
IV. ENVIRONMENTAL IMPACT ANALYSIS

J. UTILITIES

1. WATER

The analysis presented in this section is based on the *Water, Sewer, and Storm Drain Infrastructure Report* prepared by Psomas Associates, Inc., dated September 13, 2000. The technical report is provided in Appendix G of this Draft EIR.

a. ENVIRONMENTAL SETTING

The City of Los Angeles Department of Water and Power (DWP) currently supplies water to the Project area. The DWP is responsible for ensuring that water demand is met by available water supplies and that State and federal water quality standards are achieved. DWP obtains its water supplies from three major sources: (1) the Owens Valley and Mono Basin via the Los Angeles Aqueduct; (2) northern California and Colorado River imports from the Metropolitan Water District of Southern California (MWD); and (3) local groundwater basins. In addition to these sources, some wastewater within the DWP service area is reclaimed for reuse as irrigation or industrial water, or for use in seawater intrusion barriers used to protect groundwater supplies.

MWD imports water from the Colorado River Aqueduct and the State Water Project (SWP) in the Sacramento-San Joaquin Deltas and distributes it to member agencies. MWD serves no retail customers directly, but provides water to its member agencies throughout San Diego, Orange, and Los Angeles Counties. DWP is one of these member agencies. Based on projected growth, MWD expects that water demands in the MWD service area will rise from 3.5 million acre-feet per year (AF/yr) to 4.9 million AF/yr in the next twenty years.⁹³

MWD's Integrated Water Resources Plan (IRP), which was approved by its Board in 1996 to plan for this projected growth, proposes that the preferred resource mix for future MWD supply includes local production (groundwater pumping and surface water diversion), water recycling, groundwater recovery, the Colorado River Aqueduct, the SWP, storage, and water transfers. MWD believes that implementation of the IRP will allow it to provide for all the firm wholesale water demands of its member agencies in 98 out of 100 years, with the remaining years requiring a shortage allocation plan.

The City of Los Angeles is responsible for planning for locally developed water supply sources to supplement the regional supplies that are ensured by the IRP. The need for such planning

⁹³ Metropolitan Water District of Southern California, *Conservation Efforts*, 2000.

is recognized in the City of Los Angeles *General Plan Framework*, which includes policies pertaining to the development of local water supplies. These plans are documented periodically in the Los Angeles Urban Water Management Plan (UWMP).⁹⁴ The UWMP accounts for the portion of projected demands that are not expected to be met by MWD, and includes planning for supply from sources including the Los Angeles Aqueduct, local groundwater, conservation, and reclamation. The development and use of reclaimed water resources is central to DWP's plan for meeting growing water demands through 2020, and is being examined in detail as part of the DWP's Integrated Plan for the Wastewater Program (IPWP), which is currently underway. One of the purposes of the IPWP is to develop a plan to ensure that the city's goals for reclaimed water use are met. In addition, DWP implements water conservation measures wherever possible. The City is currently implementing Best Management Practices for water conservation, such as ordinances, incentives, and water efficient fixture installation and retrofitting. The City also has conservation education and infrastructure replacement programs, and provides technical assistance to industry for conservation implementation.

Los Angeles citywide water use was 626,200 acre-feet (AF) in the 1998-1999 fiscal year.⁹⁵ Water use for 2015 is projected to be 749,900 AF⁹⁶. In its UWMP, DWP has designated a plan for supplying all of this demand. UWMP projections are based on regional growth projections prepared by the Southern California Association of Governments (SCAG). The UWMP projections take into account the water conservation programs that DWP implements wherever possible. Current City planning indicates that supply will be sufficient to meet projected demands.⁹⁷

The Project site is located within the DWP's Central Water Service Area. DWP currently has a system of interconnected domestic water lines varying in size from 8-inch to 20-inch diameter surrounding the project. Please refer to Figure 48 on page 398 for an illustration of existing local water lines. The water system provides both domestic (drinking) water and fire flows. There are two pressure zones that supply this section of downtown. The first zone extends as far south as Olympic Boulevard. This area is known as Zone 448 and has a static water pressure of approximately 90 psi at the project site. The second zone includes the area from Olympic Boulevard south and encompasses most of the project site. The southern zone has a static water pressure of approximately 63 psi at the project site. There are no reclaimed water lines currently on or adjacent to the site.

⁹⁴ City of Los Angeles, Department of Water and Power, *Urban Water Management Plan*, July 1995.

⁹⁵ City of Los Angeles, Department of Water and Power, *UWMP Annual Update*, 1998-1999.

⁹⁶ City of Los Angeles, Department of Water and Power, *Integrated Plan for the Wastewater Program Baseline Needs Technical Memorandum*, April 2000.

⁹⁷ *Ibid.*

Figure 48 Domestic Water Infrastructure

The water treatment facility serving the project area is the Los Angeles Aqueduct Filtration Plant located in Sylmar, that is owned and operated by DWP. This facility uses a combination of ozonation, filtration and chlorination to produce water that meets or exceeds all drinking water standards. The facility has a maximum treatment capacity of 600 million gallons per day.⁹⁸ The current average treatment is estimated at 450 million gallons per day.

Currently, the majority of the Project site is utilized as surface parking lots and has minimal water usage (i.e., irrigation for landscaping). Water demand at the Project site, associated with the previous land uses prior to the development of the STAPLES Center was estimated at 85,550 gallons per day. Current water usage would be considerably less than this total.

b. PROJECT IMPACT

(1) Significance Thresholds/Methodologies

A project would result in a significant impact on water service if any of the following occurs:

- Demand generated by the project exceeds the ability of the DWP to service the site based on anticipated water supplies.
- Demand generated by the project requires or results in the construction of new water treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.
- Water demand generated by the project exceeds the capacity of existing or planned water distribution systems, resulting in an unmet need for additional infrastructure in order to provide adequate levels of service.

(2) Analysis of Project Impacts

(a) Construction

During construction of the proposed Project, water would be required primarily for dampening fill material and for dust control. Daily water demand during construction would be considerably less than the historical water usage at the Project site (i.e., prior to the development of the STAPLES Center), which was estimated at 85,550 gallons per day. It is not anticipated that

⁹⁸ City of Los Angeles, Water Services, Water Supply Fact Sheet, <http://www.ladwp.com/water/supply/facts/index.htm>, September 12, 2000.

water demand during construction would result in any impact to existing service, water lines, or facilities. No significant impacts are anticipated.

As discussed in Section V.I.1, Fire, of this Draft EIR, exact fire flow requirements cannot be exactly determined at this time, because fire flow requirements are based on the final configuration of the project. When the final site plan is submitted, the Los Angeles Fire Department (LAFD) will dictate fire flow requirements in terms of flow and pressure required. The fire flow required by the LAFD for the proposed Project is 4,000 gpm (i.e., 1,000 gpm from 4 fire hydrants flowing simultaneously)⁹⁹, although the Project could necessitate fire flow as high as 9,000 to 15,000 gpm. In order to determine if the existing water system is adequate to meet fire flow demand, the Water Operations Division of DWP will conduct a flow study prior to issuance of any building permits. In order to ensure adequate fire flows are provided to the proposed Project, a related mitigation measure is provided below.

In order to meet fire flow requirements, the project is anticipated to require upsizing of approximately 900 feet of the 8-inch water line in Olympic Boulevard, between Georgia Street and Figueroa Street, to a 12-inch water line. The Project would also require the construction of an 8-inch water line in Cherry Street, between 11th Street and Olympic Boulevard. The existing 24-inch water line located in 12th Street will be abandoned and re-aligned with a new 24-inch water line, as shown on Figure 48.¹⁰⁰

Impacts to air quality, transportation/circulation and noise from the proposed project, that include water line construction, are analyzed in IV.E., Air Quality; IV.F., Transportation/Circulation; and IV.H., Noise, within this document.

Based on the results of the flow study and LAFD requirements, further expansion to the existing system and site-specific fire suppression improvements may be required. The size and location of the laterals cannot be determined at this time. It is expected that additional fire hydrants will be required both on public right-of-way and possibly on private property.

(b) Operation

Estimated water demand for the proposed project during operation is shown in Table 48 on page 401. As indicated in Table 48, the proposed Project is estimated to have a buildout water demand of approximately 1,660,000 gallons per day. This represents a substantial increase in water demand when compared with existing conditions. As discussed above, the City of Los Angeles is

⁹⁹ Correspondence from Richard A. Warford, Assistant Fire Marshal, LAFD, Bureau of Fire Prevention and Public Safety, September 20, 2000.

¹⁰⁰ *Ibid.*

Table 48

LOS ANGELES SPORTS AND ENTERTAINMENT DISTRICT WATER DEMAND

Use	Size/Units	Water Demand (Peak) (gpm) ^a	Water Demand (Non-Peak) (gpd) ^b
OLYMPIC PROPERTIES			
Retail	110,000 sq. ft.	7 gpm	10,560 gpd
Dining	85,000 sq. ft.	238 gpm	204,000 gpd
Entertainment	125,000 sq. ft.	228 gpm	195,000 gpd
Entertainment—Live Theater/Cinema	7,000 seats	33 gpm	42,000 gpd
Entertainment— Museums	75,000 sq. ft.	1 gpm	1,800 gpd
Health Club	125,000 sq. ft.	147 gpm	120,000 gpd
Office	75,000 sq. ft.	11 gpm	16,200 gpd
Hotel	1,200 rooms	220 gpm	187,200 gpd
Hotel—Meeting/Ball Rooms	100,000 sq. ft.	59 gpm	<u>85,200 gpd</u>
Subtotal:			861,960 gpd
FIGUEROA PROPERTIES			
Residential	800 DU	184 gpm	153,600 gpd
Retail	315,000 sq. ft.	21 gpm	30,240 gpd
Dining	140,000 sq. ft.	373 gpm	336,000 gpd
Entertainment	80,000 sq. ft.	152 gpm	124,800 gpd
Office/Sports Medicine Center	135,000 sq. ft.	28 gpm	40,500 gpd
Office	90,000 sq. ft.	14 gpm	19,440 gpd
Hotel	600 rooms	117 gpm	<u>93,600 gpd</u>
Subtotal:			<u>798,180 gpd</u>
Total:			<u>1,660,140 gpd</u>

^a Peak water demand is based on the largest sewer peak demand. Please see Section IV.J.2, Sewer.

^b Water demand is based on 120 percent of the sewer load at highest demand. Please see Section IV.J.2., Sewer.

Source: Psomas Associates, Inc., September 2000.

largely dependent on external water sources and, as such, there is no certainty that long-term water supplies will be available on a regional basis. Therefore, although Project-related water demand constitutes an extremely small portion of the regional water demand, the increase in Project-related water demand over existing conditions would be significant.

The DWP has indicated that the existing local water infrastructure system, as shown in Figure 1, would be adequate to provide for the Project-related increase in water demand, based on

review of the demand and flow calculations for the Project.¹⁰¹ Furthermore, the Los Angeles Aqueduct Filtration Plant would have adequate capacity to serve the Project. Impacts to local water distribution or treatment facilities would be less than significant.

c. MITIGATION MEASURES

The proposed Project shall comply with all applicable sections of the City of Los Angeles Water Conservation Ordinances (Ordinance Nos. 163,532; 164,093; 165,004; 166,080; and subsequent amendments). Specifically, no hose washing of roadways, paved parking areas, plaza areas, or walkways shall be allowed. Low flow toilets and plumbing fixtures that prevent water loss shall be installed, decorative fountains shall use recycled water, water leaks shall be repaired in a timely manner, and drinking water shall be served only upon request. In adherence to the City's Landscape Ordinance No. 170,978, plants selected for landscaping shall comply with xeriscape (drought-resistant, low maintenance) requirements. Finally, the Project shall comply with any additional mandatory City-imposed water use restrictions required as a result of drought conditions.

The following measures will ensure that water resources will be conserved to the extent feasible:

1. The Project and occupants shall adhere to all applicable DWP rules and regulations. The DWP shall be consulted regarding feasible water conservation features, including xeriscape practices (e.g., use of drought-tolerant landscaping and drip irrigation systems), which can be incorporated into the design of the project. All necessary infrastructure improvements shall be constructed to meet the requirements of the DWP.
2. Automatic sprinkler systems shall be set to irrigate landscaping during morning or evening hours to reduce water losses from evaporation. Sprinklers shall be reset to water less often in cooler months and during the rainfall season so that water is not wasted by excessive landscape irrigation.
3. The DWP shall conduct a flow test prior to the issuance of certificates of occupancy to determine whether the existing water system meets fire flow requirements imposed by the Fire Department for the Project. The Applicant shall undertake and complete those required improvements identified by the DWP as a result of findings of the flow test.
4. The Applicant shall obtain a DWP Letter of Service prior to issuance of building permits.

¹⁰¹ Psomas, *Preliminary Water, Sewer, and Storm Drain Infrastructure Report*, September 13, 2000.

d. ADVERSE EFFECTS

The City of Los Angeles is largely dependent on external water sources and, as such, there is no certainty that long-term water supplies will be available on a regional basis. Therefore, although Project-related water demand constitutes a small portion of the regional water demand, impacts due to the increase in Project-related water demand over existing conditions would be significant.

With adherence to all applicable regulations and implementation of the mitigation measures recommended above, Project-related impacts to fire flows and water supply infrastructure would be less than significant.

e. CUMULATIVE IMPACTS

The cumulative development analysis of this Draft EIR is based on the growth associated with the related projects and background growth as discussed in Section III.B., Cumulative Development. Estimated cumulative water demand for the proposed Project in combination with related projects is shown in Table 49 on page 404.

Based on Table 49 on page 404, the proposed Project in combination with related projects is estimated to have a cumulative buildout water demand of approximately 3,629,105 gallons per day. As for the proposed Project, this increase represents an increase over existing conditions. As discussed above, the City of Los Angeles is largely dependent on external water sources and, as such, there is no certainty that long-term water supplies will be available on a regional basis. Therefore, although the increase in water demand constitutes an extremely small portion of the regional water demand, cumulative impacts would be significant. Individual projects would be responsible for determining impacts upon main water lines and local water lines affected by those individual projects.

Table 49

**LOS ANGELES SPORTS AND ENTERTAINMENT DISTRICT
CUMULATIVE WATER DEMAND**

Use ^a	Size/Units	Water (Non-Peak) (gpd)^b
Retail	1,495,661 sq.ft.	143,582
Restaurant(s)	76,937 sq.ft.	184,649
Entertainment	146,297 sq.ft.	228,223
Live Theater	3,435 seats	20,610
Cathedral	3,000 sq.ft.	648
Warehouse/Storage	11,900 sq.ft.	2570
Office	2,621,424 sq. ft.	566,227
Multiple Family Residential	1,303 units	250,176
Child Care	5,000 sq.ft.	4,800
Hotel	825 rooms	128,700
Hotel Meeting Rooms	515,000 sq.ft.	<u>438,780</u>
Subtotal Related Projects:		1,968,965
Subtotal Proposed Project:		<u>1,660,140</u>
Total:		<u>3,629,105</u>

^a Cumulative water demand estimates are conservative. In many instances, existing uses are already consuming water.

^b Water demand is based on 120 percent of the sewer load at highest demand period. Please see Section IV.J.2, Sewer.

Source: Psomas Associates, Inc., September 2000

IV. ENVIRONMENTAL IMPACT ANALYSIS

J. UTILITIES

2. SEWER

The analysis presented in this section is based on the *Water, Sewer, and Storm Drain Infrastructure Report* prepared by Psomas Associates, Inc., dated September 13, 2000. The technical report is provided in Appendix G of this Draft EIR.

a. ENVIRONMENTAL SETTING

Wastewater generated at the Project site is currently conveyed by a wastewater infrastructure system administered by the City of Los Angeles Bureau of Engineering and treated by facilities operated by the City of Los Angeles Bureau of Sanitation. Wastewater disposal service is dependent upon conveyance infrastructure and treatment plant capacity and is based on existing discharge allocations. Because sewage flows are directly proportional to water usage, citywide water conservation efforts have immediate beneficial effects upon wastewater generation.

The existing sewer infrastructure in the vicinity of the Project site includes a 66-inch diameter trunk sewer built in 1972 at the time of construction of the Los Angeles Convention and Exhibition Center. The line runs easterly along 11th Street, turning south at the intersection with Georgia Street. From there, the line travels between STAPLES Center and the Los Angeles Convention and Exhibition Center, making several turns until it reaches the intersection of 12th Street and Figueroa Street. At the intersection of 12th Street and Figueroa Street, there is a diversion structure that is connected to a 48-inch sewer line that continues east to connect with a 20-inch sewer line in Flower Street.

The existing Project site has no sewer connections; however, the main lines adjoining the project site were sized to accommodate major development. Besides the 66-inch sewer there are several existing local sewer mains ranging in size from 8-inches to 15-inches in diameter that serve the Project site. They are located in Olympic Boulevard, Pico Boulevard, 11th Street, 12th Street, Flower Street and Figueroa Street as shown on Figure 49 on page 406.

Currently, the majority of the Project site is utilized as surface parking lots and has little or no sewage generation. Sewage generation at the Project site, associated with the previous land uses prior to the development of the STAPLES Center was estimated at 68,428 gallons per day.

Figure 49 Sanitary Sewer Infrastructure

Surface parking is a recent and temporary land use created in connection with construction of STAPLES Center and completed in 1999. Prior land uses included a range of commercial and residential uses, as noted in STAPLES Center EIR.¹⁰²

Sewage treatment for the proposed Project will be provided by the Hyperion Wastewater Treatment Plant, owned and operated by the City of Los Angeles Bureau of Sanitation, which is located near the coastline at the southern extremity of Playa Del Rey, directly south of the Los Angeles International Airport. This plant presently treats an average of approximately 362 million gallons of sewage per day and has the capacity to treat 450 million gallons per day under existing operating conditions.¹⁰³ The plant treats wastewater from almost all of the City of Los Angeles, as well as sewage from the cities of Beverly Hills, Burbank, Culver City, El Segundo, Glendale, San Fernando, Santa Monica, and portions of the unincorporated territory of Los Angeles County.

b. PROJECT IMPACTS

(1) Significance Thresholds/Methodologies

A significant impact on sanitary sewer systems would occur if a project were to result in the following:

- Wastewater generation that exceeds the capacity of existing or planned wastewater conveyance systems or wastewater treatment facilities that serve the site, resulting in an unmet need for additional facilities in order to provide adequate levels of service.
- Wastewater generation that requires or results in the construction of new wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

(2) Analysis of Project Impacts

(a) Construction

The existing sewer infrastructure surrounding the Project site would be adequate to provide for the proposed Project. This is due to the existing 66-inch diameter trunk sewer traversing adjacent to the site, a 42-inch/66-inch relief sewer and the availability of local sewers for lateral

¹⁰² Los Angeles Community Redevelopment Agency, *LA Sports and Entertainment Complex EIR*, PCR Services Corporation 1997.

¹⁰³ City of Los Angeles, Bureau of Sanitation, Major Activities, <http://www.lacity.org/SAN/sanmact.htm> September 22, 2000.

connections. For the proposed Project, it is not anticipated that any upsizing of the existing 8-inch to 15-inch existing sewer lines currently serving the project site would be required. However, prior to the acceptance of plans and specifications, the City of Los Angeles Department of Building and Safety and the Bureau of Sanitation will determine if there is available sewer capacity.

The existing 48-inch sewer line and 33-inch sewer line located in 12th Street will be abandoned and re-aligned with a new 48-inch sewer line and a new 33-inch sewer line, as shown on Figure 49. This will be accomplished as part of the realignment of 12th Street due to the Project.

Impacts to air quality, transportation/circulation and noise from the proposed project, that include potential storm drain and utility line relocation, are analyzed in IV.E Air Quality, IV.F. Transportation/Circulation and IV.H. Noise within this document. The storm drain realignment discussed above could require temporary traffic lane closures and sidewalk closures during construction. Such lane closures could have temporary significant impacts on traffic circulation. The extent of potential impacts should be minimized by the fact that most of the streets in the Project vicinity currently provide substantial traffic carrying capacity and will be able to accommodate traffic management for temporary lane closures.

Portable septic units would be provided for workers during the construction phase of the Project. A contracted private vendor would maintain and replace the septic units as required throughout the Project construction period. No significant impacts are anticipated.

(b) Operation

During operations, estimated sewage generation for the proposed Project is shown in Table 50 on page 409. As indicated in Table 50, the proposed Project is estimated to have a buildout sewage generation estimated at 1,383,450 gallons per day. This represents a substantial increase over existing conditions (i.e., surface parking lots with little or no sewage generation). However, this would not result in a significant impact. The existing 8-inch to 15-inch sewer lines surrounding the Project site are already sufficiently sized to accommodate the proposed Project. In addition, the 66-inch trunk sewer has available capacity to serve the proposed Project. The existing peak daily capacity for this 66-inch trunk sewer at the intersection of 11th Street and Georgia Street is estimated at 32 percent of total available capacity.

An increase of 1,383,450 gallons of sewage per day associated with the proposed Project would not result in significant impacts to the Hyperion Wastewater Treatment Plant. This plant presently treats an average of approximately 362 million gallons of sewage per day and has the capacity to treat 450 million gallons per day under existing operational conditions. No significant impacts are anticipated. In fact, the Project Applicant would seek service connection fee credits

Table 50

PROJECT-RELATED SEWAGE GENERATION

Use	Size/Units	Sewage Generation Factor (gpd/unit) ^a	Sewer Generation (gpd)
Olympic Properties			
Retail	110,000 sq.ft.	0.080	8,800
Dining	85,000 sq.ft.	2.000 ^b	170,000
Entertainment	125,000 sq.ft.	1.300	162,500
Entertainment—Live Theater/Cinema	7,000 seats	5.000	35,000
Entertainment—Museums	75,000 sq.ft.	0.020	1,400
Health Club	125,000 sq.ft.	0.800	100,000
Office	75,000 sq.ft.	0.180	13,500
Hotel	1,200 rooms	130.000	156,000
Hotel—Meeting/Ball Rooms	100,000 sq.ft.	0.710	<u>71,000</u>
Subtotal			718,300
Figueroa Properties			
Residential	800 DU	160.000	128,000
Retail	315,000 sq.ft.	0.080	25,200
Dining	140,000 sq.ft.	2.000	280,000
Entertainment	80,000 sq.ft.	1.300	104,000
Office/Sports Medicine Center	135,000 sq.ft.	0.250	33,750
Office	90,000 sq.ft.	0.180	16,200
Hotel	600 rooms	130.000	<u>78,000</u>
Subtotal			<u>665,150</u>
Total			<u><u>1,383,450</u></u>

du = dwelling unit

^a Generation factor source: City of Los Angeles Bureau of Sanitation.

^b Restaurant sewer generation factor is for a "Full Service/Indoor Seat".

Source: Psomas Associates, Inc., September 2000

based upon the uses that were present on the Project site prior to removal for creation of surface parking.

c. MITIGATION MEASURES

The Project is not expected to produce significant impacts to sewer service; however, compliance with City and State codes, ordinances, and permit requirements will ensure that wastewater generation will be reduced to the maximum extent feasible. Specifically, the Project shall comply with the following:

1. The Applicant shall comply with procedural requirements of City ordinances regulating connections to the City sewer system (e.g., Ordinance No. 166,060).
2. All necessary infrastructure improvements shall be constructed to meet the requirements of the Department of Public Works.
3. The Applicant shall comply with all provisions of Ordinance No. 162,532, which reduces water consumption levels, thereby restricting wastewater flows. Water saving devices to be installed shall include low flow toilets and plumbing fixtures that prevent water loss.
4. The Applicant shall develop and implement a construction management plan for any temporary lane closures that may be necessary (including temporary coning, signing, road striping, signalization, etc.), to assist in the orderly flow of vehicular and pedestrian traffic in the project area, and to ensure the maintenance of adequate access to STAPLES Center and the Convention Center.

d. ADVERSE EFFECTS

With adherence to all applicable regulations and implementation of the measures outlined above, the Project impacts to sanitary sewer service and the sewage infrastructure system would be less than significant.

e. CUMULATIVE IMPACTS

The cumulative development analysis of this Draft EIR is based on the growth associated with the related projects identified in Section III.B., Cumulative Development, and an additional eight percent growth (one percent per year from 2000 to 2008). Estimated cumulative sewage generation for the proposed Project in combination with related projects is shown in Table 51 on page 411.

Table 51
CUMULATIVE SEWAGE GENERATION

Use	Size/Units	Sewage Generation Factor (gpd/unit)^a	Sewer (gpd)
Retail	1,495,661 sq. ft.	0.080	119,652
Restaurant(s)	76,937 sq. ft.	2.000	153,874
Entertainment	146,297 sq. ft.	1.300	190,186
Live Theater	3,435 seats	5.000	17,175
Cathedral	3,000 sq. ft.	0.180	540
Warehouse/Storage	11,900 sq. ft.	0.180	2,142
Office	2,621,424 sq. ft.	0.180	471,856
Multiple Family Residential	1,303 units	160.000	208,480
Child Care	5,000 sq. ft.	0.800	4,000
Hotel	825 rooms	130.000	107,250
Hotel Meeting Rooms	515,000 sq. ft.	0.710	365,650
Subtotal Related Projects:			<u>1,640,805^b</u>
Subtotal Proposed Project:			<u>1,383,450</u>
Total:			<u>3,024,255</u>

^a Generation factor source: City of Los Angeles Bureau of Sanitation

^b Cumulative sewage generation estimates are conservative. In many instances, existing uses are already generating sewage.

Source: Psomas Associates, Inc., September 2000

Based on Table 51 above, the proposed Project, in combination with related projects, is estimated to have a cumulative buildout sewage generation of approximately 3,024,255 gallons per day. This increase in sewage generation associated with the proposed Project, in combination with related projects, would not result in significant impacts to wastewater treatment plants. The Hyperion Wastewater Treatment Plant presently treats an average of approximately 362 million gallons of sewage per day and has the capacity to treat 450 million gallons per day under existing operational conditions. Individual projects would be responsible for determining impacts upon trunk sewers and local sewer lines affected by those individual projects. No significant cumulative impacts to sewage treatment capacity or service are anticipated.

IV. ENVIRONMENTAL IMPACT ANALYSIS

J. UTILITIES

3. SOLID WASTE

a. ENVIRONMENTAL SETTING

Within the City of Los Angeles, various public agencies and private companies administer solid waste management, including collection and disposal services and landfill operation. Single family residential and some multiple family residential refuse is collected by the City of Los Angeles Bureau of Sanitation; waste generated by most multiple family residential sources and all commercial and industrial sources is collected by private contractors. An estimated 3.6 million tons of solid waste are generated by the City of Los Angeles annually and disposed of daily at major landfills in the region.¹⁰⁴ The Bureau currently disposes of about 3,400 tons per day of solid waste from those single family residential and multiple family residential uses from which it collects, down from 5,500 tons per day in 1990 due to recycling efforts.

The Bureau currently disposes of solid waste in three landfills, two operated by private companies and one operated by the County of Los Angeles. However, landfill capacity throughout the County is limited by several factors, including the following: (1) restrictions to accepting waste generated only within a landfill's particular jurisdiction and/or watershed boundary;¹⁰⁵ (2) tonnage permit limitations; (3) operational constraints; and (4) the closure of solid waste landfills located in the City and County of Los Angeles. Existing facilities in the County include two transformation (i.e., waste-to-energy) facilities and 12 major permitted Class III landfills.¹⁰⁶ Table 52 on page 413 indicates the permitted capacity and the remaining capacity of solid waste landfills available to public and private waste haulers collecting refuse in the City of Los Angeles. In addition, there are several existing solid waste transfer stations located within the Los Angeles metropolitan area.

To address solid waste disposal solutions, the City of Los Angeles, the Los Angeles County Department of Public Works, and the Sanitation Districts of Los Angeles County (SDLAC) jointly developed the County Solid Waste Management Action Plan (MAP), which was adopted in April 1988. As an integrated regional approach to managing solid waste, the MAP incorporates source reduction, recycling, and composting programs, along with public education awareness programs, in

¹⁰⁴ California Integrated Waste Management Board, *California Waste Stream Profiles*, April 18, 2000.

¹⁰⁵ The area from which a landfill draws its waste to be disposed.

¹⁰⁶ Class III landfills are permitted to accept only non-hazardous wastes. Major landfills are defined as those capable of receiving more than 250,000 tons of solid waste per year, or an average daily rate (6 days per week) of 800 tons.

Table 52

**EXISTING MAJOR CLASS III LANDFILLS
CURRENTLY RECEIVING WASTE FROM THE CITY OF LOS ANGELES**

Site	Location	Owner/Operator	Permitted Capacity (millions of tons)	Remaining Capacity (millions of tons)
Azusa Land Reclamation ^a	Azusa	Allied Waste Industries, Inc.	66.7	34.1
Bradley	Sun Valley	Waste Management, Inc.	14.6	9.8
Calabasas	Calabasas	L.A. County Sanitation District	69.7	22.7
Chiquita Canyon	Valencia	Republic Services	63.9	45.9
Lancaster	Lancaster	Waste Management, Inc.	4.6	0.4
Puente Hills	Whittier	L.A. County Sanitation District	106.4	33.9
Scholl Canyon	Glendale	L.A. County Sanitation District	69.2	16.4
Sunshine Canyon	Sylmar	BFI, Inc.	23.7	17.2

^a Permitted to accept inert wastes and asbestos waste only.

Source: California Integrated Waste Management Board, *California Waste Stream Profiles*, April 18, 2000.

order to meet the requirements of the California Integrated Waste Management Act of 1989 (AB 939). AB 939 mandated 25% diversion of all solid waste from landfill disposal by 1995 through the implementation of waste reduction, reuse, and recycling programs, and required 50% diversion by 2000. With the passage of AB 939, the responsibility for managing solid waste and meeting the State's mandates was placed directly with local agencies. AB 939 also required each city to prepare a Source Reduction and Recycling Element (SRRE) to describe how it will reach its local goals to reduce and recycle solid waste. As of 1998, the City of Los Angeles had achieved a 46% diversion rate.

As part of the effort to attain the AB 939-mandated and MAP goal of a countywide 15-year disposal capacity, the SDLAC is currently examining the feasibility of new and expanded landfill sites and the implementation of waste-by-rail. The SDLAC is examining a waste-by-rail system that would transport residual waste from the Puente Hills Landfill to remote landfills located outside of Los Angeles County.¹⁰⁷

Current Project site land uses generate a relatively small amount of solid waste from parking lot and mechanical building operations. As shown in Table 53 on page 414, an estimated 200 pounds per day of solid waste or 30.7 tons per year is generated on the site and collected and hauled to landfills by private contractors. Currently, the Applicant's contracted waste hauler for the

¹⁰⁷ Los Angeles County Department of Public Works, Environmental Programs Division, *Los Angeles County Countywide Siting Element*, June 1997.

Table 53

SOLID WASTE GENERATION—EXISTING USES

Land Use	Estimated Number of Units/Sq.Ft.	Generation Factor ^a	Daily Generation (lbs/day)	Annual Generation (tons/yr) ^b
Olympic Properties				
Parking	2,040 spaces	0	0.0	0.0
Figueroa Properties				
Parking	1,220 spaces	0	0.0	0.0
Warehouse/Mechanical ^c	40,000 sq.ft.	5 lbs/1,000 sq.ft./day	200.0	30.7
TOTAL			200.0	30.7

^a Generation factor source: City of Los Angeles Bureau of Sanitation. "Solid Waste Generation."

^b Calculation of annual generation assumes the following operation schedules: Warehouse—six days per week.

^c Waste generation reflects rate for a storage use.

Source: PCR Services Corporation.

STAPLES Center is Athens Services, which is a private contractor located in the City of Industry. Solid waste originating in downtown Los Angeles is hauled for disposal at a variety of area landfills. Depending upon the nature of existing waste collection contracts, the choice of landfill is consistently a function of cost effectiveness, including tipping fees at the receiving landfills, travel distance, and available landfill capacity. Given these factors, the most likely destinations for solid waste generated at the Project site would be the Bradley Landfill and Recycling Center, Sunshine Canyon Landfill, or the Chiquita Canyon Landfill.

b. PROJECT IMPACTS

(1) Significance Thresholds/Methodologies

A significant impact on solid waste disposal facilities would occur if waste generated by a project (after implementation of diversion methods) would exacerbate the existing shortage of solid waste landfill capacity in the Southern California region by substantially altering the projected timeline for these landfills to reach capacity.

(2) Analysis of Project Impacts

(a) Construction

Solid waste to be generated by the proposed Project was calculated using generation rates from the City of Los Angeles Bureau of Sanitation. Construction of the Project would involve the demolition of approximately 40,000 square feet of warehouse and mechanical buildings. It is anticipated that the warehouse and mechanical buildings would be demolished during initial project construction. Therefore, short-term hauling and disposal of demolition debris would therefore be required during construction, pursuant to approval of the proposed haul routes by the City Department of Building and Safety. In addition, any earth moved off-site during grading would require one-time hauling and disposal, pursuant to approval of the proposed haul routes.

Demolition and construction building debris wastes would be generated during construction. These may include inert solids such as rock, concrete, brick, sand, soil, asphalt and sheetrock. In addition, wood, metal, drywall and cardboard wastes would also be generated. The Applicant shall minimize the amount of construction and demolition waste to the extent possible and shall implement on-site source separation of these materials for recycling, including the practice of on-site grinding of concrete and asphalt paving for use as new base material throughout the Project site. No significant impacts to solid waste landfill disposal capacity from project construction activities are anticipated.

(b) Operation

As shown in Table 54 on page 416, operation of the Project is estimated to generate approximately 31,170 pounds of solid waste per day. This translates to an estimated 5,414 tons per year prior to diversion. Solid waste generated by the proposed Project would be collected by any of the private waste hauling companies that service the downtown area.

Source reduction, recycling, and diversion measures that would be implemented as part of the proposed Project would serve to reduce the amount of waste disposed of at area landfills.

The most likely destinations for solid waste generated by the proposed Project would be the Sunshine Canyon Landfill and the Chiquita Canyon Landfill. The Sunshine Canyon Landfill was recently approved by the City of Los Angeles for expansion. If permitted, the landfill would accept solid wastes until 2026. The Chiquita Canyon Landfill has a closure date estimated to occur in 2019. In August 2000, the Sanitation Districts purchased two distant solid waste landfills for waste-by-rail in the future. These facilities are the Eagle Mountain Landfill located in eastern Riverside County and the Mesquite Regional Landfill located in eastern Imperial County. These two facilities are fully permitted but have not yet undergone initial construction. The Eagle Mountain Landfill

Table 54

**PROJECTED SOLID WASTE GENERATION
LOS ANGELES SPORTS AND ENTERTAINMENT DISTRICT**

Site Use	Units/ Square Footage	Generation Factor ^a	Daily Generation (lbs/day)	Annual Generation ^b (tons/yr)
Olympic Properties				
Retail	110,000 sq.ft.	5 lbs./1,000 sq.ft.	550	100.1
Restaurant(s)	85,000 sq.ft.	50 lbs./1,000 sq.ft.	4,250	773.5
Entertainment	125,000 sq.ft.	5 lbs./1,000 sq.ft.	625	113.8
Live Theater/Cinema	7,000 Seats	1 lb./customer	7,000	1,092.0
Museums	75,000 sq.ft.	5 lbs./1,000 sq.ft.	375	68.2
Health Club	125,000 sq.ft.	5 lbs./1,000 sq.ft.	625	113.8
Office	75,000 sq.ft.	6 lbs./1,000 sq.ft.	450	58.5
Hotel	1,200 Rooms	2 lbs./room	2,400	436.8
Hotel Meeting Rooms	100,000 sq.ft.	5 lbs./1,000 sq.ft.	<u>500</u>	<u>91.0</u>
Olympic Properties Total			16,775	2847.7
Figueroa Properties				
Residential	800 DU	4 lbs./unit	3,200	582.4
Retail	315,000 sq.ft.	5 lbs./1,000 sq.ft.	1,575	286.6
Restaurant(s)	140,000 sq.ft.	50 lbs./1,000 sq.ft.	7,000	1,274.0
Entertainment	80,000 sq.ft.	5 lbs./1,000 sq.ft.	400	72.8
Office/Sports Medicine	85,000 sq.ft.	6 lbs./1,000 sq.ft.	510	66.3
Office	85,000 sq.ft.	6 lbs./1,000 sq.ft.	510	66.3
Hotel	600 Rooms	2 lbs./room	<u>1,200</u>	<u>218.4</u>
Figueroa Total			14,395	2,566.8
Project Total			<u>31,170</u>	<u>5,414.5</u>

^a Generation factor source: City of Los Angeles Bureau of Sanitation, "Solid Waste Generation."

^b Calculation of annual generation assumes the following operation schedules: Live Theater—six days per week; Office—five days per week; all others—seven days per week.

Source: PCR Services Corporation, November 2000.

has an estimated airspace capacity of 700 million tons and an estimated site life of 100 years. The Mesquite Regional Landfill has an estimated airspace capacity of 600 million tons and an estimated site life of 100 years.

The Project would not result in significant impacts to the remaining disposal capacity of these facilities or their anticipated closure dates. Therefore, operation of the proposed Project would result in a less than significant impact. Solid waste generated by the proposed Project would be collected by any of the private waste hauling companies which service the downtown area.

c. MITIGATION MEASURES

The Project shall comply with all applicable City, County, and State requirements regulating solid waste disposal, including the California Solid Waste Reuse and Recycling Access Act of 1991 (AB 939), which requires that adequate waste storage facilities be provided for the collection and storage of recyclable and green waste materials.

The Project is not expected to produce significant impacts to landfill capacity. Waste management practices shall be implemented during both construction and operation in order to reduce the quantity of solid waste generated. The following measures have been established to achieve waste reduction goals:

1. Prior to the issuance of building permits, a Recycling and Resource Recovery Plan shall be prepared to coordinate resource conservation and recycling for the Project. Prior to implementing this plan, it shall be reviewed and approved by the City of Los Angeles Department of Public Works, Solid Resources Citywide Recycling Division. The plan shall include the following:
 - a. A recycling program shall be designed to reduce the amount of solid waste going to landfills, in line with the City's goals and continued efforts towards a Citywide 50 percent waste reduction rate over 1990 waste diversion levels.¹⁰⁸
 - b. Measures for maximizing the recycling of demolition and construction debris, including a proposed layout for source separation of materials and recycling bins at the Project site and utilization of prospective contractor(s) specializing in demolition and construction waste management shall be implemented, to the extent feasible.
 - c. Recycling bins and chutes shall be provided at appropriate locations to promote the recycling of paper, metal, glass, and other recyclable materials.
 - d. An education/outreach program for all Project employees shall be instituted to reduce the output of solid waste through recycling and reduction of waste at the source.
 - e. Promotion of recycling to patrons.
2. Trash compaction facilities shall be provided in all occupied structures, where deemed feasible.

¹⁰⁸ *The California Integrated Waste Management Act of 1989 (see Public Resources Code PRC Section 40000 et seq.) establishes 1990 as the base year for comparison against future waste diversion levels.*

3. Yard waste management techniques shall be incorporated into the maintenance of the Project, including use of drought tolerant plants and mulching or composting of regular landscape maintenance waste where appropriate.

d. ADVERSE EFFECTS

No significant adverse effects with respect to solid waste would result from development of the proposed Project.

e. CUMULATIVE IMPACTS

The cumulative development analysis of this Draft EIR is based on the growth associated with the related projects identified in Section III.B., Cumulative Development, and an additional eight percent growth (one percent per year from 2000 to 2008). Table 55 on page 419 provides an estimate of solid waste generation from various types of uses within the cited related projects, in combination with the Proposed Project.

As shown in Table 55 on page 419, the Project, in combination with related projects, is estimated to have a cumulative buildout solid waste generation of 74,921 pounds per day or 12,466.6 tons per year. An increase of 74,921 pounds per day of solid waste associated with the proposed Project, in combination with related projects, would not result in any adverse impacts to regional solid waste disposal capacity. Individual projects would be responsible for reducing solid waste generation to the extent possible and implementing solid waste reduction and diversion programs in compliance with City mandates. No significant cumulative impacts to solid waste are anticipated.

Table 55

**PROJECTED CUMULATIVE SOLID WASTE GENERATION
LOS ANGELES SPORTS AND ENTERTAINMENT DISTRICT**

Site Use	Units/ Square Footage	Generation Factor ^a	Daily Generation (lbs/day)	Annual Generation ^b (tons/yr)
Retail	1,495,661 sq.ft.	5 lbs./1,000 sq.ft.	7,478	1,360.9
Restaurant(s)	76,937 sq.ft.	50 lbs./1,000 sq.ft.	3,847	700.1
Entertainment	146,297 sq.ft.	5 lbs./1,000 sq.ft.	731	133.0
Live Theater	3,435 seats	1 lb./customer	3,435	535.9
Cathedral	3,000 sq.ft.	1 lb./attendee	3,000	546.0
Warehouse/Storage	11,900 sq.ft.	5 lbs./1,000 sq.ft.	60	9.4
Office	2,621,424 sq.ft.	6 lbs./1,000 sq.ft.	15,728	2,044.7
Multiple Family Residential	1,303 units	4 lbs/unit	5,212	948.6
Child Care	5,000 sq.ft.	7 lbs/1,000 sq.ft.	35	4.6
Hotel	825 rooms	2 lbs./room	1,650	300.3
Hotel Meeting Rooms	515,000 sq.ft.	5 lbs./1,000 sq.ft.	<u>2,575</u>	<u>468.6</u>
Related Projects Total			43,751	7,052.1
Proposed Project			<u>31,170</u>	<u>5,414.5</u>
Total			<u>74,921</u>	<u>12,466.6</u>

^a Generation factor source: City of Los Angeles Bureau of Sanitation, "Solid Waste Generation."

^b Calculation of annual generation assumes the following operation schedules: Live Theater, Warehouse—six days per week; Office. Child Care—five days per week; All Others—seven days per week.

Source: PCR Services Corporation, September 2000.