

IV. Environmental Impact Analysis

K.2 Utilities—Wastewater

1. Introduction

This section of the Draft EIR analyzes the Proposed Project's potential impacts on the existing wastewater (i.e., sewage) system. The analysis is based on the *Convention and Event Center Project Wastewater System Technical Report* prepared by KPFF Consulting Engineers (refer to Appendix X of this Draft EIR) as well as data from the City of Los Angeles, Department of Public Works, Bureau of Sanitation.

Utilities, in general, include both consumption aspects, where a resource is consumed by the Project, and generation aspects, where a waste product is created that requires disposal. Sewage is an example where water is the consumption aspect and wastewater is the generation aspect. Wastewater flows are therefore related to water usage. In the case of sewage, the ability to dispose of the material is a function both of wastewater treatment capacity (which must occur by law prior to ultimate disposal) and conveyance (which usually is a gravity-driven underground pipeline system) capacity.

2. Environmental Setting

a. Regulatory Framework

There are numerous State and local regulations regarding wastewater conveyance and treatment that are relevant to the Proposed Project. These regulations are provided in Appendix G of this Draft EIR and include the City of Los Angeles General Plan Framework, the City of Los Angeles Integrated Resources Plan (IRP), the State Water Resources Control Board (SWRCB), Sewer System Management Plans (SSMP), and sections of the City of Los Angeles Municipal Code (LAMC).

b. Existing Conditions

(1) Wastewater Treatment

The City's Bureau of Sanitation operates four treatment and water reclamation plants: Hyperion Treatment Plant (HTP), Donald Tillman Water Reclamation Plant (TWRP), the Terminal Island Water Reclamation Plant, the City of Los Angeles Regional

Sanitary Sewer Systems, and the Los Angeles Glendale Water Reclamation Plant (LAGWRP).¹ The main purpose of these treatment facilities is to remove potential pollutants from wastewater in order to protect river and marine environments and public health.

The wastewater treatment system of the City is divided into two major service areas: the Hyperion Service Area (HSA) and the Terminal Island Service Area (TISA). The HSA is served by the HTP, the TWRP, and the LAGWRP. The TISA is served by the Terminal Island Treatment Plant (TITP). The Project Site is located within the service area of the HSA. As shown in Table IV.K.2-1 on page IV.K.2-3, the current design capacity of the entire HSA is approximately 550 mgd (consisting of 450 mgd at HTP, 80 mgd at TWRP, and 20 mgd at LAGWRP).^{2,3}

Wastewater generated from the Project Site is conveyed via the local collector sanitary sewer system, described above, directly to the HTP for treatment. The HTP serves more than two-thirds of the City of Los Angeles from its location in Playa del Rey and provides preliminary, primary, secondary and solids handling facilities. The HTP also treats excess flows and processes solids from the TWRP and the LAGWRP. The HTP has been in operation since 1894 and, as discussed above, has dry weather capacity for 450 mgd of wastewater for full secondary treatment. The HTP currently processes average wastewater flows of approximately 362 mgd, resulting in a remaining capacity of 88 mgd.⁴

Most of the effluent from the HTP is discharged into Santa Monica Bay through a 5-mile ocean outfall, while approximately 50 mgd of secondary effluent are recycled on-site or transported to the West Basin Municipal Water District Water Recycling Plant for use by local industries.⁵ The discharge of effluent from the HTP into Santa Monica Bay is

¹ *Ibid.*

² *City of Los Angeles Integrated Resources Plan, December 2006.*

³ *Design capacity does not take into account the limitations of secondary clarifiers and tertiary filters, which downgrade the capacities of the TWRP and the LAGWRP. Specifically, while the TWRP has a design capacity of 80 mgd, the IRP estimated that limitations due to secondary clarifiers and tertiary filters results in an effective capacity of 64 mgd. Similarly, the LAGWRP has a design capacity of 20 mgd. However, the IRP estimated that limitations due to secondary clarifiers results in an effective capacity of 15 mgd. Thus, as of 2006, the total effective capacity of the HSA is approximately 529 mgd (consisting of 450 mgd at HTP, 64 mgd at TWRP, and 15 mgd at LAGWRP).*

⁴ *City of Los Angeles Department of Public Works, Bureau of Sanitation. Wastewater: About Wastewater, Facts and Figures, www.ci.la.ca.us/SAN/wastewater/factsfigures.htm. Accessed February 6, 2012.*

⁵ *City of Los Angeles, Department of Public Works, Bureau of Sanitation, About the Los Angeles Sewage System, www.lastormwater.com/Siteorg/general/lasewers.htm, accessed October, 2011.*

**Table IV.K.2-1
Existing Capacity of Hyperion Service Area**

	Design Capacity (mgd)
Hyperion Treatment Plant (HTP)	450
Donald Tillman Water Reclamation Plant (TWRP)	80
Los Angeles/Glendale Water Reclamation Plant (LAGWRP)	20
Total	550
<i>Source: City of Los Angeles, Integrated Resources Plan, December 2006.</i>	

regulated by permits issued under the Clean Water Act's National Pollution Discharge Elimination System (NPDES) and is required to meet the Regional Water Quality Control Board's (RWQCB) requirements for a recreational beneficial use. Accordingly, HTP effluent that is released to Santa Monica Bay is continually monitored to ensure that it meets or exceeds prescribed standards. The Los Angeles County Department of Health Services also monitors flows into the Santa Monica Bay.⁶

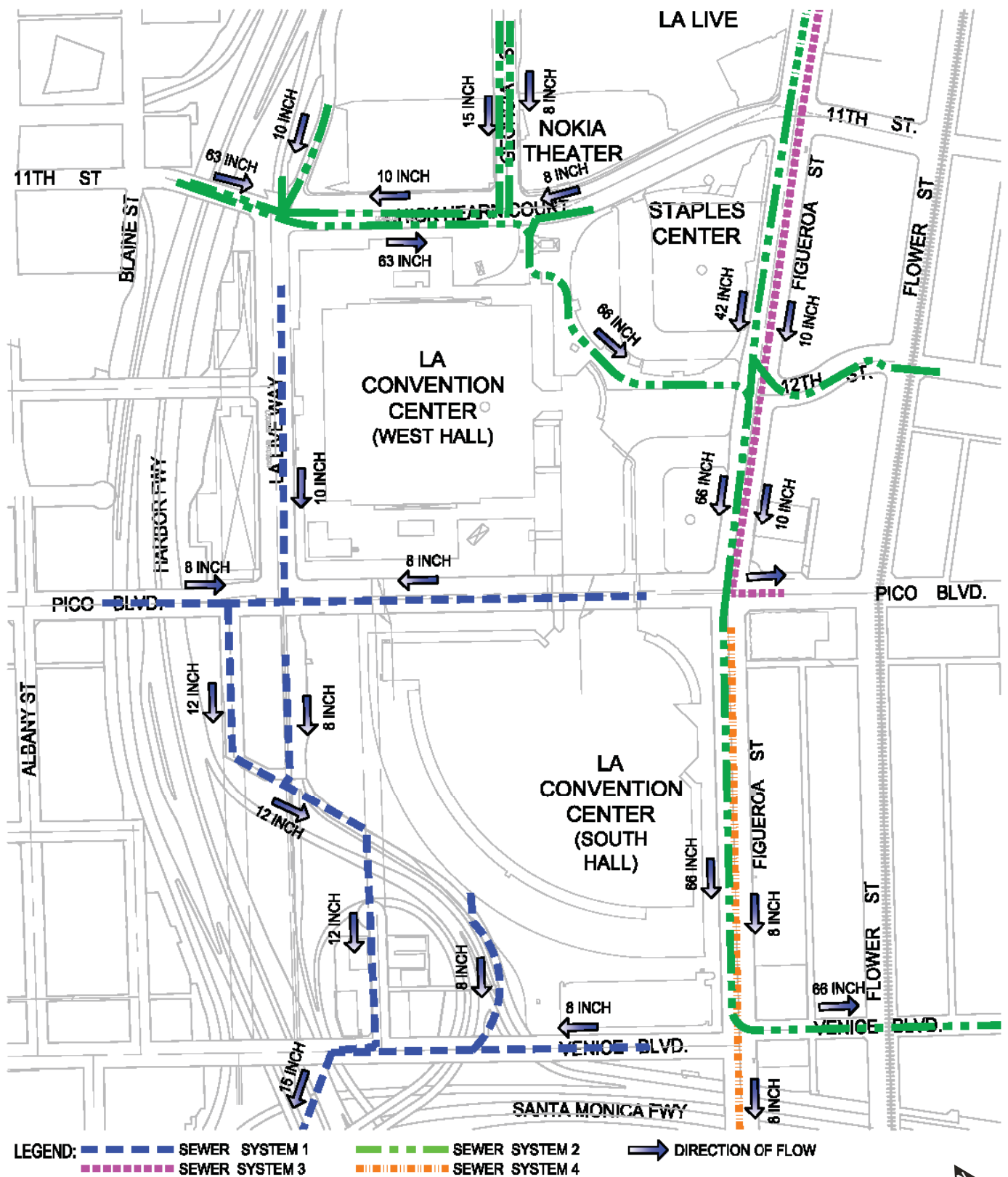
(2) Wastewater Infrastructure

The City of Los Angeles operates and maintains the largest wastewater collection system in the United States. The existing wastewater collection system includes more than 6,700 miles of public sewers, which serves a population of more than 4 million and conveys approximately 400 million gallons of wastewater per day to the City's four wastewater treatment and water reclamation plants.⁷

As shown in Figure IV.K.2-1 on Page IV.K.2-4, the sewer collection and conveyance infrastructure in the vicinity of the Project Site consists of four primary systems. Based on Bureau of Sanitation input, the Proposed Project would only connect to System 1 and System 2. System 1 sewer pipes vary in size from 8 inches to 15 inches. The current flow level of the System 1 infrastructure system is estimated to be 45 percent, with a total capacity of 1.2 million gallons per day.

⁶ City of Los Angeles Department of Public Works, Bureau of Sanitation, Environmental Monitoring Division. "Santa Monica Bay Biennial Assessment Report: 2003–2004."

⁷ City of Los Angeles, Department of Public Works, City Sewers, www.lasewers.org/sewers/about/index.htm, accessed October, 2011.



Source: KPFF Engineers, 2011.



Figure IV.K.2-1
Existing Sanitary Sewer Lines

System 2 consists of a 63-inch diameter relief sewer that increases in size to a 66-inch pipe. The current flow level of System 2 is approximately 24.5 percent, with a total capacity of approximately 56.0 million gallons per day.

The Los Angeles Convention Center is currently connected to sewer System 1, as described above. The Convention Center's South Hall has multiple sewer connection to the 8-inch and 12-inch sewer pipes in Convention Center Drive and to the 8-inch sewer pipe in Venice Boulevard. The Concourse is connected to the 8-inch sewer in Pico Boulevard. The West Hall is connected to the existing 10-inch sewer pipes in L.A. Live Way and Pico Boulevard.

STAPLES Center is connected to sewer System 2, the 66-inch diameter relief sewer pipe located in 12th Street. The existing parking garages have emergency drains connected to the wastewater system. These drains do not generate wastewater on a regular basis and are used only during emergency conditions.

(3) Existing Wastewater Generation

The forecast of total existing wastewater generation at the Project Site is based on past water meter data associated with the existing uses at the Convention Center and the STAPLES Center Central Plant, excluding irrigation, and accounting for 32 percent of existing central plant water usage that is discharged to the City's wastewater system. As shown in Table IV.K.2-2 on page IV.K.2-6, these uses generate approximately 42,901 gallons per day (gpd) or 15.7 million gallons of wastewater per year. In addition, as shown in Table IV.K.2-3 on page IV.K.2-7, of the existing Project Site wastewater generation provided in Table IV.K.2-2, the existing uses to be removed as part of the Proposed Project generate approximately 18,574 gpd or 6,779,539 gallons of wastewater per year. The daily forecast assumes an average state of operations across the entire year; however, there are days when very little, if any, activity is occurring at the Project Site, so peak day generation would be higher than the average.

3. Environmental Impacts

a. Methodology

The analysis addresses the impact of the Proposed Project on existing on-site and off-site sewer facilities and identifies necessary improvements needed to accommodate the Project's demands. Based on the existing flow levels within the sanitary sewer system and the Proposed Project's future wastewater generation, an assessment of potential impacts to the local sewer lines and Citywide treatment facilities is conducted. Data regarding the existing physical features and capacity of the system is based on information provided by

Table IV.K.2-2
Existing Project Site Wastewater Generation^a

	Water Use	
	Gallons Per Day	Gallons Per Year
Convention Center ^{b,c}		
West Hall	10,448	3,813,520
All Other Convention Center Facilities	24,327	8,879,355
<i>Convention Center Subtotal</i>	<i>34,775</i>	<i>12,692,875</i>
Central Plants ^d		
Convention Center	7,195	2,626,175
STAPLES Center	931	339,815
<i>Central Plants Subtotal</i>	<i>8,126</i>	<i>2,965,990</i>
Total Existing Project Site Wastewater Generation	42,901	15,658,865
^a Excludes STAPLES Center as no changes are proposed to this facility under the Proposed Project. ^b Total annual water consumption during 2010 less water used for the Central Plant and Irrigation. Based on data provided by the Los Angeles Convention Center Inc., 2011. ^c Includes approximately 74,330 sf of kitchen area, 113,345 sf of meeting room space, and 89,414 sf of office space. ^d Total water consumption based on data presented in WSA (see Appendix V of this Draft EIR. Based on data provided by Syska Hennessy Group, Inc., 2011, 32 percent of existing central plant water usage is discharged to the City's wastewater system. Source: Los Angeles Department of Water and Power, Matrix Environmental, February 2012.		

the City of Los Angeles Bureau of Sanitation.⁸ Forecasts of the Proposed Project's wastewater generation uses the analysis conducted in support of the Proposed Project's Water Supply Assessment (see Appendix V to this Draft EIR) as discussed further below.

As presented in Section IV.K.1, Utilities—Water, and Appendix V, the Proposed Project's Water Supply Assessment calculated water demand for the Convention Center using the following two methodologies: (1) using standard City factors, and (2) forecasting

⁸ The City of Los Angeles CEQA Thresholds Guide states that a sewer's capacity is considered constrained if the depth of flow is equal to or greater than three-quarters of the sewer's diameter and measurable means any change greater than 0.5 inch (0.013 meter). However, based on discussions with the Bureau of Sanitation, a 50 percent threshold is used for System 1 and System 2 for the Proposed Project. The 50 percent capacity for a sewer pipe is defined as the flow depth "d" divided by the pipe diameter "D" or d/D.

Table IV.K.2-3
Existing Project Site Uses to be Removed as part of the Proposed Project

Existing Uses to Be Removed	Existing Wastewater Generation	
	Gallons per Day	Gallons per Year
West Hall	10,448	3,813,520
Central Plants ^a	8,126	2,966,019
Total	18,574	6,779,539
^a Includes Convention Center and STAPLES Center Central Plants and accounts for 32 percent of existing central plant water usage that is discharged to the City's wastewater system. Source: LADWP Water Supply Assessment (WSA) for the Convention and Event Center Project provided in Appendix V of this Draft EIR..		

based on historical per capita usage at the Convention Center. A comparison of the results of these two analyses indicated that higher water usage, and therefore the more conservative forecast, occurred when the forecast was based on historical usage data. It is conservatively assumed that wastewater generation is equal to water consumption, excluding water used for irrigation purposes and water evaporation and drift⁹ from the on-site central plants that serve the Convention Center and STAPLES Center. Thus, the methodology used in the water analysis is also used for the wastewater analysis. As a result, rather than applying the City's Bureau of Sanitation wastewater generation factors to the floor areas for each of the various land uses of the Proposed Project, the analysis below uses a combination of the per capita generation rates for most Proposed Project uses and the City Bureau of Sanitation factors for those Proposed Project uses for which per capita usage factors are not available.

The analysis of infrastructure capacity is based on comparing the estimated additional demand generated by the Proposed Project with the calculated available capacity of the existing facilities. The City's Bureau of Sanitation, Wastewater Engineering Division made a preliminary analysis of the local sewer conditions to determine if available wastewater conveyance and treatment capacity exists for future Proposed Project development. The methodology used by the Bureau of Sanitation consisted of a study of the worst-case scenario envisioning peak demands from the relevant facilities occurring simultaneously on the wastewater system. A combination of flow gauging data and computed results from the City's hydrodynamic model were used to project current and

⁹ Drift is defined as the water that is carried out of a cooling tower with the exhaust air.

future impacts due to additional sewer discharge. The analysis presented below is based on the findings of the Bureau of Sanitation's analysis.

b. Significance Thresholds

Appendix G of the CEQA Guidelines provides a set of sample questions that address impacts with regard to wastewater. These questions are as follows:

Would the project:

- Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?
- Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which would cause significant environmental effects?
- Result in a determination by the wastewater treatment provider, which serves or may serve the project, that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

In the context of these questions from the CEQA guidelines, the *City of Los Angeles CEQA Thresholds Guide* states that a project would normally have a significant wastewater impact if:

- The project would cause a measureable increase in wastewater flows at a point where, and a time when, a sewer's capacity is already constrained or that would cause a sewer's capacity to become constrained; or
- The project's additional wastewater flows would substantially or incrementally exceed the future scheduled capacity of any one treatment plant by generating flows greater than those anticipated in the Wastewater Facilities Plan or General Plan and its elements.¹⁰

These thresholds are applicable to the Proposed Project and as such are used to determine if the Proposed Project would have significant wastewater impacts.

¹⁰ The Wastewater Facilities Plan referenced in the City of Los Angeles CEQA Thresholds Guide has since been superseded by the Integrated Resources Plan.

c. Project Design Features

The Proposed Project would provide sewer connections to the existing municipal sewer systems that would be designed to conform to the standards of the Department of Public Works. In addition, as indicated in the Applicants' Sustainability Program, the New Hall and the Event Center will achieve a water use reduction of 33 and 35 percent, respectively, of the estimated baseline.¹¹ These water reduction requirements will be met by specific measures identified in the Sustainability Program and would include the water conservation features described in the Water Supply Assessment for the Proposed Project and summarized in Section IV.K.1 Utilities—Water, of this Draft EIR. Although these measures would primarily target water reduction, wastewater generation may also be reduced as a result of implementation of these measures. However, for conservative purposes, the analysis provided herein does not take any credit for the potential reduction from implementation of measures identified in the Sustainability Program and similar to the analysis provided in Section IV.K.1 Utilities—Water, of this Draft EIR, only incorporates a reduction in wastewater generation based on the information provided in the Water Supply Assessment for the Proposed Project.

d. Analysis of Proposed Project Impacts

(1) Construction

Construction activities for the Proposed Project would result in a temporary and incremental increase in wastewater generation as a result of construction workers on-site. However, such use would be temporary and nominal when compared with the wastewater generated by an occupied permanent building. In addition, construction workers would typically utilize portable restrooms which would not contribute to wastewater flows to the City's wastewater system. In the event there is an increase in wastewater flow during construction, this increase would be limited and would be within the capacity of the wastewater facilities that currently serve the Project Site. Thus, wastewater generation from Project construction activities is not anticipated to cause a measurable increase in wastewater flows at a point where, and at a time when, a sewer's capacity is already constrained or that would cause a sewer's capacity to become constrained. For these same reasons, construction of the Proposed Project is not anticipated to generate wastewater flows that would substantially or incrementally exceed the future scheduled capacity of any one treatment plant by generating flows greater than those anticipated in

¹¹ *Water Baseline calculated according to the maximum allowable water use per plumbing fixture and fittings as required by the California Building Standards Code as cited in 2010 Los Angeles Green Building Code.*

the IRP. Therefore, Proposed Project construction impacts to the wastewater system would be less than significant.

Construction impacts associated with infrastructure upgrades would primarily be confined to trenching for the sewer lines that connect the individual buildings to the City's existing in-street infrastructure. An existing 66-inch PVC lined Reinforced Concrete Pipe Sanitary Sewer line in the northeast corner of the proposed Event Center is owned and maintained by the City of Los Angeles. A portion of this sewer line will need to be relocated to accommodate a new connection between the proposed Event Center loading dock and the existing Staples Center loading dock below grade. The relocation will be subject to the review and approval of the City of Los Angeles Department of Public Works under a type B-Permit. Prior to construction the contractor will be required to prepare and implement a sewer by-pass plan and emergency spill prevention plan to the satisfaction of the City Engineer. As discussed further in Section IV.B.1, Transportation, of this Draft EIR, to reduce any temporary pedestrian access and traffic impacts, the contractor would implement a Construction Management Plan, which would ensure safe pedestrian access and vehicle travel in general, and emergency vehicle access, in particular, throughout the construction period. Overall, when considering impacts resulting from the installation of any required wastewater infrastructure, all impacts are of a relatively short-term duration (i.e., months) and would cease to occur once the installation is complete.

(2) Operation

(a) Wastewater Generation and Infrastructure

The Proposed Project would result in an increase in wastewater flows from a variety of sources during its operation. As discussed above, rather than applying the City's Bureau of Sanitation wastewater generation factors to the floor areas for each of the various land uses of the Proposed Project, the analysis below utilizes the combination of the per capita generation rates for most Proposed Project uses and the City Bureau of Sanitation factors for those Proposed Project uses for which per capita usage factors are not available. As shown in Table IV.K.2-4 on page IV.K.2-11, the Proposed Project would generate an annual wastewater flow of approximately 70.14 million gallons. When accounting for the existing buildings and the central plants that would be removed under the Proposed Project, which currently generate an annual flow of approximately 6.78 million gallons, the Proposed Project would result in an annual net increase of approximately 63.36 million gallons.

As shown in Table IV.K.2-5 on page IV.K.2-12, when accounting for the total wastewater generation associated with the proposed Convention Center, Event Center, and Central Plants, the Proposed Project would result in a total wastewater generation of 696,015 gpd. Of this total, the Convention Center and its ancillary uses, including the

**Table IV.K.2-4
Annual Proposed Project Wastewater Generation**

Convention Center					
			Per Capita Wastewater Consumption	Forecasted Annual Attendance^a	Annual Wastewater Generation (gallons)
Patron Use ^b			4.6874 ^c	4,020,959	18,847,843
	Floor Area	Wastewater Generation/ 1,000 Sq.Ft.	Wastewater Generation/ Day	Annual Days Open for Business	Annual Wastewater Generation (gallons)
Retail	3,975	80	318	365	116,070
Bike Station ^f	3,250	80	260	365	94,900
Event Deck ^f	8,000	80	640	365	233,600
Convention Center Subtotal					19,292,413
Event Center					
			Per Capita Wastewater Consumption^c	Forecasted Annual Attendance^a	Annual Wastewater Use (Gallons)
Spectator and Exhibition Events			8.8778	6,094,190	54,103,000
Central Plant Subtotal^d					2,157,505
Wastewater Reduction Due to City Water Efficiency Requirements and Project Design Features					(5,415,926)
Proposed Project Total					70,136,992
Existing Wastewater Generation of Project Site Uses to be Removed^e					(6,779,539)
Net Increase in Annual Wastewater Demand					63,357,453
^a Based on estimates of annual event days and attendance for spectator events, exhibition events, conventions, trade shows, consumer shows, meeting rooms, banquets, and assemblies/other. ^b Includes all sources of wastewater generation at Convention Center, including but not limited to restaurant, commissary, and food court uses. ^c Based on per capita water consumption as set forth in the WSA provided in Appendix V to this Draft EIR. ^d Includes proposed water use from the Convention Center, Event Center, and STAPLES Center Central Plants as set forth in the Water Supply Assessment for the Convention and Event Center Project provided in Appendix V of this Draft EIR and accounts for 18.2 percent of central plant water consumption that would be discharged to the City's wastewater system. ^e Based on existing Project Site uses to be removed as part of the Proposed Project based on Table IV.K.2-3 on page IV.K.2-7. ^f The Bike Station may be located off-site and the Event Deck is no longer proposed. However, wastewater demand from these uses is included in the wastewater demand for the Proposed Project for the purposes of providing a more conservative analysis. Source: Matrix Environmental, 2012.					

**Table IV.K.2-5
Daily Proposed Project Impacts**

Land Use	Patrons/Employees or Square Feet	Factor (gpd)^a	Total Wastewater Generated (gpd)
Convention Center			
Exhibit/Meeting Rooms	2,550 ^b	4.6874/patron ^{c,d}	11,953
Retail	3,975	80/1,000 sf	318
Bike Station	3,250	80/1,000 sf	260
Event Deck ^g	8,000	80/1,000 sf	640
Central Plant ^g			3,334
Subtotal			16,505
Wastewater Reduction Due to City Water Efficiency Requirements and Project Design Features			(5,654)^f
Existing Convention Center Central Plant Wastewater Generation			(7,195)
Net Convention Center Wastewater Generation			3,656
Event Center			
Patron Use	76,250	8.8778/person ^c	676,932
Central Plant^e			
Event Center			2,144
STAPLES Center			434
Subtotal Proposed Uses			679,510
Wastewater Reduction Due to City Water Efficiency Requirements and Project Design Features			(41,481)^f
Existing STAPLES Center Central Plant Wastewater Generation			(931)
Net Event Center + STAPLES Center Central Plant Wastewater Generation			637,098
Net Proposed Project Wastewater Generation			640,754
^a Factors for retail, office, and restaurant uses are based on the City of Los Angeles 2006 CEQA Threshold Guide Sewage Generation Factors. ^b The existing daily baseline attendance for the Los Angeles Convention Center is estimated to be 17,000 patrons based on parking survey data. Future daily attendance is forecasted to be 15 percent above baseline conditions or 19,550 patrons. Thus, Los Angeles Convention Center daily impacts are based to a daily attendance increase of 2,550 patrons (19,550 - 17,000 = 2,550). ^c Per capita generation factors based on LADWP Water Supply Assessment (WSA) for the Convention and Event Center Project provided in Appendix V of this Draft EIR. ^d Includes all sources of wastewater generation at the Convention Center or the Event Center including but not limited to restaurant, commissary, and food court uses. ^e Based on proposed water use from the Convention Center, Event Center, and STAPLES Center Central Plants, as set forth in the Water Supply Assessment for the Convention and Event Center Project provided in Appendix V of this Draft EIR, and accounting for 18.2 percent of central plant water consumption that would be discharged to the City's wastewater system less existing water use from the Convention Center and STAPLES Center Central Plants to be removed as set forth in Table IV.K.2-3 on page IV.K.2-7.			

Table IV.K.2-5 (Continued)
Daily Proposed Project Impacts

Land Use	Patrons/Employees or Square Feet	Factor (gpd) ^a	Total Wastewater Generated (gpd)
^f Based on water savings data presented in Section IV.K.1, Utilities—Water, of this Draft EIR. ^g The Bike Station may be located off-site and the Event Deck is no longer proposed. However, wastewater demand from these uses is included in the wastewater demand for the Proposed Project for the purposes of providing a more conservative analysis. Source: Matrix Environmental, 2012.			

central plant, would generate approximately 16,505 gpd. However, with incorporation of the City's water efficiency requirements and the Applicant's specified project design features, as well as subtracting existing wastewater generation, the net increase in wastewater generation would be 640,754 gpd.

As shown in Table IV.K.2-6 on page IV.K.2-14, when accounting for the total wastewater generation associated with the proposed Convention Center, Event Center, and Central Plants, Daily Project Impacts with No Existing Convention Center Activity would generate 775,701 gpd, of which the Convention Center and its ancillary uses, including the central plant, would generate approximately 96,191 gpd. However, with incorporation of the City's water efficiency requirements and the Event Center Applicant's specified project design features, as well as subtracting existing wastewater generation, the net increase in wastewater generation under the Daily Project Impacts with No Existing Convention Center Activity scenario would be 727,635 gpd.

As described above, of the four primary sewer collection and conveyance systems in the vicinity of the Project Site, the Proposed Project would only connect to System 1 and/or System 2. System 1 consists of an 8-inch line on Pico Boulevard and a 10-inch line on L.A. Live Way which join up at Pico Boulevard and Bond Street through a network of 12-inch reaches that run along Bond Street, Wright Street, Venice Boulevard, L.A. Live Way, and Washington Boulevard, before discharging into the 20-inch sewer line on Union Avenue. System 2 consists of a 66-inch sewer line located on 12th Street which runs along a private street between STAPLES Center and the Convention Center's West Hall, then along Figueroa Street, Venice Boulevard, and Grand Avenue.

Based on the Bureau of Sanitation's hydraulic assessment, the Proposed Project's connection to System 1 would be constrained by the available capacity of the existing 12-inch sanitary sewer pipe located in Washington Boulevard downstream of the Proposed Project. Specifically, the current flow level (d/D) of this section of the sewer pipe is estimated to be 45 percent. The maximum capacity (at 50 percent d/D) of this pipe section is approximately 0.66 mgd. While the spare capacity in this sewer line is approximately

**Table IV.K.2-6
Daily Project Impacts with No Existing Convention Center Activity**

Land Use	Patrons/Employees or Square Feet	Factor (gpd/unit)^a	Total Wastewater Generated (gpd)
Convention Center			
Exhibit/Meeting Rooms	19,550 ^b	4.6874/person ^{c,d}	91,639
Retail	3,975	80/1,000 sf	318
Bike Station ^g	3,250	80/1,000 sf	260
Event Deck ^g	8,000	80/1,000 sf	640
Central Plant			3,334
Subtotal			96,191
Wastewater Reduction Due to City Water Efficiency Requirements and Project Design Features			(5,654)^f
Existing Convention Center Central Plant Wastewater Generation			0
Net Convention Center Wastewater Generation			90,537
Event Center			
Patron Use	76,250	8.8778/person ^c	676,932
Central Plants^e			
Event Center			2,144
STAPLES Center			434
Subtotal			679,510
Wastewater Reduction Due to City Water Efficiency Reduction and Project Design Features			(41,481)^f
Existing Wastewater Generation			931
Net Event Center Wastewater Generation			637,098
Net Proposed Project Wastewater Generation			727,635
^a Factors for retail, office, and restaurant uses are based on the City of Los Angeles 2006 CEQA Threshold Guide Sewage Generation Factors. ^b The attendance on days where there is no existing convention center activity is 0 patrons. As the forecasted future activity is the same as the Proposed Project, the incremental increase when compared to no existing Convention Center activity would be 19,550 (19,550 – 0 = 19,550). ^c Per capita generation factors based on LADWP Water Supply Assessment (WSA) for the Convention and Event Center Project provided in Appendix V of this Draft EIR. ^d Includes all sources of wastewater generation at the Convention Center or the Event Center, including but not limited to restaurant, commissary, and food court uses. ^e Based on proposed water use from the Convention Center, Event Center, and STAPLES Center Central Plants, as set forth in the Water Supply Assessment for the Convention and Event Center Project provided in Appendix V of this Draft EIR, and accounting for 18.2 percent of central plant water consumption that would be discharged to the City's wastewater system less existing water use from the STAPLES Center Central Plant and accounting for 32 percent of existing central plant water usage that is discharged to the City's wastewater system. ^f Based on water savings data presented in Section IV.K.1, Utilities—Water, of this Draft EIR.			

Table IV.K.2-6 (Continued)
Daily Project Impacts with No Existing Convention Center Activity

Land Use	Patrons/Employees or Square Feet	Factor (gpd/unit) ^a	Total Wastewater Generated (gpd)
^g <i>The Bike Station may be located off-site and the Event Deck is no longer proposed. However, wastewater demand from these uses is included in the wastewater demand for the Proposed Project for the purposes of providing a more conservative analysis.</i> <i>Source: Matrix Environmental 2012.</i>			

0.11 mgd, per the Bureau of Sanitation's guidelines, an individual project cannot use more than 20 percent of the spare capacity of any individual line, which in this case equates to approximately 0.022 mgd.

As the Proposed Project would generate flows greater than this level, if the Proposed Project connects to System 1, all flows above 22,000 gpd would have to be directed to System 2. Applying the same approach to System 2, the incremental discharge available to an individual project would be 4.58 mgd. The Bureau of Sanitation has indicated that per their guidelines a direct connection would not be permitted into a primary (16-inch or larger) line due to odor and other operation and maintenance problems. As such, if the Proposed Project ultimately connects to System 2, a local sewer line would need to be constructed that would feed into the existing 66-inch line.

As shown in Table IV.K.2-5 on page IV.K.2-12, with incorporation of the City's water efficiency requirements, project design features, and subtracting wastewater generation associated with the existing Project Site uses to be removed, the Proposed Project is forecasted to result in a total daily increase in wastewater discharge of 640,754 gpd or approximately 0.641 mgd, of which approximately 0.004 mgd is attributable to the expansion of the Convention Center, with the remaining 0.637 mgd being generated by the Event Center and Central Plant.

As noted above, the Convention Center currently discharges to System 1. As such, as shown in Table IV.K.2-7 on page IV.K.2-16, the additional forecasted flows of 0.004 mgd attributable to the Convention Center would be below 0.022 mgd (i.e., 20 percent of the spare capacity of System 1) and could be accommodated by System 1.

In addition, as shown in Table IV.K.2-6 on page IV.K.2-14, the additional projected flow from the Convention Center under the Proposed Project with No Existing Convention Center Activity scenario is 90,537 gpd or approximately 0.091 mgd. This flow level is generated by a daily attendance of 19,550 patrons (which consists of the existing baseline level of 17,000 patrons and the forecasted growth of 2,550 patrons) as well as the

Table IV.K.2-7
System 1 Wastewater Infrastructure Current and Proposed Flow Capacity—Convention Center

System 1 Existing Pipe Capacity (mgd at 50% d/D)	System 1 Current Flow in Pipe (mgd)	System 1 Current Flow Level (d/D)	Additional Projected Flow (mgd)	Current plus Proposed Project Flow	Projected Flow Level (d/D)	Flow Level Change
Daily Proposed Project Impacts						
<i>Convention Center</i>						
0.66	0.550	45.1% (5.41 inches)	0.004	0.554	45.2% (5.42 inches)	0.1% (0.01 inch)
Daily Project Impacts with No Existing Convention Center Activity						
<i>Convention Center</i>						
0.66	0.463 ^a	40.9% (4.91 inches)	0.091	0.554	45.2% (5.42 inches)	4.3% (0.51 inches)
^a Since the No Existing Convention Center Activity scenario assumes no existing load on System 1 from the existing Convention Center a credit of 0.08 has been applied. Existing pipe flow based on Bureau of Sanitation's model is approximately 0.55 mgd based on the assumption that the Convention Center is being used at maximum capacity. Source: KPFF Consulting Engineers, Matrix Environmental, 2012.						

Convention Center's central plant. Table IV.K.2-5 on page IV.K.2-12, shows the Proposed Project's increase of 2,550 daily patrons would generate 11,953 gpd or approximately 0.012 mgd of wastewater. Thus, the wastewater generation attributable to the 17,000 patrons that comprise the baseline is 0.08 mgd.

Therefore, to calculate wastewater flows under the Proposed Project with No Existing Convention Center Activity scenario, this level of wastewater generation is subtracted from the existing flow levels to avoid a double counting of the wastewater generation (i.e., as part of existing flows and as part of the incremental flow under the Proposed Project with No Existing Convention Center Activity scenario). In addition, with no patronage, it is conservatively assumed that the Convention Center Central Plant would not be operating under existing conditions. As such, the only existing use generating wastewater under the Proposed Project with No Existing Convention Center Activity would be the operation of the STAPLES Center central plant, which generates 931 gallons of wastewater per day. Thus, as shown in Table IV.K.2-7, under the Proposed Project with No Existing Convention Center Activity scenario, the existing wastewater flow is 0.463 mgd [i.e., 0.550 mgd minus 0.087 mgd (i.e., 90,537 gpd minus 3,656 gpd = 86,881 gpd which is rounded to 0.087)]. Accordingly, the only difference between the Proposed Project and the Proposed Project with No Existing Convention Center Activity scenario is the category the 0.8 mgd is placed within (i.e., under the Proposed Project it is part of existing conditions and under the Proposed Project with No Existing Convention Center Activity scenario it is part of the incremental increase). As a result, the total flow level under the Proposed

Project and the Proposed Project with No Existing Convention Center Activity scenario are the same, with the only difference being the incremental increase attributable to the Proposed Project or the Proposed Project with No Existing Convention Center Activity. Therefore, the conclusions presented above with regard to connection to System 1 or System 2 would also apply to the Proposed Project with No Existing Convention Center Activity scenario.

The Event Center which has a forecasted daily discharge of 0.637 mgd under the Proposed Project, could discharge a maximum of up to 0.018 mgd to System 1 (assuming the Convention Center would also connect to System 1), which would leave 0.619 mgd that would have to be discharged to System 2 or the entirety of the Event Center discharge could be directed toward System 2. As shown in Table IV.K.2-8 on page IV.K.2-18, the 66-inch relief pipe serving System 2 has a 50 percent capacity of approximately 31 mgd with a current flow rate of approximately 8.1 mgd. As indicated by the Bureau of Sanitation, the remaining capacity of System 2 would be able to sufficiently accommodate the increased flow generated by the Proposed Project.¹² As discussed above, the maximum increased daily wastewater flow generated by the Proposed Project for the Event Center would be approximately 0.637 mgd which would correspond to an increase in flow level of less than 1.0 percent or 0.637 inch in the 66-inch relief pipe of System 2. The infrastructure connection alternatives are shown below in Figure IV.K.2-2 on page IV.K.2-19 with discharge alternative 2 showing the recommended connection for the Proposed Project.

As sufficient capacity is available within System 2, regardless of whether the Proposed Project connects to System 1 or not, the impacts of the Proposed Project would be less than significant. The final decision as to whether the Proposed Project would connect to a combination of the two systems, or System 2 only would be made at the final design stage based on available capacity and whichever approach is more efficient from a design perspective. Further, as required by the City's Bureau of Sanitation, detailed gauging and evaluation would also be needed as part of the normal permit process to identify a specific sewer connection point.

(b) Wastewater Treatment

Wastewater generated by the Proposed Project would be conveyed via the existing wastewater conveyance systems for treatment at the HTP, which is a component of the

¹² Written correspondence with Ali Poosti, Acting Division Manager Wastewater Engineering Services Division, Bureau of Sanitation. August 4, 2011.

Table IV.K.2-8
System 2 Wastewater Infrastructure Current and Proposed Flow Capacity—Event Center

System 2 Existing Pipe Capacity (mgd at 50% d/D)	System 2 Current Flow in Pipe (mgd)	System 2 Current Flow Level (d/D)	Additional Projected Flow (mgd)	Current plus Proposed Project Flow	Projected Flow Level (d/D)	Flow Level Change
Daily Proposed Project Impacts						
31	8.095	24.5% (16.19 inches)	0.637	8.732	25.5% (16.82 inches)	1.0% (0.63 inch)
<i>Source: KPFF Consulting Engineers, Matrix Environmental, 2012.</i>						

HSA. Based on the IRP, the existing effective capacity of the HTP is approximately 450 mgd.¹³

Based on these forecasts the Project's increase in wastewater generation would be adequately accommodated by the HTP. In addition, the City Bureau of Sanitation's analysis confirms that the HTP has sufficient capacity for the Proposed Project. Thus, operation of the Project would have a less than significant impact on wastewater treatment facilities.

(c) Consistency with Regulations

As previously discussed, Chapter 9, Infrastructure and Public Services, of the City's General Plan Framework identifies goals, objectives, and policies for utilities in the City, including wastewater collection and treatment. In accordance with Goal 9A, "Adequate wastewater collection and treatment capacity for the City and in basins tributary to City-owned wastewater treatment facilities," the Proposed Project would connect to the existing sewer system, which has been shown to have adequate capacity to meet the demands of the Proposed Project. Therefore, the Proposed Project would be consistent with the goals of the General Plan Framework.

Pursuant to LAMC Sections 64.11 and 64.12, the Proposed Project would be required to obtain an S-permit and pay a Sewerage Facilities Charge to connect to the existing sewer system. Payment of the fees ensures that the Proposed Project would pay for its fair share for any necessary expansions of the sewer system, additional improvements to conveyance, treatment, and disposal facilities. Therefore, impacts relative to consistency with regulations would be less than significant

¹³ *City of Los Angeles, Integrated Resources Plan, December 2006.*

In accordance with LAMC Section 64.15, the City would be required to perform a Sewer Capacity Availability Request (SCAR) analysis to confirm that there is adequate capacity in the sewer collection system to safely convey project-generated wastewater to HTP. This determination would be indicated by acceptance of plans and specifications for plan check and issuance of the Project's S-permit. Additionally, all Project-related wastewater infrastructure improvements and individual building connections would be designed to meet applicable requirements, including those set forth in the Bureau of Engineering's Special Order No. SO06-0691. As such, the Proposed Project's impacts relative to consistency with LAMC regulations would be less than significant.

4. Cumulative Impacts

The geographic context for the cumulative impact analysis on wastewater conveyance systems is the Project vicinity, and the geographic context for the cumulative impact analysis on wastewater treatment facilities at the HTP. The Proposed Project, in conjunction with forecasted growth in the area served by the HTP, inclusive of the related projects, would cumulatively generate wastewater, thus potentially resulting in cumulative impacts on wastewater conveyance and treatment facilities.

a. Wastewater Conveyance

Related project development would be anticipated to add wastewater flows to System 1 and System 2. Whereas some of the related projects may connect to Systems 3 and 4, as the Proposed Project would not connect to these systems there would not be any cumulative impacts. New development projects occurring in the Project vicinity would be subject to LAMC Sections 64.11 and 64.12, which require approval of a sewer permit (S-Permit) prior to connection to the sewer system. This would include obtaining approval from the Bureau of Sanitation for available sewer capacity via a Sewer Capacity Availability Request (SCAR) at the time of development. If system upgrades are required as a result of a given related project's additional flow, arrangements would be made between the related project and the Bureau of Sanitation to construct the necessary improvements.

b. Wastewater Treatment

The Bureau of Sanitation's IRP projects wastewater flows and wastewater treatment capacity through 2020. The buildout year for the Proposed Project is 2016, although the analysis in the Draft EIR conservatively assumes that buildout may extend to 2017. Therefore, cumulative impacts on wastewater facilities were analyzed relative to 2020 growth projected in the HSA. Specifically, the IRP projects average flow for the HTP in 2020 to be approximately 435 mgd. Therefore, based on the HTP's projected design capacity of 450 mgd in 2020 and its projected flow of 435 mgd in 2020, the HTP would

have an available capacity of 15 mgd. As discussed above, without accounting for the Proposed Project's water conservation features, the Proposed Project would generate a maximum increase of 0.641 mgd in average daily flows, which increases to 0.728 under the Convention Center with No Existing Activity scenario. The wastewater flows generated by the Proposed Project, under either of these forecasts, combined with the forecasted 2020 flow would increase the total cumulative wastewater flow to less than 436 mgd, well within the HTP's 2020 design capacity of 450 mgd.

Because, as previously discussed, the IRP identifies adequate treatment capacity within the City through 2020, adequate capacity would likely be available through 2020. Therefore, cumulative impacts on the wastewater treatment systems would be less than significant.

5. Project Design Features and Mitigation Measures

a. Project Design Features

Refer to Section IV.K.1, Utilities—Water, of this Draft EIR, for a list of the indoor water use conservation measures that would be implemented as part of the Proposed Project. Incorporation of these measures would also serve to reduce wastewater generation associated with the Proposed Project.

b. Mitigation Measures

Mitigation Measure IV.K.2-1: Sewer connections between the Proposed Project and the existing municipal sewer systems would be designed to conform to the standards of the Department of Public Works.

Mitigation Measure IV.K.2-2: The Event Center Applicant shall construct a local sewer line that connects into System 2's 66-inch line.

6. Level of Significance After Mitigation

With the implementation of the mitigation measures identified above, the Proposed Project's impacts and cumulative impacts on wastewater conveyance and wastewater treatment systems would be less than significant.