, in order to adequately plan for anticipated growth for water supply and sizing of pipes respectively.

In the City of Huntington Beach, water demand is not dissimilar from other municipal water providers, insofar as demand occurs as a result of consumptive uses by consumers. However, for Huntington Beach, on an annual basis demand equals supply, due to the fact that unaccounted-for system losses are aggregated with distribution deliveries, and due to the presence of a large groundwater basin it is not necessary for the City to maintain any large above ground storage reserves for consumptive uses (storage is provided for fire suppression purposes).

4.14.2 Regulatory Framework

Federal

Federal Safe Drinking Water Act

Enacted in 1974 and implemented by the EPA, the federal *Safe Drinking Water Act* imposes water quality and infrastructure standards for potable water delivery systems nation-wide. The primary standards are health-based thresholds established for numerous toxic substances. Secondary standards are recommended thresholds for taste and mineral content.

U.S. Environmental Protection Agency

The U.S. Environmental Protection Agency (USEPA) established primary drinking water standards in the *Clean Water Act* Section 304. States are required to ensure that potable water retailed to the public meets these standards. Standards for a total of eighty-one individual constituents have been established under the *Safe Drinking Water Act* as amended in 1986. The USEPA may add additional constituents in the future. State primary and secondary drinking water standards are promulgated in CCR Title 22 Sections 64431–64501. Secondary drinking water standards incorporate non-health risk factors including taste, odor, and appearance.

State

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

The *Urban Water Management Planning Act* (Act) was developed due to concerns over potential water supply shortages throughout California. It requires information on water supply reliability and water use efficiency measures. Urban water suppliers are required, as part of the Act, to develop and implement Urban Water Management Plans (UWMP) to describe their efforts to promote efficient use and management of water resources. The City's 2005 UWMP is intended to serve as a general, flexible, and open-ended document that periodically can be updated to reflect changes in the Orange County water supply trends, and conservation and water use efficiency policies. The UWMP, along with the City's Water Master Plan and other City planning documents, is used by City staff to guide the City's water use and management efforts through the year 2010, when the UWMP is required to be updated.

Water Conservation Projects Act

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

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

SB 221 (Kuehl Bill) and SB 610 (Costa Bill)

Signed into law on October 2001 and effective beginning in January 2002, SB 221 and SB 610 serve to ensure that certain land developments in California must be accompanied by an available and adequate supply of water to serve those developments. Serving as companion measures, SB 610 and SB 221 seek to promote more collaborative planning between local water suppliers and cities and counties.

SB 221 requires the legislative body of a city, county, or local agency to include, as a condition in any tentative map that includes a subdivision, a requirement that a sufficient water supply shall be available to serve the subdivision. A "subdivision" is defined as a proposed residential development of more than 500 dwelling units or one that would increase, by at least 10 percent, the number of service connections of a public water system having less than 5,000 connections. "Sufficient water supply" is defined as the total water supplies available during normal, single-dry, and multiple-dry years within a twenty-year projection that will meet the projected demand of a proposed subdivision. SB 221 ensures that collaboration on finding the needed water supplies to serve a new large subdivision occurs before construction begins.

SB 610 requires additional factors to be considered in the preparation of urban water management plans and water supply assessments. SB 610 requires all urban water suppliers to prepare, adopt, and update an urban water management plan that, essentially, forecasts water demands and supplies within a certain service territory. In addition, water assessments must be furnished to local governments for inclusion in

any environmental documentation for certain projects (as defined in Water Code 10912(a)) subject to CEQA.

Local

General Plan Utilities Element

The City's General Plan Utilities Element (1996) focuses on the City's water supply, sanitation treatment, storm drainage, solid waste disposal, natural gas, electricity, and telecommunications systems. Applicable goals and policies of this element related to water supply and treatment systems and facilities include the following:

Goal U1 Provide a water supply system that is able to meet the projected water demands; upgrade deficient systems and expand water treatment, supply, and distribution facilities; and pursue funding sources to reduce the cost of water provision in the City.

Objective U.1.1 Maintain a system of water supply distribution facilities capable of meeting existing and future daily and peak demands, including fire flow requirements, in a timely and cost-efficient manner.

Policy U.1.1.1 Monitor the demands on the water system, manage the development to mitigate impacts and/or facilitate improvements to the water supply and distribution system, and maintain and expand water supply and distribution facilities.

Objective U.1.2 Ensure that existing and new development does not degrade the City's surface waters and groundwater basins.

Policy U.1.2.1 Require that existing and new development contain safeguards and mitigation measures preventing degradation.

Policy U.1.2.2 Require new developments to connect to the sewer system.

Objective U.1.3 Minimize water consumption rates through site design, use of efficient systems, and other techniques.

Policy U.1.3.2 Continue to require the incorporation of water conservation features in the design of all new construction and site development.

Objective U.1.4 Ensure the costs of improvements to the water supply, transmission, distribution, storage and treatment systems are borne by those who benefit.

Policy U.1.4.1 Require the cost of improvements to the existing water supply and distribution facilities necessitated by new development be borne by the new development benefiting from the improvements, either through the payment of fees, or the actual construction of the improvements in accordance with State Nexus Legislation.

Consistency Analysis

Implementation of the proposed project could include the construction of necessary water conveyance pipeline upgrades, both on- and off-site, to serve future development. The water lines associated with future development permitted under the proposed project are required to be sized appropriately for the anticipated design average day demand and appropriate peaking factors. It is anticipated that the increase in water demand would not result in necessary upgrades to the water treatment plants. The project would be consistent with the goals, objectives, and policies contained in the General Plan.

4.14.3 Project Impacts and Mitigation

Analytic Method

The analysis in this section focuses on the nature and magnitude of the change in levels of water use between existing and projected water use as a result of project build-out. The primary resources used for this analysis include the following technical documents: *Water Supply Assessment for the Proposed Beach and Edinger Specific Plan Project*, PBS&J (August 2009); *City of Huntington Beach Urban Water Management Plan* (adopted November 2005); Orange County Water District's (OCWD) *Urban Water Management Plan* (2005); Metropolitan's *Regional Urban Water Management Plan*; MWDOC's *Draft Water Supply Allocation Plan* (February 2009, included as Appendix G[e]); supporting documents; and information from City staff.

To determine impacts on water supply resulting from implementation of the proposed project, this section includes an evaluation of whether the projected increase in water use at the project site is accounted for in the City's projected water demands. It also includes an analysis of whether there will be an adequate and reliable source of water for the proposed project and whether any infrastructure improvements would be necessary to provide water service to the project area at build-out.

Existing Project Site Demands

Currently, the primary land use within the Specific Plan is commercial (including a variety of retail and office uses), as well as residential uses south of Adams Avenue along portions of Beach Boulevard. Estimated water use was calculated using a land use-based approach, as shown in Table 4.14-10 (Existing

Water Demand for the Beach-Edinger Specific Plan Area). To determine the water demand of the various land uses, water use demand factors were formulated based on data used in other WSAs that the City previously approved, as well as published materials and/or similar facilities in Southern California. As it currently exists, the total existing water demand for the proposed project area is approximately 397 AFY, which is the sum of the demands from the "Commercial Uses" and "Residential, Hospitality, Medical Service" facilities.

Table 4.14-10 Existing Water Demand for the Beach-Edinger Specific Plan Area

Land Use /Connection Designation	*Area*	*Unit*	*Demand Factor*	*Total Demand (AFY)*
Commercial Uses[a] (Foregone demands with Project Implementation)				
Retail, restaurant; office (4,862,174 sf)	112 acres	—	1,480 gpd/acre	185
Landscaping/ROW[b]	473,497 sf	—	0.01 gpd/sf	5
Total				***190***
Residential–Hospitality–Medical Service (Demands with Project Implementation)				
Residential[c]	—	493 DU	200 gpd/DU	110
Hotel[d]	—	303 rooms	130 gpd/room	44
Hospital[e]	—	264 beds	177 gpd/bed	52
Total				***207***

DU = dwelling unit

gpd = gallons per day

a. Commercial water demands estimated at 1,480 gallons per day per acre based on the City's 2005 Water Master Plan and used in the 2005 UWMP.

b. Estimated sf of landscape areas.

c. Assumes two persons per DU as used in the Bella Terra II Water Supply Assessment, May 2008.

d. Seattle Public Utilities Resource Conservation Section, Hotel Water Conservation, A Seattle Demonstration, July 2002, prepared by O'Neill & Siegelbaum and The RICE Group.

e. Calculated demand based on PSOMAS Water and Sewer Analysis for Pomona Valley Hospital Medical Center 2008.

Specific Plan Build-out Demands

To determine the water demand of the proposed project, water use demand factors were formulated based on the sources described above. Of the existing 397 AFY of existing demands, the demands of 207 acre-feet associated with residential, hotel and hospital uses will remain. As shown in Table 4.14-11 (Beach-Edinger Specific Plan Water Demands), the water demand of the entire Specific Plan area is conservatively estimated to be 1,370 AFY, which assumes full build-out of the entire Specific Plan area with all 6,400 DU implemented.

It should be noted that future developments under the proposed Specific Plan could be LEED certified and incorporate design elements and post-construction operational activities, which are intended to reduce landscape and operational water use. The use of innovative wastewater technologies may result in further operational reductions. Installation of water efficient fixtures in new developments along with drought-tolerant landscaping could reduce demands as much as 40 percent.[54]

[54] City of Menlo Park, Draft Water Supply Assessment, June 2009 (KEMA Memorandum).

Table 4.14-11 Beach-Edinger Specific Plan Water Demands				
Land Use/Connection Designation	*Area (sf)*	*Unit*	*Demand Factor*	*Total Demand (AFY)*
Commercial Uses				
Office	112,000		0.15 gpd/sf	19
Retail [a]	627,640		0.15 gpd/sf	105
Restaurant [b]	110,760		1.5 gpd/sf	186
Landscaping/ROW [c]	473,497		0.01 gpd/sf	5
Subtotal	*1,323,897*			*315*
Residential [d]		6,400 DU	140 gpd/DU	1,004
Hotel [e]		350 rooms	130 gpd/room	51
Subtotal				*1,055*
Total				***1,370***

SOURCE: Draft Water Supply Assessment for the Beach-Edinger Corridor Specific Plan Appendix G.

DU = dwelling unit

a. City of Huntington Beach, Bella Terra II Water Supply Assessment May 2008 (0.15 gpd/sf for restaurant).

b. City of Huntington Beach, Bella Terra II Water Supply Assessment May 2008 (1.5 gpd/sf for restaurant).

c. Estimated sf of landscape areas. Need actual or best guess from SP.

d. Two persons per DU as used in the Bella Terra II Water Supply Assessment, May 2008. In addition, this demand factor is lower than that under existing demand because new residential uses are estimated to be more water efficient.

e. Seattle Public Utilities Resource Conservation Section, Hotel Water Conservation, A Seattle Demonstration, July 2002, prepared by O'Neill & Siegelbaum and The RICE Group.

Compared to existing water demand, full buildout of the proposed Specific Plan could result in a net increase in water demand of approximately 1,180 AFY, as shown in Table 4.14-12 (Net Change in Demands from Existing to Proposed Project Demands).

Table 4.14-12 Net Change in Demands from Existing to Proposed Project Demands		
	Total Demand	
Land Use/Connection Designation	*AFY*	*MGD*
Existing Water Demands[a]	190	0.17
Specific Plan Water Demands[b]	1,370	1.22
Net Change in Water Demand[c]	***1,180***	***1.1***

SOURCE: Draft Water Supply Assessment for the Beach-Edinger Corridor Specific Plan [included as Appendix G to this EIR].

a. WSA Table 5-4. Existing Water Demand.

b. WSA Table 5-5: Beach-Edinger Specific Plan Water Demands.

c. Assumes existing water demands in the project area were accounted for in the 2005 UWMP. The net change in demands is added to the demand that were not accounted for in the 2005 UWMP and will be added to demand projections beginning in 2010 and extending through 2030.

Thresholds of Significance

The following thresholds of significance are based on Appendix G of the 2009 CEQA Guidelines. For the purposes of this EIR, implementation of the proposed project may result in a potentially significant impact if the proposed project would cause either of the following results:

- Require or result in the construction of new water treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects
- Require new or expanded water entitlements and resources, if there are not sufficient water supplies available to serve the project from existing entitlements and resources[55]

Effects Not Found to Be Significant

There are no Effects Not Found to Be Significant with respect to water supplies. All of the CEQA Thresholds are addressed in the following section.

Impacts and Mitigation Measures

Threshold	Would the project require or result in the construction of new water treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

Impact 4.14-1 **Implementation of the proposed project could require new water connections or expanded water conveyance systems. However, the project would not require or result in the construction of new or expanded water treatment facilities, the construction of which could cause significant environmental effects. This impact is considered *less than significant*.**

As shown in Table 4.14-12, operation under full buildout of the proposed project would require an estimated 1,370 AFY (1.22 million gallons per day [mgd]), which would be a net increase of 1,180 AFY (1.1 mgd) over the annual average demands. As previously stated, the City receives approximately two-thirds of its water supply from groundwater wells and approximately one-third from imported water. For water supply planning purposes, this analysis assumed that demands from the proposed project would be met either from the groundwater system and/or with imported water.

Water Conveyance Infrastructure

The City operates a water supply system currently consisting of ten wells, three imported water connections, four storage and distribution reservoirs, and a variety of transmission and conveyance facilities. Wells vary in depth from 306 feet to 996 feet and range in production from 500 gallons per minute (gpm) to 3,400 gpm. The total system capacity of the City's groundwater wells is 25,050 gpm (36.0 mgd).

The City also maintains three imported water connections to the Metropolitan system, and operates four storage and distribution reservoirs with a combined capacity of 55 million gallons (MG). The storage system is supported with four booster stations located at the reservoir sites. The booster pumps have a

[55] This standard has been slightly modified from the text found in the 2008 CEQA Guidelines, Appendix G, for ease of comprehension.

total capacity of 58,690 gpm (84.5 mgd), which is adequate to keep the system pressurized under peak flow conditions.[56]

The existing water pipes throughout the project site would provide some of the infrastructure necessary to provide water service to future uses under buildout of the proposed project. However, it is likely that new on-site and off-site improvements (both public and private) could be required to provide adequate service for the increase in water demand. Construction of new water pipes would require demolition of surface improvements and excavation activities, which are typically done during the construction of any development. Future development of the infrastructure would adhere to existing laws and regulations, and the water conveyance infrastructure shall be appropriately sized for each site-specific development, which includes potable water, domestic irrigation, and fire flow demands. Prior to allowing additional connections or upgrades to the existing water lines, CR4.14-1 would be implemented.

CR4.14-1 *A hydraulic water capacity analysis is required to determine the water improvements necessary to adequately protect the property per the Fire Department requirements. The developer shall be required to upgrade/improve the City's water system to meet the water demands to the property and/or otherwise mitigate the impacts of the project at no cost to the City. The developer shall coordinate this effort with the Public Works and Fire Departments and shall be responsible to pay the City for all related fees required to perform the analysis using the City's hydraulic water model.*

Implementation of CR4.14-1 would ensure that adequate water infrastructure is developed to serve future projects under the proposed Specific Plan. In addition, the proposed project would require that the construction of new water distribution systems within individual development projects' sites are considered as part of overall individual project construction such that individual water connections would occur during construction. Therefore, the impacts related to water conveyance infrastructure would be ***less than significant***.

Water Treatment Facilities

The demand for groundwater generated by the proposed project is not anticipated to require additional treatment facilities because wellhead treatment is provided directly at the originating well prior to distribution throughout the City's service area. Currently, groundwater well capacity is 36.0 mgd. Based on the BPP, the City's annual average pumping ranges between 13.0 mgd and 19.0 mgd. Assuming a BPP of 64 percent, or approximately 20,000 afy (17.9 mgd) the remaining groundwater capacity of 18 mgd is more than adequate to serve the projected demands of 1.1 mgd from the proposed project.

Conversely, Metropolitan treats imported water at either the Diemer Filtration Plant or the Jensen Filtration Plant prior to distribution to its member agencies. The Diemer Filtration Plant has an operating capacity of 550 mgd and treats approximately 213 mgd, while the Jensen Filtration Plant currently has an operating capacity of 750 mgd and treats approximately 420 mgd. If the proposed project's water demands were treated solely at either filtration plant, this increase would represent less than one percent (0.36 percent at Diemer and 0.37 percent at Jensen) of the remaining capacities of both facilities.

[56] City of Huntington Beach. Urban Water Management Plan. 2005.

Because future development under the proposed project represents a fraction of the remaining operating capacity at both Diemer Filtration Plant and Jensen Filtration Plant, it is anticipated that the existing plants could adequately serve the additional demand generated by the proposed project without requiring expansions to these facilities. Furthermore, Metropolitan manages and maintains all the treatment plants, and any improvements or expansions are the responsibility of Metropolitan and would not adversely affect the City or the proposed project. In terms of groundwater, the wellhead treatment systems associated with the City's ten wells can adequately treat the water demands associated with the proposed project. Therefore, this impact is considered ***less than significant*** and no mitigation is required.

Threshold	Would the proposed project require new or expanded water entitlements and resources, if there are not sufficient water supplies available to serve the project from existing entitlements and resources?

Impact 4.14-2 **Implementation of the proposed project would generate an additional demand for water, which would require water supplies in excess of existing entitlements and resources, or result in the need for new or expanded entitlements. Even with the implementation of mitigation measures, this impact is considered *significant and unavoidable*.**

As previously stated, statewide water supplies are currently limited by below-normal precipitation in much of the State, nine dry years in the Colorado River Basin, and a regulatory drought due to SWP pumping restrictions. However, the statewide supply situation is subject to change and could return to normal or above-normal year precipitation in the near-term and then extend over many years. Therefore, for comparison purposes normal "Base Year" supply, "WSAP Year" supply, and various demand scenario comparisons are presented in this analysis.

The WSA prepared for the proposed Specific Plan assumed that future projects would use water supplied through imported water purchases from Metropolitan and City-operated groundwater wells in the Santa Ana River Basin. These supplies would be delivered through existing City supply facilities and new water infrastructure constructed for delivery into specific project sites, per the requirements of the City of Huntington Beach. Full build-out of the proposed project would generate an increased demand for water of approximately 1,180 AFY, as shown in Table 4.14-12 above. Assuming Base Year supply and demand conditions the City has an adequate supply of water to serve the proposed project, as well as existing and future uses.

In addition, as shown in Table 4.14-13 (Supply and Demand Comparison with Base Year Supplies and 2008 Demands with Annual Growth [AFY]), if the City continues to maintain demands under this growth scenario and supplies return to Base Year conditions, then supplies would exceed demands in all years beginning in 2010 and extending over the next 20 years.

Table 4.14-13 Supply and Demand Comparison with Base Year Supplies and 2008 Demands with Annual Growth (AFY)

	Years					
	2,009/2010	*2010*	*2015*	*2020*	*2025*	*2030*
Supplies[a]	33,323	33,485	34,306	35,148	36,010	36,894
Demand[b]	31,691	31,845	32,626	33,427	34,247	35,087
Difference	***1,632***	***1,640***	***1,680***	***1,721***	***1,763***	***1,807***

SOURCE: Developed by PBS&J for long-term water supply planning, August 2009.

a. Table 4-5 City of Huntington Beach Supply Allocations with WSAP Stage 2 and 4 Allocations – Normal, Single Dry Year and Multiple Dry Years (2009/2010–2030).

b. Table 5-9 City of Huntington Beach 2008 Demands (AFY).

As shown in Table 4.14-14 (10-Year Historical Demands [1999–2008]), the average demand between 1999 to 2001 is 34,686 AFY, while the average demand in the last 3 years is 32,099, a difference of 2,587 AFY (7.5% reduction from 34,686 AFY). Furthermore, last year's demand is even lower at 31,691 AFY, a total difference of 2,995 AFY (8.6% reduction from 34,686 AFY). Although demand may increase per capita in the future, based on historical trends and data, along with continued water conservation technology improvements, efforts, education, and public awareness, it is not expected that demand per capita will increase.

Table 4.14-14 10-Year Historical Demands (1999–2008)

Year	*Water Demand (AFY)*
1999	34,427
2000	35,738
2001	33,893
2002	35,083
2003	33,256
2004	34,061
2005	32,561
2006	31,960
2007	32,645
2008	**31,691**
Last 3 Year Average	32,099
10 Year Average	33,532
Base Year Demand (Per MWDOC for WSAP)	**33,323**

SOURCE: MWDOC WSAP from Request for City Council Action April 6, 2009, page 4.

Currently, due to the statewide water supply situation, the City along with the other MWDOC member agencies is operating under MWDOC's WSAP Stage 2. In this case, commencing July 2009, the supplies to the City have been curtailed by 517 AFY. Assuming MWDOC's WSAP Stage 2 with 2008 Demands, Table 4.14-15 (Supply and Demand Comparison with MWDOC's WSAP Stage 2 and 2008 Demands [AFY]) shows the City can anticipate a supply deficit in each year between 2010 and 2030.

Table 4.14-15	Supply and Demand Comparison with MWDOC's WSAP Stage 2 and 2008 Demands (AFY)				
	Years				
	2009/2010	2015	2020	2025	2030
Supplies[a]	31,963	31,963	31,963	31,963	31,963
Demand[b]	31,845	32,626	33,427	34,247	35,087
Difference	***118***	***-663***	***-1,464***	***-2,284***	***-3,124***

SOURCE: Draft Water Supply Assessment for the Beach-Edinger Corridor Specific Plan [included as Appendix G to this EIR].

a. WSA Table 4-5 City of Huntington Beach Supply Allocations with MWDOC's WSAP Stage 2 and 4 Allocations – Normal, Single Dry Year and Multiple Dry Years (2009/2010 – 2030).

b. WSA Table 5-9: City of Huntington Beach 2008 Demands (AFY).

One short-term solution to compensate for reduction in import supply can be achieved by pumping within the BEA restriction. Assuming MWDOC's WSAP Stage 2 and 2008 Demands with 64% Groundwater including BEA 2% Pumping Allowance, Table 4.14-16 (Supply and Demand Comparison with MWDOC's WSAP Stage 2 and 2008 Demands with 64% Groundwater including BEA 2% Pumping Allowance [AFY]), shows the insufficiency is prolonged until 2025; however, a shortfall would still remain. This is considered a potentially significant impact.

Table 4.14-16	Supply and Demand Comparison with MWDOC's WSAP Stage 2 and 2008 Demands with 64 % Groundwater including BEA 2% Pumping Allowance (AFY)				
	Years				
	2009/2010	2015	2020	2025	2030
Supplies[a]	33,739	33,739	33,739	33,739	33,739
Demand[b]	31,845	32,626	33,427	34,247	35,087
Difference	***1,894***	***1,113***	***312***	***-508***	***-1,348***

SOURCE: Developed by PBS&J for long-term water supply planning, August 2009.

a. Table 4-7 City of Huntington Beach Supply Allocations with MWDOC's WSAP Stage 2 and 3 Allocations with BEA 2% Pumping Allowance Normal, Single Dry Year and Multiple Dry Years (2009/2010 – 2030).

b. Table 5-8 City of Huntington Beach Demands (AFY).

The analysis above (as demonstrated in Tables 4.14-15 and 4.14-16) assumes that imported water from MWDOC remains close to 90 percent of Base Year through build-out of the proposed project.[57] Due to uncertainties regarding the SWP supply allocations, a reduction in imported deliveries to Metropolitan conveyed to the City via MWDOC, could be expected. The actual amount of SWP water delivered to the City could be substantially less than the 90 percent used for these projections. In March 2009, DWR declared that SWP deliveries could be approximately 40 percent of normal allocation (a reduction of up to 60 percent of the normal allocation). As analyzed in the WSA prepared for the Specific Plan, the long-term water supply under this scenario would be similar to that presented in Table 4.14-15 as this presents a more conservative picture with supplies deficient after 2010.

This EIR evaluates the proposed Specific Plan from a programmatic perspective; in this case, project-level mitigation measures cannot be fully prescribed. Going forward, however, the City, through its permitting process can require each project to comply with all current and any new City policies (various new policy suggestions are included in the WSA) and ordinances, implement water efficiency measures to be identified in the City's future Water Use Efficiency Master Plan, and increase the conservation level per the City's adopted Water Management Plan, which currently is set at Stage 1 on a voluntary basis. As required in the City's Water Efficient Landscape Ordinance (see below) project-level design guidelines for landscape require installation of efficient irrigation and the use of a native, drought-resistant plant palette. Additionally, actual structural components of the proposed project can be designed equivalent to United States Green Building Council (USGBC) standards, which include standards for water efficiency. The following mitigation measure would reinforce and expand upon the LEED-equivalent conditions for water efficiency and could further reduce the project's demand on water resources.

MM4.14-1 *The components of future projects in the Specific Plan area shall incorporate the following measures to ensure that conservation and efficient water use practices are implemented per project. Project proponents, as applicable, shall:*

- *Require employees to report leaks and water losses immediately and shall provide information and training as required to allow for efficient reporting and follow up.*
- *Educate employees about the importance and benefits of water conservation.*
- *Create water conservation suggestion boxes, and place them in prominent areas.*
- *Install signs in restrooms and cafeterias that encourage water conservation.*
- *Assign an employee to evaluate water conservation opportunities and effectiveness.*
- *Develop and implement a water management plan for its facilities that includes methods for reducing overall water use.*
- *Conduct a water use survey to update current water use needs. (Processes and equipment are constantly upgrading, thus changing the need for water in some areas.)*
- *Repair leaks. Check the water supply system for leaks and turn off unnecessary flows.*
- *Utilize water-efficient irrigation systems and drought tolerant plant palette and insure that sprinklers are directing water to landscape areas, and not to parking lots, sidewalks or other paved areas.*
- *Adjust the irrigation schedule for seasonal changes.*
- *Install low-flow or waterless fixtures in public and employee restrooms.*
- *Instruct cleaning crews to use water efficiently for mopping.*
- *Use brooms, squeegees, and wet/dry vacuums to clean surfaces before washing with water; do not use hoses as brooms. Sweep or blow paved areas to clean, rather than hosing off (applies outside, not inside).*
- *Avoid washing building exteriors or other outside structures.*

[57] MWDOC's WSAP Stage 2 is an approximate reduction of 10% of water supplies (as shown in Table 4.14-5), or 90% of Base Year.

- *Sweep and vacuum parking lots/sidewalks/window surfaces rather than washing with water.*
- *Switch from "wet" carpet cleaning methods, such as steam, to "dry," powder methods. Change window-cleaning schedule from "periodic" to "as required."*
- *Set automatic optic sensors on icemakers to minimum fill levels to provide lowest possible daily requirement. Ensure units are air-cooled and not water-cooled.*
- *Control the flow of water to the garbage disposal*
- *Install and maintain spray rinsers for pot washing and reduce flow of spray rinsers for prewash*
- *Turn off dishwashers when not in use – wash only full loads*
- *Scrape rather than rinse dishes before washing*
- *Operate steam tables to minimize excess water use*
- *Discontinue use of water softening systems where possible*
- *Ensure water pressure and flows to dishwashers are set a minimum required setting*
- *Install electric eye sensors for conveyer dishwashers*
- *Retrofit existing flushometer (tankless) toilets with water-saving diaphragms and coordinate automatic systems with work hours so that they don't run continuously*
- *Use a shut-off nozzle on all hoses that can be adjusted down to a fine spray so that water flows only when needed.*
- *Install automatic rain shutoff device on sprinkler systems*
- *Launder hotel linens per room by request or after vacancy*

The City's Water Efficient Landscape ordinance (Municipal Code 14.52) is designed to reduce new water demands at developments. The ordinance guides new development projects through the process of designing, installing and maintaining water efficient landscaping. Since the reduction of outdoor water use is where the greatest amount of water can be saved, it is essential to continue to implement such City code.

CR4.14-2 *Prior to the issuance of building permits for future development in the Specific Plan, project Applicants shall demonstrate compliance with the City's Water Efficient Landscape ordinance (*Municipal Code *14.52) in a manner approved by the City Departments of Planning and Public Works.*

Implementation of MM4.14-1 and adherence to CR4.14-2 could reduce each project's water demands by up to 40 percent. However, as described above under some of the potential scenarios of water availability, a supply deficit could exist after 2010, due to reduction of imported water supply under the SWP supply curtailments. On the other hand, the WSA concluded that under the worst case scenario to meet demand from projected population growth up to the year 2030 aggressive water conservation of up to 13.4 percent could balance supply and demand. Although the City has demonstrated significant water conservation over the last 10 years at approximately 8.6 percent, until such time that additional savings from water conservation can be demonstrated, or the water supply situation improves, the proposed project would have a ***significant and unavoidable*** impact.

Wastewater

4.14.4 Environmental Setting

The City owns, operates, and maintains a wastewater collection system that includes gravity pipelines, manholes, lift stations, and force mains. This system serves over 95 percent of the areas within the City, and several small areas within the cities of Westminster, Seal Beach, Newport Beach, and Fountain Valley. The City's wastewater system would provide service to the proposed Specific Plan and connects to various Orange County Sanitation District (OCSD) regional trunk sewer lines that ultimately flow to reclamation plants operated by OCSD. (Huntington Beach 2003).

Infrastructure

The City's collection system is comprised of approximately 385 miles of wastewater pipelines ranging in size from 6 to 30 inches in diameter. Approximately 85 percent of the City's wastewater pipelines are 8 inches in diameter. Due to the City's generally flat topography, the City also operates and maintains 28 lift stations ranging in capacity from approximately 80 gpm to 1,350 gpm. These facilities lift sewage from low points in the collection system to manholes at higher locations (Huntington Beach 2003).

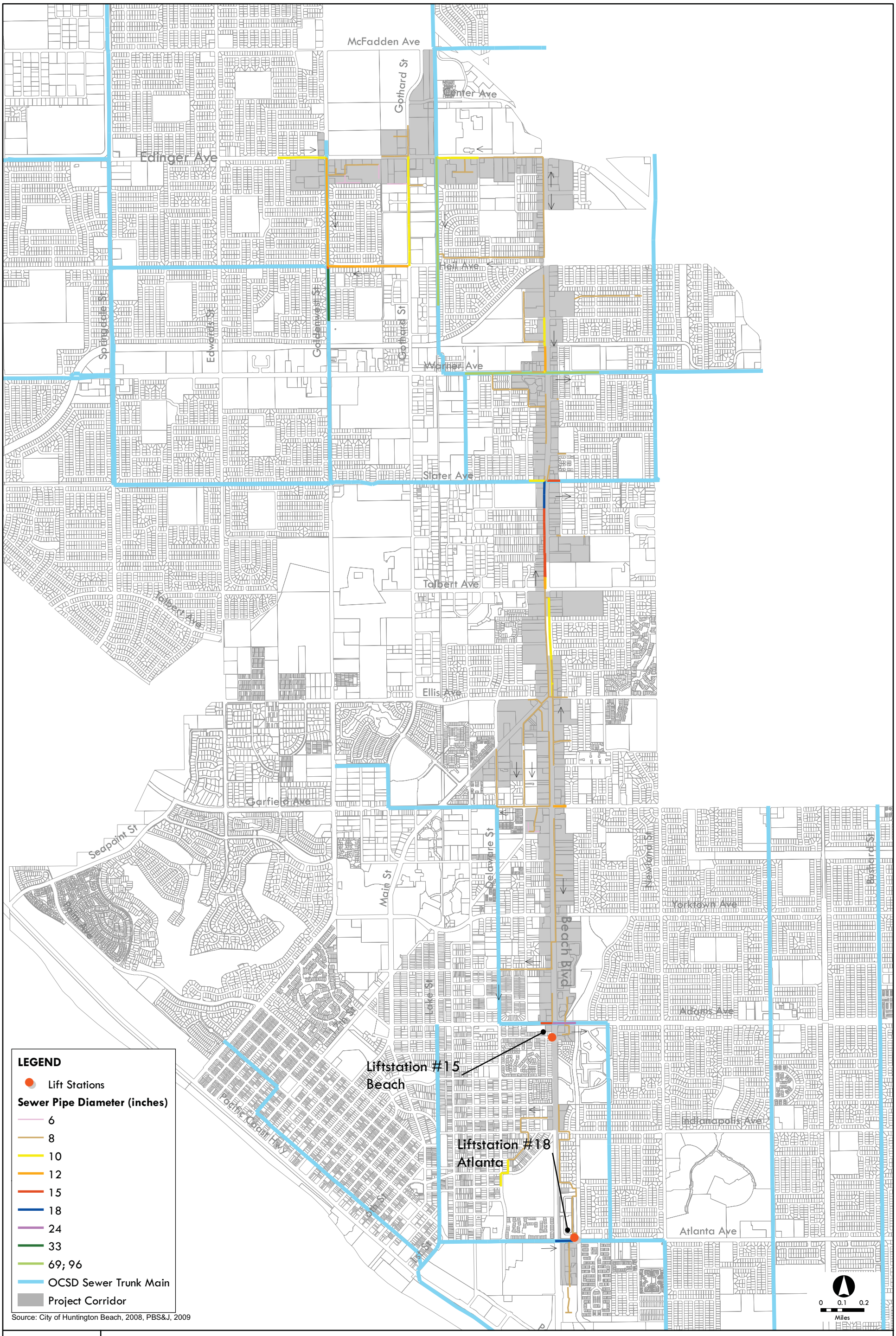
Existing sewer lines and their sizes operated by the City that serve the Beach-Edinger Corridors Specific Plan Area are depicted in Figure 4.14-3 (Existing Sewer Infrastructure). The City's local system generally discharges to larger OCSD facilities to convey wastewater to the local reclamation plant as also depicted on Figure 4.14-3. Given the growth within OCSD's service area, OCSD is currently upsizing a number of collection system pipelines to provide additional capacity.

OCSD is responsible for receiving, treating, and disposing of the wastewater generated in central and northwest Orange County, including the City's wastewater. In this regional management capacity, OCSD owns, operates, and maintains the majority of the "backbone" wastewater collection trunk pipelines. The sewer system consists of 12 trunk sewer systems ranging in size from 12 to 96 inches in diameter and collectively over 500 miles long. Additionally, there are 39 sewer interconnections and 87 diversions to maximize conveyance of flows through the system. Twenty pump stations are used to pump sewage from lower lying areas to the reclamation plants (Huntington Beach 2005).

No existing capacity issues have been identified in the OCSD system, and OCSD has developed engineering plans for plant improvements anticipated to meet area demands to the year 2050 (PBS&J 2009).

Reclamation Plants

OCSD manages wastewater collection and treatment for approximately 479 square miles in central and northwest Orange County, which includes 21 cities, 3 special districts, and 2.5 million residents. OCSD has two operating facilities that treat wastewater from residential, commercial, and industrial sources in central and northwest Orange County. The quantities of wastewater are generally proportional to the



Source: City of Huntington Beach, 2008, PBS&J, 2009

FIGURE 4.14-3

Existing Sewer Infrastructure

population and water use in the service area. Wastewater generated by the City in 2005 was approximately 21 mgd. By 2030, wastewater generated by the City is expected to increase to nearly 26 mgd (Huntington Beach 2005).

OCSD's Reclamation Plant No. 1 is located in the City of Fountain Valley about four miles northeast of the ocean and adjacent to the Santa Ana River. The plant provides advanced primary and secondary treatment through an activated sludge system. The secondary effluent is either blended with the advanced primary effluent and routed to the ocean disposal system, or is sent to the Orange County Water District facilities for advanced treatment and recycling (Huntington Beach 2005). Current primary treatment capacity for Reclamation Plant No. 1 is 218 mgd of wastewater, with an average daily flow of 120 mgd. Remaining capacity at this plant is 98 mgd. The plant is designed to provide primary treatment to 108 mgd and secondary treatment to 110 mgd. The primary treatment system will be increased to a design capacity of 198 mgd during the current discharge permit term (CRWQCB n.d.). However, Reclamation Plant No. 1 is currently unable to treat all average daily flows to secondary treatment levels. This plant is currently being upgraded to add 60 mgd of secondary treatment capacity (OCSD n.d.).

Reclamation Plant No. 2 is located in the City of Huntington Beach adjacent to the Santa Ana River and about 1,500 feet from the ocean. This plant provides a mix of advanced primary and secondary treatment. The plant receives raw wastewater through five major sewers. Approximately 33 percent of the influent receives secondary treatment through an activated sludge system, and all of the effluent is discharged into the ocean disposal system. OCSD's treated wastewater is discharged through a 120-inch outfall at a depth of about 200 feet below sea level and nearly 5 miles offshore from the mouth of the Santa Ana River (Huntington Beach 2005). Current capacity for Reclamation Plant No. 2 is 168 mgd of primary treated wastewater and 90 mgd of secondary treated wastewater. The current average flow is 151 mgd; thus, remaining capacity at this plant is approximately 24 mgd. This plant is currently being upgraded to add 60 mgd of secondary treatment capacity (OCSD n.d.).

4.14.5 Regulatory Framework

Federal

Federal Water Pollution Control Act (Clean Water Act)

The major piece of federal legislation dealing with wastewater is the federal *Water Pollution Control Act*, which is designed to restore and preserve the integrity of the nation's waters. The federal *Water Pollution Control Act*, popularly known as the *Clean Water Act*, is a comprehensive statute aimed at restoring and maintaining the chemical, physical, and biological integrity of the nation's waters. Enacted originally in 1948, the Act was amended numerous times until it was reorganized and expanded in 1972. It continues to be amended almost every year. In addition to the federal *Water Pollution Control Act*, other federal environmental laws regulate the location, type, planning, and funding of wastewater treatment facilities.

State

Operation of OCSD Wastewater Reclamation Plants No. 1 and 2 are subject to regulations set forth by the California Department of Health Services and the California State Water Resources Control Board (National Pollutant Discharge Elimination System [NPDES] Permit Number CA0110604 issued September 29, 2004, and expiring October 30, 2009).

Regional

Regional Water Quality Board

Under the Santa Ana Regional Water Quality Control Board (SARWQCB) National NPDES permit system, all existing and future municipal and industrial discharges to surface waters within the City would be subject to regulations. The Orange County NPDES permit requires that all development within the City is subject to the provisions of the Orange County NPDES Storm Water Permit. The NPDES storm water permit was issued by SARWQCB for municipal storm water and urban runoff discharges within Orange County, and incorporated cities therein.

Local

City of Huntington Beach Municipal Code

The *City of Huntington Beach Municipal Code* Chapter 14.25 contains regulations associated with stormwater and urban runoff management. Permits are required for any alterations or connections to the existing sewage system, and for industrial waste dischargers.

General Plan Utilities Element

The City's General Plan Utilities Element (1996) focuses on the City's water supply, sanitation treatment, storm drainage, solid waste disposal, natural gas, electricity, and telecommunications systems. Applicable goals and policies of this element related to wastewater systems and facilities include the following:

Goal U2 Provide a wastewater collection and treatment system which is able to support permitted land uses; upgrade existing deficient systems; and pursue funding sources to reduce costs of wastewater service provision in the City.

Objective U.2.1 Ensure the City provides and maintains a wastewater collection and treatment facilities system which adequately conveys and treats wastewater generated by existing and planned development at maximized cost efficiency.

Policy U.2.1.1 Approve and implement development in accordance with the standards identified in the Growth Management Element.

Policy U.2.1.5 Maintain, upgrade, and expand existing wastewater collection and treatment facilities.

Policy U.2.1.6 Require that sewer capacity is available before building permits are issued for new development.

Objective U.2.2 Ensure the costs of wastewater infrastructure improvements are borne by those who benefit.

Policy U.2.2.1 Require the costs of improvements to the existing wastewater collection facilities, which are necessitated by new development, to be borne by the new development benefiting from the improvements; either through the payment of fees, or by the actual construction of the improvements in accordance with State Nexus Legislation.

Consistency Analysis

Implementation of the proposed Specific Plan would include the construction of necessary utilities on- and off-site, including wastewater collection system lines. The sewer lines would be sized appropriately for the anticipated flow as necessary for development of individual projects. As discussed in the impact analysis, it is anticipated that the increased flows from the proposed Specific Plan would not result in required upgrades to the reclamation plants. The construction of wastewater conveyance lines in accordance with the projected size and outflow of individual projects would not conflict with the applicable goals, objectives, and policies of the City's General Plan Utilities Element.

4.14.6 Project Impacts and Mitigation

Analytic Method

The additional wastewater discharges from the proposed Specific Plan would place additional demand upon regional treatment facilities and local sewer lines. To determine wastewater impacts associated with implementation of the proposed Specific Plan, estimated future wastewater flows are compared to the capacity of the wastewater reclamation plants to determine whether sufficient capacity exists and/or whether there is the need for additional wastewater treatment systems.

A Sewer Analysis Report was prepared to estimate existing and proposed Specific Plan wastewater flows (PBS&J 2009). Sewer flows for existing conditions and the proposed Specific Plan were based on estimates of existing and proposed land uses, City-defined sewage generation rates applicable to the various land use categories, and estimates of where development would most likely occur in accordance with the proposed Specific Plan. Table 4.14-17 (Estimated Sewer Flow) lists the existing and proposed Specific Plan sewer flows for both existing conditions and the proposed Specific Plan.

Table 4.14-17	Estimated Sewer Flow	
	Sewer Flows (gpd)	
Segment	Existing	Proposed Specific Plan
Town Center Boulevard	404,306	1,218,694
Neighborhood Boulevard	386,466	407,406
Five Points District	399,388	774,560
Neighborhood Parkway	197,438	347,250
Residential Parkway	45,810	110,434
Total	**1,433,408**	**2,858,344**

SOURCE: PBS&J 2009 Sewer Analysis Report
gpd = gallons per day

The various sewer lines serving the proposed Specific Plan area and their on- and off-site contributing areas were identified, in consultation with City Department of Public Works engineers, to estimate the proposed Specific Plan effects on the City wastewater collection system capacities. These data, along with a few measured flow rates, were used to identify existing sewer pipe flow rates and whether the proposed Specific Plan would exceed sewer pipe capacities (PBS&J 2009). The existing capacity is assumed to include implementation of the Sewer Master Plan (City of Huntington Beach 2003) required upgrades.

Based on current land uses for the entire Specific Plan area, the existing total sewer flow generated by the Specific Plan area is about 1.43 mgd with a peak flow of 2.48 mgd and the proposed Specific Plan sewer flows would be about 2.86 mgd with a peak flow of 4.68 mgd (PBS&J 2009).

Thresholds of Significance

The following thresholds of significance are based on Appendix G of the 2009 CEQA Guidelines. For the purposes of this EIR, implementation of the proposed project may result in a potentially significant impact if the proposed project would cause either of the following results:

- Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board
- Require or result in the construction of new wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects
- Result in a determination by the wastewater treatment provider, which 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[58]

In addition, although the following two thresholds are related to Utilities, these issues are addressed in detail in Section 4.7 of this EIR.

[58] This standard has been slightly modified from the text found in the 2009 CEQA Guidelines, Appendix G, for ease of comprehension.

- Include a new or retrofitted storm water treatment control Best Management Practice (BMP), (e.g. water quality treatment basin, constructed treatment wetlands), the operation of which could result in significant environmental effects (e.g. increased vectors and odors)[59]
- Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

Impacts and Mitigation Measures

Threshold	Would the project exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

Impact 4.14-3 **Implementation of the proposed project would not exceed wastewater treatment requirements of the Santa Ana Regional Water Quality Control Board. This impact is considered *less than significant*.**

As stated above, the NPDES permit system requires that all existing and future municipal and industrial discharges to surface waters within the City be subject to specific discharge requirements. The proposed Specific Plan would not result in the discharge of wastewater to any surface water. Instead, operational discharges would be sent to the City's sewer system, which would ultimately be treated at one or more of the OCSD wastewater reclamation plants. The OCSD wastewater reclamation plants are required to comply with their associated Waste Discharge Requirements (WDRs), water quality order number R8-2004-0067 and any updates or new permits issued. WDRs set the levels of pollutants allowable in water discharged from a facility.

Compliance with any applicable WDRs, as monitored and enforced by the OCSD, would ensure that development under the proposed Specific Plan would not exceed the applicable wastewater treatment requirements of the SARWQCB with respect to discharges to the sewer system. This would result in a ***less-than-significant*** impact. No mitigation measures are required.

Threshold	Would the project require or result in the construction of new or expanded wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

Impact 4.14-4 **Implementation of the proposed project could require new sewer connections, and could require or result in the construction of new or expanded wastewater conveyance systems. However, with implementation of code requirements and mitigation measures, this impact is considered *less than significant*.**

The City of Huntington Beach Public Works Department and OCSD maintain the sanitary sewer system into which the proposed Specific Plan area would discharge. Future development under implementation

[59] According to the Citywide Urban Runoff Management Plan (2005), the City has included this threshold to the Initial Study Checklist Appendix G of the CEQA Guidelines in its CEQA preparation and review process for proposed projects. The Initial Study prepared for the proposed project did not incorporate this threshold; however, it has been included in the EIR Hydrology analysis as NPDES criteria no. 7.

of the proposed Specific Plan would be located throughout the five segments as shown on Table 4.14-17 and discharge to local City sewer pipes before entering OCSD main or trunk lines.

As identified in the Sewer Analysis Report (PBS&J 2009), discharges associated with development as assumed under the proposed Specific Plan would be expected to exceed the capacity of several existing sewer pipes and require upsizing at several locations. Some required upgrades would not be adjacent to or within the proposed Specific Plan area, but further down gradient from the proposed Specific Plan area. Additionally, remaining capacity in the OCSD main and trunk lines, at the time of development of individual projects, is not identified. Consequently, development of individual projects in accordance with the proposed Specific Plan could result in exceedance of City or OCSD wastewater collection systems.

It is important to note that the required sewer pipe upgrades that are recommended in the Sewer Analysis Report are based on the best available data including existing flow data, calculated flow data, and future land use assumptions. Future developments may vary substantially from those assumed, which would, in turn, require a different pipe size upgrade than those shown in the Sewer Analysis Report.

Prior to allowing additional connections to the sewer lines, the capacity of the existing sewers would need to be confirmed by metering. A sewer study would be needed at the time of development of individual projects to determine if existing sewer lines need to be upgraded to accommodate the individual project's sewer flow. In order to address these issues, CR4.14-3 and CR4.14-4 would be implemented.

CR4.14-3 *Prior to issuance of a Precise Grading or Building Permit, Applicants of individual development projects in the Specific Plan area shall prepare a sewer analysis and submit it to the Department of Public Works for review and approval. Data from a 14-day or longer flow test shall be included in the analysis. This analysis shall specifically identify constraints, including requirements for new connections or upgrades to existing stubout connections, associated with development of individual projects in accordance with the proposed Specific Plan.*

CR4.14-4 *For each individual project, the OCSD shall confirm that there is capacity in the existing main and trunk sewer lines serving the individual projects that may be developed in accordance with the proposed Specific Plan.*

Implementation of CR4.14-3 and CR4.14-4 would ensure that capacity constraints at the time of development are accurately identified. However, this does not ensure that sufficient capacity would be available and impacts on the capacity of the City's wastewater collection system capacities would be potentially significant.

Similar to water distribution systems, the proposed Specific Plan would require that the construction of new wastewater collection systems within individual development projects' sites are considered as part of overall individual project construction. Individual water and wastewater connections would occur during construction. Construction of the wastewater collection systems would adhere to existing laws and regulations, including the Construction General NPDES permit, and the infrastructure would be sized appropriately for the specific development. If off-site infrastructure upsizing is necessary, a permit would need to be obtained from the City and the Applicant would be required to design and construct these

improvements per the requirements of the Department of Public Works Standard Plans and Construction General Permit. In addition, CR4.14-3 would require that a proper sewer study is conducted to determine if existing sewer lines would require upgrades to ensure that the construction of new or expanded wastewater conveyance systems would not cause significant environmental effects.

As required by OCSD, any development connecting directly or indirectly to the OCSD sewer system is required to pay a connection fee in accordance with the OCSD Connection Fee Master Ordinance. With respect to discharges that constitute an increase in the existing quantity of wastewater attributable to a particular parcel or operation already connected, the connection fee shall be based on the increase in anticipated use of the sewage system. The Connection Fee Program ensures that all users pay their fair share of any necessary expansion of the system, including expansion to wastewater treatment facilities. These fees are considered full mitigation under CEQA for potential impacts resulting from project development.

Implementation of mitigation measure MM4.14-2 would provide for mitigation of wastewater collection system capacity constraints such that potential impacts to wastewater collection system would be reduced to a ***less-than-significant*** level.

MM4.14-2 *The City of Huntington Beach shall require that adequate capacity in the wastewater collection system is demonstrated from the specific development site discharge location to the nearest OCSD main or trunk line to accommodate discharges from the specific development project. If capacity is demonstrated as adequate, no upgrades will be required. If capacity is not adequate, the City of Huntington Beach shall identify corrective action(s) required by the specific development Applicant to ensure adequate capacity. Corrective action could include, but is not limited to:*

- *Upsize new sewer pipes, as identified in sewer analysis (CR4.14-3)*
- *Discharge assessment fees/districts to upsize sewer lines at downstream locations or where contributing areas are large*
- *In-lieu fees to implement system-wide wastewater collection infrastructure improvements*
- *Other mechanisms as determined by the City Department of Public Works.*

Because some wastewater collection system constraints may be located far down gradient from the actual development site, several properties may serve to contribute to system capacity constraints. Therefore, the City Department of Public Works shall assess each development and system characteristics to identify the best method for achieving adequate capacity in the wastewater collection system.

The City of Huntington Beach Department of Public Works shall review the sewer analysis and determine required corrective action(s) or if a waiver of corrective action is applicable. The site-specific development Applicant shall incorporate required corrective actions into their project design and/or plan. Prior to Final Inspection, the City Department of Public Works shall ensure that required corrective action has been implemented.

Threshold	Would the project result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

Impact 4.14-5 **Implementation of the proposed project would not increase wastewater generation such that treatment facilities would be inadequate to serve the project's projected demand in addition to the provider's existing commitments. This impact is considered *less than significant*.**

As stated previously, the proposed Specific Plan wastewater generation would be about 2.86 mgd and the net wastewater generation would be 1.43 mgd, compared to existing wastewater generation from the proposed Specific Plan area. This would increase the demand upon regional treatment facilities. Remaining capacity at Reclamation plant No. 1 is approximately 98 mgd and the remaining capacity at Reclamation Plant No. 2 is approximately 24 mgd. As such, the reclamation plants would have more than adequate capacity to treat the additional net 1.43 mgd of wastewater that would be generated from the proposed Specific Plan. The proposed Specific Plan would represent less than two percent of the remaining capacity at Reclamation Plant 1 and about five percent of the remaining capacity at Reclamation Plant 2. However, it is likely that the impact on the wastewater reclamation plants would be less, given the fact that wastewater treatment planning occurs on a large-scale basis in response to known and/or anticipated regional growth trends rather than in response to any single project. Additionally, OCSD is already in the construction phase to upgrade the facilities to expand treatment capacity at both reclamation plants to add 60 mgd of secondary treatment at each plant. Further, water conservation measures, as required for ensuring adequate water supplies, would also serve to reduce wastewater generation with development of the proposed Specific Plan.

Consequently, construction or expansion of wastewater treatment facilities is not anticipated to be necessary to serve the proposed Specific Plan's needs. The OCSD has adequate treatment capacity available over the long term to serve the proposed Specific Plan. In addition, the proposed Specific Plan would be required to adhere to existing laws and regulations associated with wastewater discharge and treatment requirements. Therefore, the proposed Specific Plan's impacts on wastewater treatment facilities are ***less than significant***. No mitigation measures are required.

Solid Waste

4.14.7 Environmental Setting

Rainbow Disposal is the exclusive hauler of all solid waste for the City of Huntington Beach. Rainbow Disposal has an agreement with the City to haul commercial waste but will not take liquids or hazardous materials, such as paint, oil, solvents, chemicals, or tires per state law. In addition, they do not accept sod, manure, lumber, concrete, or construction debris. However, the County of Orange provides free household hazardous waste collection centers, one of which is located at the Rainbow Disposal Transfer Station in Huntington Beach, which is further discussed below.

Rainbow Disposal operates a Transfer Station, located at 17121 Nichols Street within the City of Huntington Beach, and two Materials Recovery Facilities (MRFs) through which all solid waste is processed. A transfer station is a solid waste facility where smaller refuse-collection vehicles dump their loads of waste onto a tipping floor. This waste is then placed into larger transfer vehicles for transport to the point of ultimate disposal. Use of this type of facility reduces hauling costs and also reduces the number of trucks on the highway. Rainbow Disposal's Transfer Station has a design capacity of 2,800 tons per day, and currently receives 1,800 to 2,000 tons per day. At maximum the Rainbow Disposal's Transfer Station is at approximately 71 percent utilization (Gordon 2008). At the MRFs, trash is mechanically and manually sorted in order to ensure that the maximum amount goes towards recycling and the minimum amount is separated for landfill disposal.

One MRF primarily processes residential solid waste, and the other MRF processes residential and quasi-industrial solid waste, including construction waste. Construction-related waste is processed at various steps including sorting at the site followed by sorting at the tipping deck at the MRF. Thus, construction-related solid waste is processed via a primary and secondary sort, while the majority of solid waste is processed solely through a secondary (or dirty) sort.

As of 2006, which represents the most recent data available, the City of Huntington Beach maintained a 71 percent diversion rate from the Orange County landfills, which exceeds the AB 939 requirement of 50 percent diversion of solid waste by the Year 2000 (CIWMB 2009).

The Orange County Integrated Waste Management Department (IWMD) presently owns and operates three active landfills, including: Frank R. Bowerman Landfill in Irvine; Olinda Alpha Landfill in Brea; and Prima Deshecha Landfill in San Juan Capistrano. All three landfills are permitted as Class III landfills and have a combined design capacity of 20,500 tons per day. Class III landfills accept only non-hazardous municipal solid waste for disposal; no hazardous or liquid waste can be accepted. Table 4.14-18 (Landfill Capacity) shows the existing capacities of each of these landfills, as well as their anticipated closure dates and annual usage.

Table 4.14-18 Landfill Capacity

Landfill	*Location*	*Current Remaining Capacity (Cubic Yards)*	*Maximum Capacity (Cubic Yards)*	*Estimated Close Date*	*Maximum Daily Load (tons)*	*2007 Annual Disposal (tons)*
Frank R. Bowerman	11002 Bee Canyon Access Road Irvine, CA 92602	59,411,872	127,000,000	2022	8,500	2,056,731
Olinda Alpha	1942 North Valencia Avenue Brea, CA 92823	38,578,383	74,900,000	2013	8,000	1,869,330
Prima Deshecha	32250 La Pata Avenue San Juan Capistrano, CA 92675	87,384,799	172,900,000	2067	4,000	581,791

SOURCE: CIWMB 2009b

The City is under contract to the County's IWMD to dispose of all waste to the County landfill system (not a particular facility) until the Year 2010. Presently, it is anticipated that the Orange County landfill system will have adequate capacity to operate until 2067. Materials that cannot be salvaged for reuse are

sent to the Frank R. Bowerman Landfill in Irvine. Permitted capacity for the landfill is limited to 8,500 tons per day. Trucks are diverted to one of the other two landfills (Olinda Alpha in Brea and Prima Deshecha in San Juan Capistrano) in the county if the per day capacity is reached at the Bowerman Landfill.

The Regional Landfill Options for Orange County (RELOC) Strategic Plan is a long-range strategic planning project initiated by IWMD to assess the County's existing disposal system capabilities and develop viable long-range solid waste disposal options for the County. Updates to the Strategic Plan are provided annually. As discussed in the latest 2007 Strategic Plan Update, Frank R. Bowerman is currently scheduled to close in 2022 but upon completion of the Plan's short-term strategy No. 2, the scheduled closure date will be 2053. In addition, Olinda Alpha is currently scheduled to close in 2013 but upon completion of the Plan's short-term strategy No. 3, the scheduled closure date will be 2021. IWMD remains committed to the implementation of both the Phase 1 (short-term) and Phase 2 (long-term) strategies identified within the Plan (OCIWMD 2007).

The California Integrated Waste Management Board (CIWMB) requires that all counties have an approved Countywide Integrated Waste Management Plan (CIWMP). To be approved, the CIWMP must demonstrate sufficient solid waste disposal capacity for at least fifteen years, or identify additional available capacity outside of the County's jurisdiction. To this end, the RELOOC program, a 40-year Strategic Plan, was created. RELOOC evaluates options for trash disposal for Orange County citizens and ensures that waste generated by the County is safely disposed of and that the County's future disposal needs are met.

4.14.8 Regulatory Framework

Federal

There are no applicable federal laws, regulations, or policies that pertain to solid waste.

State

California Integrated Waste Management Board

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

California Solid Waste Reuse and Recycling Access Act of 1991

The *California Solid Waste Reuse and Recycling Access Act of 1991* requires each jurisdiction to adopt an ordinance by September 1, 1994 requiring each "Development Project" to provide an adequate storage area for collection and removal of recyclable materials.

AB 939—California Integrated Waste Management Act

In 1989, the State Legislature adopted the *Integrated Waste Management Act of 1989* (AB 939), which established an integrated waste management hierarchy that consists of the following in order of importance: source reduction, recycling, composting, and land disposal of solid waste. The law also requires that each county prepare a new IWMP. The Act further required each city to prepare a Source Reduction and Recycling Element (SRRE) by July 1, 1991. Each SRRE includes a plan for achieving a solid waste goal of 25 percent by January 1, 1995, and 50 percent by January 1, 2000. Recently, a number of changes to the municipal solid waste diversion requirements under the *Integrated Waste Management Act* were adopted, including a revision to the statutory requirement for 50 percent diversion of solid waste. Under these provisions, local governments shall continue to divert 50 percent of all solid waste on and after January 1, 2000.

Local

Countywide Integrated Waste Management Plan

The CIWMP consists of many parts. Each city in the County, and the unincorporated area of the County, has several planning documents that outline their proposals for waste diversion methods. Specifically, the CIWMP is composed of the Siting Element, Summary Plan, Source Reduction and Recycling Element, Nondisposal Facility Elements, and the Household Hazardous Waste Element. All of these planning documents must be kept current and are submitted to the CIWMB for approval and acceptance. The entity assigned with the task of overseeing the submittal of these documents is the County of Orange, Waste Management Commission/Local Task Force.

General Plan Utilities Element

The City's General Plan Utilities Element (1996) focuses on the City's water supply, sanitation treatment, storm drainage, solid waste disposal, natural gas, electricity, and telecommunications systems. Applicable goals and policies of this element related to solid waste management include the following:

Goal U 4 Maintain solid waste collection and disposal services in accordance with the California *Integrated Waste Management Act of 1989* (AB 939), and pursue funding sources to reduce the cost of the collection and disposal services in the City.

Objective U 4.1 Ensure an adequate and orderly system for the collection services and the disposal of solid waste to meet the demands of new and existing development in the City.

Policy U 4.1.1 Maintain adequate solid waste collection for commercial, industrial, and residential developments in accordance with state law.

Consistency Analysis

Future development under the Specific Plan project would be served by Rainbow Disposal, which has been contracted by the City to maintain solid waste disposal needs. No actions brought forth by the proposed project would be in conflict with the goals outlined in the Utilities Element of the City's General Plan.

4.14.9 Project Impacts and Mitigation

Analytic Method

To determine the amount of solid waste generated by the proposed project, solid waste generation factors identified by the CIWMB are applied to net growth under buildout of the Specific Plan, as presented in Table 4.14-19 (Estimated Solid Waste Generation). The net growth in land use types was extrapolated from data presented in the Traffic Study (Appendix F1).

Table 4.14-19 Estimated Solid Waste Generation

Land Use	*Solid Waste Generation Rates (pounds/day)*	*Units*	*Waste Generated (pounds/day)*	*Waste Generated (tons/year)*
Commercial	0.006/sf	-178,000 sf	-1,068	(195)
Office	0.006/sf	-265,000 sf	-1,590	(290)
Residential	4/du	6,400 du	25,600	4,672
Hotel	2/room	350 rooms	700	128
		Total	***23,642***	***4,315***

Source: CIWMB Estimates of Solid Waste Generation Rates

Thresholds of Significance

The following thresholds of significance are based on Appendix G of the 2009 CEQA Guidelines. For purposes of this EIR, implementation of the proposed project may have a significant adverse impact if it would do either of the following:

- Not comply with federal, state, and local statutes and regulations related to solid waste
- Be served by a landfill with insufficient permitted capacity to accommodate the project's solid disposal needs[60]

Effects Not Found to Be Significant

The following issue areas were determined to result in less-than-significant or no impacts according to the Initial Study prepared for the project.

[60] These standards have been slightly modified from the text found in the 2009 CEQA Guidelines, Appendix G, for ease of comprehension.

Threshold	Would the project not comply with federal, state, and local statutes and regulations related to solid waste?

As a condition of approval, all future development under the proposed project would be required to comply with all federal, state, and local statutes and regulations related to solid waste handling, transport, and disposal during construction and long-term operation. No impact would occur, and no further analysis of this issue is required in this EIR.

Impacts and Mitigation

Threshold	Would the project be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs?

Impact 4.14-6 **Implementation of development under the proposed project would not generate solid waste that exceeds the permitted capacity of landfills serving the City of Huntington Beach. This impact is *less than significant*.**

As identified in the Analytic Method, the net growth under the proposed project is estimated to generate an increase of approximately 23,642 pounds per day, or approximately 4,315 tons per year, of solid waste at buildout (2030).

As discussed in Chapter 3 (Project Description) as well as Section 4.10 (Population and Housing) of this EIR, it is the City's intent to effectively redistribute the overall residential growth that was originally identified in the General Plan to other areas of the City through implementation of the proposed Specific Plan. Full buildout of the proposed Specific Plan would capture less than half of the remaining anticipated residential growth in the City. Consequently, the project would not represent an increase in housing above what was projected in the General Plan buildout scenario. In addition, buildout of the Specific Plan would actually permit less commercial and office space compared to existing conditions. Therefore, while development under the proposed project would represent an increase in land use densification compared to existing conditions, the overall growth would be within the growth projections identified in the City's General Plan.

Rainbow Disposal's Transfer Station has a current design capacity of 2,800 tons per day, and has plans to expand the capacity to 4,000 tons per day. According to the Mitigated Negative Declaration (MND) prepared for the expansion of the facility, that project would be implemented in phases that would be in step with market demand and would likely take up to 10 years to complete the project buildout. Expansion of the facility is designed to accommodate a growing waste stream for processing and recycling as a result of new developments throughout the City. Therefore, the transfer station would have adequate capacity to accommodate future development under the proposed Specific Plan. In addition, the two MRFs sort and separate all waste and recycle all appropriate materials, which further reduce the amount of waste going to landfills.

The three landfills that could serve future development under the proposed project have a combined design capacity of 20,500 tons per day. The maximum estimated increase in solid waste generated by

future development under the Specific Plan at buildout is approximately 11.8 tons per day, or less than one-tenth of one percent of the combined permitted daily capacities. In addition, this estimated increase in waste resulting from the project does not take into account that at least 50 percent will be diverted from the landfills. For example, if the City's latest diversion rate of 71 percent held constant through 2030, the increase in waste generated by the proposed project that would go to the landfills would be closer to 3.4 tons per day.[61] Further, according to the RELOC, the scheduled closure dates for the Frank Bowerman and Olinda Alpha landfills will be extended to 2053 and 2021, respectively.

Because the RELOOC is a long-term planning document intended to ensure that the County's future disposal needs are met, and because the existing landfills demonstrate sufficient capacity to accept the increase in waste stream, solid waste impacts are considered ***less than significant***. No mitigation is required.

Energy

4.14.10 Environmental Setting

For the purposes of this analysis, energy resources consist of electricity and natural gas. Electricity in the proposed project area is provided to the City by Southern California Edison (SCE), while The Southern California Gas Company (SCGC) provides natural gas services.

Electricity

The 2005 Integrated Energy Policy Report prepared by the California Energy Commission (CEC) summarizes the state of California's electrical and natural gas supplies. Despite improvements in power plant licensing, enormously successful energy efficiency programs and continued technological advances, development of new energy supplies is not keeping pace with the state's increasing demands. A key constraint in energy is the state's electricity transmission system. Under most circumstances, the state's power grid is able to reliably deliver energy to consumers; for the majority of the days during the year adequate energy supplies are reliably provided to consumers. California's electricity demand is driven by short summer peaks, such that reducing peak demand is the essential factor in adequately planning for the State's electrical needs. These peak demands include a few hours to several days each year, such that managing demand, rather than developing supplies at new power plants for this limited time appears the most efficient method to meet State needs on peak days. The CEC has developed an action plan that includes increasing energy capacity in investor-owned utilities, incentives for combined heat and power projects (cogeneration), energy efficiency programs, and expansion of renewable energy programs.

SCE derives its electricity from a variety of sources, as shown in Table 4.14-20 (Southern California Edison Power Content). Nearly half of its electricity comes from natural gas, with renewable resources constituting another nearly 20 percent.

[61] (11.8 tons/day) x (0.71) = 8.4 tons/day; and (11.8 tons/day) – (8.4 tons/day) = 3.4 tons/day

Table 4.14-20 Southern California Edison Power Content

Energy Resources	*SCE Power Mix (projected)*
Eligible Renewable	19%
Biomass and Waste	2%
Geothermal	11%
Small hydroelectric	1%
Solar	1%
Wind	4%
Coal	11%
Large Hydroelectric	4%
Natural Gas	49%
Nuclear	17%
Other	<1%
Total	***100%***

SOURCE: Tran 2004 Percentages are estimated annually by the California Energy Commission based on electricity sold to California consumers during the previous year.

Natural Gas

California has not experienced a widespread natural gas shortage in many years. Current supplies are adequate to meet demands, although natural gas storage could be expanded to improve reliability. The state imports 87 percent of its statewide natural gas supply.

Natural gas is provided to the region by SCGC, which provides service to 19 million people in California. The SCGC receives its supply of natural gas from several sources: Southern California, Northern California, and out-of-state suppliers. All natural gas services are regulated by the California Public Utilities Commission (CPUC).

4.14.11 Regulatory Framework

Federal

No federal policies related to energy would apply to the proposed project.

State

California Code of Regulations (CCR) Title 24

New buildings in California are required to conform to energy conservation standards specified in Title 24 of the CCR. The standards establish "energy budgets" for different types of residential and non-residential buildings, which all new buildings must comply with. The energy budget has a space-conditioning component and a water-heating component, both expressed in terms of energy (British

thermal units [BTU]) consumed per year. The regulations allow for trade-offs within and between the components to meet the overall budget. Energy consumption of new buildings in California is regulated by the State Building Energy Efficiency Standards, embodied in Title 24 of the CCR. The efficiency standards apply to new construction of both residential and nonresidential buildings, and regulate energy consumed for heating, cooling, ventilation, water heating, and lighting. The building efficiency standards are enforced through the local building or individual agency permit and approval processes. The City requires all new buildings to meet Title 24 standards.

Local

General Plan Utilities Element

The City's General Plan Utilities Element (1996) focuses on the City's water supply, sanitation treatment, storm drainage, solid waste disposal, natural gas, electricity, and telecommunications systems. Applicable goals and policies of this element related to gas and electricity services and facilities include the following:

Goal U 5 Maintain and expand service provision to City of Huntington Beach residences and businesses.

Objective U 5.1 Ensure that adequate natural gas, telecommunication, and electrical systems are provided.

Policy U 5.1.1 Continue to work with service providers to maintain current levels of service and facilitate improved levels of services.

Policy U 5.1.2 Continue to underground above ground electrical transmission lines.

Consistency Analysis

Future development under the proposed project could include the expansion of energy infrastructure throughout the project site. As discussed below, an adequate supply of electricity is anticipated to be available to serve the proposed project. Further, all future developments under the Specific Plan would comply with the provisions of Title 24 of the CCR. Also, because SCE is currently in the process of upgrading its transmission systems, it is anticipated that the electricity demand generated by future development projects could be supplied without the need for additional construction or expansion of energy facilities beyond that which was previously planned. Therefore, the proposed project would not conflict with the applicable goals, objectives, and policies of the City's General Plan Utilities Element.

4.14.12 Project Impacts and Mitigation

Analytic Method

To determine the increase in electricity and natural gas demand, energy demands for each utility were calculated using a per-square-foot consumption rate. As shown in Table 4.14-21 (Estimated Electricity

Demands), the anticipated net growth in electricity demand associated with future development is 35,574,000 kilowatt-hours per year (kWh/year) at buildout. The net growth in land use types was extrapolated from data presented in the Traffic Study (Appendix F1).

Table 4.14-21 Estimated Electricity Demands

Land Use	*Generation Rate*	*Unit*	*Demand (kWh/year)*
Commercial	11.8 kWh/year/sf	- 178,000 sf	(2,100,400)
Office	8.8 kWh/year/sf	- 265,000 sf	(2,332,000)
Residential	6,081.00 kWh/year/unit	6,400 du	38,918,400
Hotel	6.8 kWh/year/sf	160,000 sf *	1,088,000
		Total	***35,574,000***

SOURCE: SCAQMD CEQA Handbook; kWh = kilowatt-hour

* Assumes approximately 458 sf per hotel room

As shown in Table 4.14-22 (Estimated Natural Gas Demand), the anticipated increase in natural gas demand associated with future development is 311,925,600 cubic feet per year (cf/year) at buildout. The net growth in land use types was extrapolated from data presented in the Traffic Study (Appendix F1).

Table 4.14-22 Estimated Natural Gas Demands

Land Use	*Generation Rate*	*Unit*	*Demand (cf/year)*
Commercial	34.8 cf/sf/year	- 178,000 sf	(6,194,400)
Office	24 cf/sf/year	- 265,000 sf	(6,360,000)
Residential	49,260 cf/du/year	6,400 du	315,264,000
Hotel	57.6 cf/sf/year	160,000 sf *	9,216,000
		Total	***311,925,600***

SOURCE: SCAQMD CEQA Handbook; cf = cubic feet

* Assumes approximately 458 sf per hotel room

Thresholds of Significance

The following thresholds of significance are based on Appendix F of the 2009 CEQA Guidelines, which sets forth guidelines with regard to addressing impacts of a proposed project on energy resources. The IS/NOP prepared for the project did not evaluate potential impacts of the proposed project on electricity and natural gas utilities. As such, effects of the proposed project on these two service systems are covered in the EIR. For the purposes of this EIR, implementation of the proposed project may result in a potentially significant impact if the proposed project would cause either of the following results:

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

Impacts and Mitigation

Threshold	Would the project require or result in the construction of new energy production and/or transmission facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

Impact 4.14-7 **Implementation of the proposed project could increase the demand for electricity and/or natural gas; however, the construction of new energy and/or gas production or transmission facilities would not be required. This impact is considered *less than significant*.**

Electricity

Development of future projects under the proposed Specific Plan would increase the use of electricity, to light, heat, and air condition the various land uses as they are developed, particularly for residential uses. Based on the information provided in Table 4.14-21, the net increase in annual electricity consumption by buildout of the proposed project is estimated to be approximately 35,574,000 kWh/year. The State is currently experiencing constraints related to energy supply and delivery. These constraints are generally limited to peak demand days during the summer months, such that for the majority of the days during the year adequate energy supplies are reliably provided to consumers. On peak days, the incremental demand from the proposed project would contribute to electricity supply and delivery constraints. All future development under the proposed project would be required to comply with the energy conservation measures contained in Title 24, which would reduce the amount of energy needed for the operation of any buildings constructed under the Specific Plan.

SCE has invested $3 billion in its transmission and distribution system throughout its 50,000-square-mile service area and expects to invest an additional $11 billion in electricity infrastructure replacement and improvement over the next decade. The upgrading of existing equipment would occur while SCE accommodates significant customer growth. Over the period of its infrastructure project, SCE expects to add 45,000 to 50,000 new customers a year. SCE has applied to state and federal agencies for authorization to complete several major transmission expansion projects over the next six to 10 years. These projects will help ensure adequate power flow and voltage for 13 million people while benefiting electricity customers in all eleven states of the western power grid (SCE 2008).

An adequate supply of electricity is anticipated to be available to serve the proposed project. Further, future development under the proposed project would comply with the provisions of Title 24 of the CCR. As such, the proposed project shall be designed in such a way as to conserve energy. Also, because SCE is currently in the process of upgrading its transmission systems, it is anticipated that the electricity demand generated by the proposed project could be supplied without the need for additional construction or expansion of energy facilities beyond that which was previously planned. Therefore, this impact would be ***less than significant***, and no mitigation is required.

Natural Gas

As shown above in Table 4.14-22, the net increase in demand for natural gas as a result of buildout under the proposed Specific Plan would be approximately 311,925,600 cf/year. Future developments would be served by existing gas lines located in various locations throughout the project site, which currently service the area. As SCGC declares itself a "reactive" utility that will provide natural gas as customers request its services, SCGC has indicated that an adequate supply of natural gas is currently available to serve the proposed project and that the natural gas level of service provided to the surrounding area would not be impaired by the proposed project. If new or extended natural gas lines are required to serve future development, such infrastructure would be located underground and would be constructed in accordance with SCGC's policies and extension rules on file with the CPUC at the time contractual agreements are made. Because the natural gas demand projected for the proposed project would not exceed available or planned supply, new infrastructure would not be required to serve the project site. Therefore, this impact would be ***less than significant***, and no mitigation is required.

Threshold	Would the project encourage the wasteful or inefficient use of energy?

Impact 4.14-8 **Implementation of the proposed project would not result in the wasteful or inefficient use of energy. This impact is considered *less than significant*.**

As discussed in the Regulatory Framework section above, all new buildings are required to conform to the energy conservation standards specified in CCR Title 24. In order to conform to CCR Title 24, efficient energy use would be enforced and would ensure that a ***less-than-significant*** impact remains with respect to the wasteful or unnecessary use of energy. No mitigation is required.

4.14.13 Cumulative Impacts: Water Supply, Wastewater, Solid Waste, and Energy

Water Supply

The geographic context for the City's analysis of cumulative water supply impacts is the service area boundaries of the Orange County Water District, including all anticipated cumulative growth represented by full implementation of the General Plan, and the specific projects identified by Table 3-3 (Cumulative Projects) in Chapter 3. The cumulative analysis below essentially summarizes that provided in Impact 4.14-2 because impacts to water supply are regional (or cumulative) in nature rather than a direct result of only one project.

On a regional level, over the 20-year period ending in 2030, an increase in demand by at least 50,000 AFY (PBS&J 2009b, Comprehensive Water Demand Discussion) is anticipated for the entire Orange County groundwater basin. Dry year demands on the groundwater basin may increase as part of conjunctive use programs when surface water diversions are curtailed, but average groundwater demands are expected to remain below the sustainable yield of the basin. Current projections based on the most reasonably available data indicate the regional supplies (import water and groundwater) in all hydrologic years are insufficient to meet projected demands within the Orange County groundwater basin as a

whole. Primarily due to SWP cutbacks related to the protection of the threatened Delta smelt and year three of the statewide drought, along with the number of dry years the state has experienced, Metropolitan's Met WSAP was adopted to curtail demands. If multiple dry years prevail, further import water reductions could be necessary. Consequently, on an annual basis MWDOC would adjust its supply allocations to higher MWDOC's WSAP stages. On the other hand, as previously stated, the statewide supply situation is subject to change and could return to normal or above-normal year precipitation in the near-term and then extend over many years. This assumes that water year history will repeat itself and these cyclical wet hydrologic periods return. In addition, forthcoming case law or new pumping technology could lift the SWP pumping restrictions; thereby, returning the system to firm delivery capacity.

In order to evaluate the project's potential contribution to citywide demands, the proposed project's average annual demand is estimated at 1,180 AFY, without consideration of proposed conservation features or implementation of mitigation measures. Within the context of the City's projected demands through 2030, the net increase in demand from the proposed project represents 3.2 percent of anticipated citywide demands in 2030 (1,180/36,894). Furthermore, the net increase of 1,180 AFY amounts to approximately 33 percent (1,180/3,572) of anticipated citywide growth in water demand in the same period. As evaluated within the context of the City's anticipated growth in demand, the proposed project's demand contribution is not large.

The City can anticipate an increase in demand of 3,571 AFY in normal years between 2010 and 2030 (PBS&J 2009, Table 6-2). Likewise, as shown in Table 4.14-13, the City can anticipate an increase in demand of 3,242 AFY in normal years between 2010 and 2030. As previously stated, this scenario assumes the City continues to maintain demands and supplies return to Base Year conditions. As discussed previously, however, although demand may increase per capita in the future, based on historical trends and data, along with continued water conservation technology improvements, efforts, education, and public awareness, it is not expected that demand per capita will increase.

As previously stated, under some of the various potential scenarios of water availability, a supply deficit could exist after 2010 or after 2020, depending on the various WSA models used, due to reduction of imported water supply under the SWP supply curtailments. On the other hand, the WSA concluded that under the worst case scenario, to meet demand from projected population growth up to 2030, aggressive water conservation of up to 13.4 percent would be necessary to balance supply and demand. Although the City has demonstrated significant water conservation over the last 10 years at approximately 8.6 percent, until such time as additional savings from water conservation can be demonstrated, or the water supply situation improves, this is considered a significant cumulative impact. Because the proposed project would contribute to the regional deficiency in the future, the effects of the proposed project are cumulatively considerable. Therefore, the cumulative impact to water supply is ***significant***.

Water Efficiency and Conservation Efforts

Water conservation will play a significant role in ensuring that the City will meet its future water demands, as it has been shown to reliably reduce water demands, and thereby extend existing water supplies and reduce the need for new supplies. This conservation is realized through hardware (water

efficient fixtures), irrigation and landscape design, education, policies, and behavioral changes in water use of residents and other customers. Empirical evidence reported by other jurisdictions indicates that consumers in these service areas have responded positively to requests for conservation and that these jurisdictions have achieved 20 to 25 percent water savings (Huntington Beach 2005, 41).

On April 9, 2009, the City Council of Huntington Beach unanimously approved the Stage 1 Voluntary Conservation program of the City's Water Management Program as a means to reduce citywide demands on local and regional water supply sources. In addition, the City is currently preparing a Water Use Efficiency Master Plan (WUEMP), which is a key to creating reliable water for current and future water supply through more aggressive water conservation. This document will be comprised of methodologies, implementation strategies, plumbing fixture requirements, and policies that will help the City efficiently use water and effectively reduce demands over the next 20 years.

As Signatory to the Memorandum of Understanding (MOU) with the California Urban Water Conservation Council (CUWCC), the City has committed to a good faith effort in implementing the 14 cost-effective Demand Management Measures (DMM). The 14 DMMs include:

1) Water survey programs for single-family residential and multifamily residential customers
2) Residential plumbing retrofit
3) System water audits, leak detection, and repair
4) Metering with commodity rates for all new connections and retrofit of existing connections
5) Large landscape conservation programs and incentives
6) High-efficiency washing machine rebate programs
7) Public information programs
8) School education programs
9) Conservation programs for commercial, industrial, and institutional accounts
10) Wholesale agency programs
11) Conservation pricing
12) Water conservation coordinator
13) Water waste prohibition
14) Residential ultra-low-flush toilet replacement programs

Optimization of the conservation programs or strategies listed above along with implementation of the WUEMP will reduce demands throughout the City's service area. Water efficient fixtures in new developments, landscape and design improvements, and indoor fixture replacements and retrofits at existing connections would reduce indoor demands. In new developments this could be as high as 40 percent. Conservation efforts employed during different supply scenarios could effectively balance the supply and demand situations, thereby eliminating the projected supply deficits that may occur.

As the City continues to boost its conservation programs, consumption reductions would have a long-term benefit to the local groundwater basin. Future participation in other conservation programs may be funded as an option to offset additional water demands.

The entire southern region of California is grappling with the reliability of water supplies, and each water wholesaler and retailer has a responsibility to supply adequate supplies to its customers or member agencies. To that end, Metropolitan is working to bolster its regional supplies through a number of programs, plans, contracts, and new or expanded facilities. There are numerous programs currently being negotiated to meet reliability goals. However, each qualifying project will be subject to environmental analysis, funding constraints, and drought supply constraints. For this reason, these supplies under development are not considered guaranteed or available by any certain time.

OCWD prepared a Groundwater Management Plan and established its Long Term Facilities Program (LTFP) to bolster and sustain the Orange County groundwater basin. The LTFP has water supply goals, programs for increasing water supplies and financial accountability to obtain those goals and increase groundwater supplies.

As the water provider to the project area, the City has put forth adequate due diligence evaluations that show good faith efforts in both short- and long-term water supply planning. Poseidon Resources Corporation (Poseidon) is the project applicant/proponent for a desalination facility in Huntington Beach and the City has entered into an agreement with Poseidon. The City Council certified the Recirculated Environmental Impact Report for the project in September 2005 and approved the Conditional Use Permit and Coastal Development Permit in February 2006. Poseidon is in the process of obtaining a Coastal Development Permit from the California Coastal Commission. The project has also received several key permits, and construction could begin within the next five years.

The City will be also expanding and enhancing its conservation efforts through its WUEMP. This effort will reduce the City's regional demands and help to stabilize local groundwater supplies in the Orange County groundwater basin. Furthermore, when there is an opportunity to capture urban runoff, treated captured water can be distributed for non-potable irrigation purposes; thereby, firming up the reliability of potable water within the City boundaries. The complete list of these supply improvement projects is presented in Section 7.0 of the WSA (Appendix G of this EIR).

In addition, the statewide water supply situation is subject to change annually and could return to normal or above-normal year precipitation in the near-term and then extend over many years. In addition, forthcoming case law or new pumping technology could lift the SWP pumping restrictions; thereby, returning the system to firm delivery capacity.

At this time, the implementation and timing of these improvements are unknown and estimates of new or supplemental supplies cannot be guaranteed. On the other hand, the WSA concluded that under the worst case scenario, to meet demand from projected population growth up to 2030, aggressive water conservation up to 13.4 percent would be necessary to balance supply and demand. The City has demonstrated significant water conservation over the last 10 years at approximately 8.6 percent. However, until such time additional savings from water conservation can be demonstrated, or the water supply situation improves, the proposed project would make a cumulative considerable contribution to this cumulatively significant impact, as identified above.

Water Facilities

Conveyance Infrastructure

All cumulative development, including the proposed project could include the construction of necessary water conveyance pipeline upgrades, both on- and off-site, to serve future development. Per City requirements, the water lines associated with new development are required to be sized appropriately for the anticipated design average day demand and appropriate peaking factors. Construction of water conveyance infrastructure is considered an integral part of the overall construction plan of any development, when required. Because all cumulative development, including the proposed project, would be required to adhere to existing laws and regulations, and the infrastructure would be appropriately sized for each site-specific development, this is considered a ***less-than-significant*** cumulative impact.

Treatment Facilities

As discussed previously, the City receives approximately two-thirds of its water supply from groundwater wells and one-third from Metropolitan. The City uses flexible operational procedures to deliver water to its customers, and in doing so it switches supply flows between the two supply sources in order to keep seasonal reliability high and water moving through the conveyance facilities.

The demand for groundwater generated by existing and cumulative development is not anticipated to require additional treatment facilities because wellhead treatment is provided directly at the originating wells prior to distribution throughout the City's service area.

Metropolitan treats imported water at either the Diemer Filtration Plant or the Jensen Filtration Plant prior to distribution to its member agencies or retail purchases. As stated previously, the Diemer Filtration Plant has an operating capacity of 550 mgd and currently produces approximately 213 mgd, while the Jensen Filtration Plant currently has an operating capacity of 750 mgd and currently produces approximately 420 mgd. If the City's maximum demands of 36.0 mgd were treated solely at either Filtration Plant, this increase would represent 11 percent of the remaining capacities of both facilities (Diemer and Jensen). If the maximum demands are supplied from both treatment facilities the City demands represent 5.3 percent of the combined total remaining capacities of both facilities.

Because existing and cumulative development within the City represents a fraction of the remaining operating capacity at both Diemer Filtration Plant and Jensen Filtration Plant along with the groundwater supplies, it is anticipated that the existing plants and wells could adequately serve the City's demands without requiring expansions to these facilities. In terms of groundwater, the wellhead treatment systems associated with the City's ten wells can adequately treat the water demands associated with the City's existing and planned future uses.

Furthermore, Metropolitan manages and maintains all the treatment plants, any improvements or expansions are the responsibility of Metropolitan and would not adversely affect the City nor it is not necessary for the City to operate a proprietary water treatment plant. Metropolitan has planned for improvements to the water treatment system to improve system reliability and accommodate projected growth in its regional service area. In order to ensure proper distribution, Metropolitan also manages the

regional conveyance system used to transport potable water supplies to the retail water agencies. Therefore, as a result of anticipated cumulative growth in water demands within the City's service area, no new or expanded water treatment facilities or storage would be required. Therefore, this cumulative impact is considered ***less than significant***.

Wastewater

The RWQCB, in connection with the implementation of the NPDES program, has imposed requirements on the treatment of wastewater and its discharge into local water bodies. Wastewater produced by the proposed project would meet these requirements because of treatment capacity available at Wastewater Reclamation Plants No. 1 and No. 2. Therefore, cumulative development would not result in the exceedance of SARWQCB wastewater treatment requirements, and would have a ***less-than-significant*** cumulative impact.

Cumulative growth in the OCSD service area (21 cities and 3 districts) could result in the need for additional conveyance infrastructure, and because of the continually developing nature of the service area, it is expected that such expansion of conveyance infrastructure could result in significant cumulative environmental effects. However, existing regulations (Construction General NPDES permit, Orange County NPDES Permit, Municipal Codes, California Building Code, and others) would ensure that potential effects are minimized. Individual projects associated with implementation of the proposed Specific Plan could exceed the conveyance capacity of portions of the City's wastewater collection system. Implementation of mitigation measure MM4.14-2 would ensure adequate conveyance capacity for the proposed Specific Plan and impacts would be less than significant. Therefore, the proposed Specific Plan would not contribute considerably to cumulative impacts and cumulative impacts would be ***less than significant***.

Development of cumulative projects within the OCSD service area would generate additional quantities of wastewater, depending on net increases in population, square footage, and intensification of uses. These projects would contribute to the overall regional demand for wastewater treatment service. Remaining capacity at OCSD Reclamation Plant No. 1 is approximately 98 mgd and the remaining capacity at Reclamation Plant No. 2 is approximately 24 mgd. According to OCSD, upgrading of both plant's total treatment capacity, to add 60 mgd of secondary treatment capacity to each plant, is currently in the construction phase. Based on the current land use for the entire proposed Specific Plan area, the existing sewer flow from the proposed Specific Plan area is about 1.43 mgd (PBS&J 2009). Therefore, development of the proposed Specific Plan would increase the net amount of wastewater transported by the City's sewer system by approximately 1.43 mgd, which represents about one to five percent of the current remaining capacity of the plants. In addition, the City would continue to implement water conservation measures that would result in a decrease in wastewater generation. Therefore, as both reclamation plants retain excess capacity, this is considered to be a ***less-than-significant*** cumulative impact.

Solid Waste

Orange County IWMD has the ability to take up to 20,500 tons of solid waste per day into its three landfills. With the implementation of the AB 939 provisions, which mandates the reduction of solid waste disposal in landfills, the amount of solid waste disposed of in landfills is required to be 50 percent lower than actual waste production (at a minimum). The RELOC Strategic Plan provides a mechanism for long-term planning of the solid waste needs of Orange County. As discussed in the latest annual update, two of the three landfills will have their closure dates extended beyond what was originally assumed in order to accommodate increased capacities. All developments (existing and planned) generate solid waste that eventually leads to closure of landfills once they have reached their maximum capacity. However, because the County has a system in place, such as the RELOC, to monitor and respond to solid waste capacity issues, it is assumed that cumulative growth would not result in a significant impact. In addition, the increase in solid waste generation as a result of future development under the proposed project at buildout would represent less than one percent of the permitted daily capacity at the three landfills. Therefore, the proposed project would not create demands for solid waste services that exceed the capabilities of the County's waste management system. Consequently, the proposed project would not have a significant cumulative contribution to solid waste impacts. Therefore, cumulative impacts associated with solid waste in Orange County would be considered ***less than significant***.

Energy

SCE has invested $3 billion in its transmission and distribution system throughout its 50,000-square-mile service area and expects to invest an additional $11 billion in electricity infrastructure replacement and improvement over the next decade. The upgrading of existing equipment would occur while SCE accommodates significant customer growth. Over the period of its infrastructure project, SCE expects to add 45,000 to 50,000 new customers a year. SCE has applied to state and federal agencies for authorization to complete several major transmission expansion projects over the next 6 to 10 years. These projects will help ensure adequate power flow and voltage for 13 million people while benefiting electricity customers in all eleven states of the western power grid (SCE 2008). Because SCE is able to meet future projected demands, and an action plan has been identified to address energy issues on a broader scale, cumulative impacts would be less than significant. In addition, because the proposed project would have a less-than-significant contribution to these impacts, the cumulative electricity impact is considered ***less than significant***.

With regards to natural gas, development in the geographic area surrounding the project site would result in continued use of this resource. The area surrounding the project site is currently served by existing infrastructure that the proposed project would also use. The Gas Company has stated that it can supply natural gas without jeopardizing other service commitments. The cumulative impact related to the supply of natural gas and to the need for additional or expanded facilities is less than significant, and the proposed project's contribution would not be cumulatively considerable. This is considered to be a ***less-than-significant*** impact.

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