4.9.2 Wastewater Generation

4.9.2.1 Introduction

This section assesses the proposed Project's potential wastewater impacts from Concourse 0 and Terminal 9. The demand for wastewater treatment is evaluated, as is the need for new wastewater conveyance pipelines. The proposed airfield and roadway improvements would not generate wastewater.

4.9.2.2 Methodology

This analysis compares the proposed Project's estimated wastewater generation to existing and future wastewater treatment conditions and capacity. The proposed Project would include new concourse and terminal improvements (Concourse 0 and Terminal 9). These Project components would generate wastewater that would require treatment. The proposed airfield and roadway improvements would not accommodate passengers or employees and, therefore, would not generate wastewater.

As discussed in Section 4.9.1, *Water Supply,* the Los Angeles Department of Water and Power (LADWP) estimated Project-related water demand as part of a Water Supply Assessment (WSA) prepared for the proposed Project (provided in **Appendix H**). The WSA calculated total Project-related net water demand associated with Concourse 0 and Terminal 9 at Project build-out (i.e., 2028), using LADWP Bureau of Sanitation sewer generation rates, among other sources. For purposes of this analysis, all water consumption associated with Concourse 0 and Terminal 9 was assumed to be discharged as sanitary wastewater. Therefore, the Project-related water demand associated with Concourse 0 and Terminal 9 calculated for the WSA also represents Project-related wastewater generation.

To determine whether the increase in wastewater generation associated with the proposed Project would be significant, defined in terms of whether the relocation or construction of new or expanded wastewater treatment facilities would be needed, the estimated wastewater generation volume was compared to the existing and planned wastewater treatment capacity of the Hyperion Water Reclamation Plant (HWRP), which treats sanitary wastewater generated by activities at LAX. Further, a qualitative assessment of wastewater conveyance pipelines required by the proposed Project is provided.

4.9.2.3 Existing Conditions

4.9.2.3.1 Regulatory Setting

4.9.2.3.1.1 State

State General Waste Discharge Requirements

The Statewide General Waste Discharge Requirements (WDRs) for publicly-owned sanitary sewer systems require the City to develop and implement a Sewer System Management Plan (SSMP). The City's SSMP, last updated in January 2019, provides a plan and schedule to properly manage, operate, and maintain all parts of the wastewater collection system in order to reduce and prevent sanitary sewer overflows, and to mitigate any overflows that do occur.[1]

[1] City of Los Angeles, LA Sanitation & Environment, *Sewer System Management Plan Version 3.0,* January 25, 2019. Available: https://www.lacitysan.org/cs/groups/public/documents/document/y250/mdm1/~edisp/cnt035427.pdf.

Green Buildings Standards

The 2019 California Green Building Standards Code (CALGreen) is discussed above in Section 4.9.1, *Water Supply*. CALGreen contains specific requirements for plumbing fixtures directed at water conservation. These requirements also reduce wastewater flows.

4.9.2.3.1.2 Local

One Water LA

As discussed in Section 4.9.1, *Water Supply*, the City prepared the One Water LA 2040 Plan in 2018. The Plan includes a wastewater facilities plan that addresses the City's future wastewater treatment and infrastructure needs through 2040.[2]

L.A.'s Green New Deal

As discussed in Section 4.9.1, *Water Supply*, L.A.'s Green New Deal[3] contains strategies for the City to increase sustainability and address current and future climate change impact. Regarding wastewater, the Green New Deal includes a target of recycling 100 percent of all wastewater for beneficial reuse by 2035.

LAWA Sustainability Plans and Guidelines

As discussed in Section 4.9.1, *Water Supply,* LAWA's Design and Construction Handbook (DCH) includes technical standards for water efficiency and water conservation for new construction and renovation projects.[4] To comply with these standards, projects are required to use water conserving devices and fixtures that minimize water consumption to an aggregate level that is 25 percent below code requirements; this requirement will also reduce wastewater generation.

As discussed in Section 4.9.1, *Water Supply,* LAWA's *Sustainability Action Plan (SAP)*[5] identifies a goal to increase reclaimed water use by 35 percent and decrease potable water use by 30 percent by 2035. Reductions in potable water use due to use of more efficient fixtures and devices will also result in reduced wastewater generation.

4.9.2.3.2 Environmental Setting

Wastewater treatment for the Project site and the surrounding area is provided by the Los Angeles Department of Public Works, Bureau of Sanitation, known as LA Sanitation & Environment (LASAN). The LASAN system is the largest wastewater collection system in the United States. It serves a population of more than 4 million within a 600-square-mile service area that includes the City of Los Angeles and 29 contracting cities and agencies. The City's more than 6,700 miles of public sewers convey up to 360 million gallons per day (mgd) of flow from residences and businesses to the City's four water reclamation plants. Together, the four water reclamation plants have a combined capacity of 580 mgd.[6,7]

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2 City of Los Angeles, LA Sanitation & Environment and Department of Water and Power, *One Water LA 2040 Plan – Volume 1 Summary Report, Final Draft,* prepared by Carollo, et. al., April 2018. Available: https://www.lacitysan.org/cs/groups/sg_owla/documents/document/y250/mdi2/~edisp/cnt026188.pdf.

3 City of Los Angeles, Office of the Mayor, Mayor Eric Garcetti, *L.A.'s Green New Deal: Sustainable City pLAn*, 2019. Available: http://plan.lamayor.org/sites/default/files/pLAn_2019_final.pdf.

4 City of Los Angeles, Los Angeles World Airports, *2020 Design and Construction Handbook (DCH), Version 1.0,* June 30, 2020. Available: https://www.lawa.org/en/lawa-businesses/lawa-documents-and-guidelines/lawa-design-and-construction-handbook.

5 City of Los Angeles, Los Angeles World Airports, *LAWA Sustainability Action Plan*, 2019. Available: https://cloud1lawa.app.box.com/s/63i2teszgnld5aws68xbou6yc0inl5rp.

6 City of Los Angeles, LA Sanitation & Environment, *Water Reclamation Plants webpage*. Available: https://www.lacitysan.org/san/faces/home/portal/s-lsh-wwd/s-lsh-wwd-cw/s-lsh-wwd-cw-p?_adf.ctrl-state=8diofq9yg_1737&_afrLoop=11690760693640740#!, accessed June 2, 2020.

7 City of Los Angeles, LA Sanitation & Environment and Department of Water and Power, *Advanced Water Purification Facility Pilot Study Report*, prepared by Brown and Caldwell and Trussell Technologies, July 2018. Available: https://www.lacitysan.org/san/sandocview?docname=cnt027939.

Wastewater within the Project area is collected by local sewer lines that generally run within rights-of-way and connect to larger interceptor and outfall sewers that flow to the HWRP, located to the south of LAX. There are several large diameter sewers (North Central Outfall Sewer, North Outfall Relief Sewer, and the Central Outfall Sewer) that cross beneath LAX and convey flows from LAX and other parts of the City to the HWRP. The HWRP provides full secondary treatment for all influent, with a maximum daily flow of 450 mgd. A portion of secondary treated effluent from HWRP (approximately 40 mgd) is conveyed to the Edward C. Little Water Recycling Facility (ECLWRF) operated by the West Basin Municipal Water District (WBMWD), where it is further treated and recycled. Effluent flow from HWRP to ECLWRF will increase to 70 mgd in the future (see Section 4.9.1.3.2). Some of the recycled water produced at ECLWRF supplies LAX. In 2016, flows to HWRP averaged 250 mgd; in 2030, flows are projected to be 275 mgd.[8]

In addition to the HWRP, the City of Los Angeles operates the Donald C. Tillman Water Reclamation Plant (DCTWRP) in the San Fernando Valley. The DCTWRP has a capacity of 80 mgd. In 2016, flows to DCTWRP averaged 47 mgd; in 2030, flows are projected to be 51 mgd.[9]

HWRP and DCTWRP both have a septage receiving facility where vendors that service portable toilets used by the construction industry can dispose of collected waste.

4.9.2.4 Thresholds of Significance

A significant impact related to wastewater generation would occur if the proposed Project would:

Threshold 4.9.2-1 Require or result in the relocation or construction of new or expanded wastewater treatment facilities, the construction or relocation of which could cause significant environmental effects.

Threshold 4.9.2-2 Exceed wastewater treatment capacity due to Project-related wastewater treatment demand.

These thresholds are derived from Appendix G of the State CEQA Guidelines.

4.9.2.5 Project Impacts

4.9.2.5.1 Impact 4.9.2-1

Summary Conclusion for Impact 4.9.2-1: The proposed Project would not require or result in the relocation or construction of new or expanded wastewater treatment facilities, the construction or relocation of which could cause significant environmental effects. This would be a *less than significant impact* for construction and operations.

4.9.2.5.1.1 Construction

Construction of the proposed Project would generate small quantities of wastewater associated with construction workers. Typically, temporary or portable restroom facilities are placed at each construction location. Wastewater from the portable restrooms is hauled to the HWRP or DCTWRP septage facility for disposal to the wastewater treatment system.[10] As discussed above, wastewater flows to the HWRP are

[8] City of Los Angeles, LA Sanitation & Environment and Department of Water and Power, *One Water LA 2040 Plan – Volume 2 Wastewater Facilities Plan*, *Final Draft,* prepared by Stantec in collaboration with Carollo, April 2018. Available: https://www.lacitysan.org/cs/groups/sg_owla/documents/document/y250/mdi2/~edisp/cnt026205.pdf.

[9] City of Los Angeles, LA Sanitation & Environment and Department of Water and Power, *One Water LA 2040 Plan – Volume 2 Wastewater Facilities Plan, Final Draft,* prepared by Stantec in collaboration with Carollo, April 2018. Available: https://www.lacitysan.org/cs/groups/sg_owla/documents/document/y250/mdi2/~edisp/cnt026205.pdf.

[10] The City operates septage facilities at HWRP and DCTWRP where providers of temporary restroom facilities and septic tank pumping operators are required to dispose of the associated wastewater.

currently about 250 mgd, and flows to DCTWRP are currently approximately 47 mgd, both well below their respective capacities of 450 mgd and 80 mgd. Further, by 2030, wastewater flows to HWRP and DCTWRP are projected to be 275 mgd and 51 mgd, respectively, both well below the respective plant capacities. There is adequate capacity at both HWRP and DCTWRP to accommodate wastewater generated by construction workers associated with the proposed Project.

The proposed Project is located in an urbanized portion of the City of Los Angeles that is well served by wastewater distribution infrastructure. Existing sewer mains, trunk lines (i.e., outfall sewers), and service lines provide service throughout the Project area. Wastewater from Terminal 9 would be conveyed via new sewer pipelines to the nearest collector sewer for ultimate conveyance, via an existing main sewer outfall, to HWRP for processing. The main sewer outfalls that would receive wastewater from the proposed Project have sufficient capacity. However, some of the local collector pipelines that would convey wastewater from Concourse 0 to the main outfall do not have capacity for projected Concourse 0 wastewater flows. There are two options that would result in adequate conveyance capacity. Under one option, a new approximately 8-inch pipeline, 675 feet in length, would be constructed to connect Concourse 0 to the main outfall without using the nearby collector pipelines that do not have capacity. Alternatively, as part of the proposed Project, the nearby local collector pipelines between Concourse 0 and the outfall sewer would be up-gauged from 8-inch pipelines to approximately 15-inch pipelines to serve the proposed Project. Under either option, the pipelines would be located in a portion of the airport that is currently developed and does not contain any sensitive resources (e.g., cultural resources, biological resources, nearby sensitive land uses). Moreover, the area where the new or up-gauged pipeline(s) would be installed would already be under construction as part of the proposed Project. Therefore, construction of either option would occur as part of the overall construction of the proposed Project and would not result in any new environmental impacts.

For the reasons discussed above, the proposed Project would not require or result in the relocation or construction of new or expanded wastewater treatment facilities, the construction or relocation of which could cause significant environmental effects. Impacts to the City's wastewater treatment system from Project construction would be ***less than significant***.

4.9.2.5.1.2 Operations

The proposed Project would generate wastewater from operation of Concourse 0 and Terminal 9. As discussed in Section 4.9.1, *Water Supply,* LADWP prepared a Water Supply Assessment (WSA) for the proposed Project, which estimated the Project's water demand. Indoor water demand was calculated using LASAN sewer generation rates. For purposes of this analysis, wastewater generation is assumed to equal water demand.

Concourse 0 and Terminal 9 are projected to generate approximately 0.05 mgd of wastewater without accounting for additional water conservation commitments made by LAWA.[11] When taking into account facilities that would be removed with Project implementation, these Project components would generate approximately 0.03 mgd. Wastewater from Terminal 9 would be conveyed via new sewer pipelines to the nearest collector sewer for ultimate conveyance, via existing outfall sewers, to HWRP for processing. As discussed in Section 4.9.2.5.1.1, Concourse 0 would require new or upgraded local sewer pipelines in order to meet the capacity needs. As described above, provision of these new or upgraded pipelines would not result in any new environmental impacts.

[11] This wastewater generation estimate is conservative because it does not include reductions due to additional water conservation measures that LAWA has committed to, as quantified in Table 4.9.1-1. The additional water conservation measures would apply to indoor water use, such as low-flow fixtures and appliances, as well as landscaping. Only the water conservation measures associated with indoor water use would alter wastewater flows. As the WSA does not calculate the water savings associated with individual measures, the reductions cannot be subtracted from the estimate of indoor wastewater generation.

As discussed in Section 4.9.2.3.2, flows at HWRP are currently approximately 250 mgd, and are projected to be approximately 275 mgd by 2030, both well below HWRP's capacity (450 mgd). In 2030, excess capacity at HWRP is expected to be approximately 175 mgd. The proposed Project would generate approximately 0.03 mgd of wastewater in 2028, which would not cause HWRP to exceed its treatment capacity. Therefore, the proposed Project would not require or result in the relocation or construction of new or expanded wastewater treatment facilities, the construction or relocation of which could cause significant environmental effects. Impacts to the City's wastewater treatment system from Project operation would be ***less than significant***.

4.9.2.5.1.3 Mitigation Measures

Because construction and operation of the proposed Project would result in a ***less than significant*** impact to the wastewater treatment and conveyance system, no mitigation is required.

4.9.2.5.1.4 Significance of Impact After Mitigation

As indicated above, no mitigation is required to address wastewater generation. The proposed Project would result in a ***less than significant*** impact for construction and operations.

4.9.2.5.2 Impact 4.9.2-2

Summary Conclusion for Impact 4.9.2-2: The proposed Project would not exceed wastewater treatment capacity due to Project-related wastewater treatment demand. There would be *no impact* for construction and operations.

4.9.2.5.2.1 Construction

As discussed in Section 4.9.2.5.1.1, construction workers would generate small quantities of wastewater. As discussed above, there is adequate capacity at both HWRP and DCTWRP to accommodate this wastewater. As such, the construction-related wastewater generation by the proposed Project would not exceed wastewater treatment capacity and there would be ***no impacts*** related to wastewater treatment demand.

4.9.2.5.2.2 Operations

As discussed in Section 4.9.2.5.1.2 above, the proposed Project would generate wastewater from operation of Concourse 0 and Terminal 9. As discussed above, the proposed Project would generate approximately 0.03 mgd of wastewater in 2028, which would not cause HWRP to exceed its treatment capacity. Therefore, the operations-related wastewater generation from the proposed Project would not exceed wastewater treatment capacity and there would be ***no impacts*** related to wastewater treatment demand.

4.9.2.5.2.3 Mitigation Measures

Because construction and operation of the proposed Project would result in ***no impact*** related to wastewater treatment capacity, no mitigation is required for construction or operations.

4.9.2.5.2.4 Significance of Impact After Mitigation

As indicated above, no mitigation is required to address wastewater treatment capacity. The proposed Project would result in ***no impact*** for construction and operations.

4.9.2.6 Cumulative Impacts

The geographical scope of the cumulative impacts analysis for the City's wastewater system is the Hyperion Service Area,[12] a primary drainage area covering approximately 515 square miles, which serves the City of Los Angeles and the 29 agencies that contract with the City to convey and treat their wastewater.

The City's projection of future wastewater generation within the Hyperion Service Area, including at HWRP and DCTWRP, is cumulative in nature and takes into account projected population increases, as well as future commercial and industrial activity within the City and contract agencies. The projections are based in part on LADWP's 2015 Urban Water Management Plan (UWMP) in conjunction with census data prepared by the Southern California Association of Governments (SCAG), and account for projected economic activity, weather, and water conservation activities.[13] As discussed in Section 4.9.2.3.2, the City projects that HWRP and DCTWRP will be operating substantially below their rated capacities in 2030.

As concluded in Section 4.9.2.5.1, wastewater generated by the proposed Project during construction and operation could be accommodated by existing regional wastewater treatment plants and would not require or result in the relocation or construction of new or expanded wastewater treatment facilities. Therefore, proposed Project impacts on wastewater facilities would be less than significant.

The cumulative projects at or adjacent to LAX that, in conjunction with the proposed Project, would contribute to cumulative wastewater generation are the LAX Northside Development; the LAX Landside Access Modernization Program; various terminal improvement projects including the Midfield Satellite Concourse (MSC) South Project, Terminal 2/Terminal 3 Modernization Project, Terminal 4 Modernization Project, and Terminal 6 Renovation; ancillary facilities such as the LAX Airfield Bus Yard Facility; and the Airport Metro Connector 96th Street Transit Station.

Wastewater generation was calculated in the environmental documents prepared for several of these projects. Specifically, the LAX Northside Development would generate approximately 270,000 gallons per day (gpd),[14] the LAX Landside Access Modernization Program would generate approximately 122,000 gpd,[15] and the Airport Metro Connector 96th Street Transit Station would generate approximately 33,000 gpd.[16] Combined, these projects would generate approximately 425,000 gpd or 0.425 mgd of wastewater. Wastewater was not calculated for the terminal modernization projects or the bus yard facility. Based on the size of the MSC South Project as compared to the proposed Project (145,000 square feet versus 2.75 million square feet), the MSC South Project would generate substantially less wastewater than the proposed Project. The remaining projects represent relocation or modification of existing facilities that would not increase wastewater generation, or would result in very minor increases. With excess available capacity at HWRP projected to be approximately 175 mgd in 2030, the cumulative projects would not result in wastewater flows to HWRP that exceed, or even approach, HWRP's

[12] The Hyperion Service Area is geographic area that is served by the City's HWRP, DCTWRP, and Los Angeles-Glendale Water Reclamation Plant.

[13] City of Los Angeles, LA Sanitation & Environment and Department of Water and Power, *One Water LA 2040 Plan – Volume 2 Wastewater Facilities Plan, Final Draft,* prepared by Stantec in collaboration with Carollo, April 2018. Available: https://www.lacitysan.org/cs/groups/sg_owla/documents/document/y250/mdi2/~edisp/cnt026205.pdf.

[14] City of Los Angeles, Los Angeles World Airports, *Final Environmental Impact Report for Los Angeles International Airport (LAX) Northside Plan Update*, (SCH 2012041003), Section 4.15 – Utilities and Services, December 2014. Available: https://www.lawa.org/en/lawa-our-lax/environmental-documents/documents-certified/lax-northside-plan-update/environmental-documents.

[15] City of Los Angeles, Los Angeles World Airports, *Final Environmental Impact Report for Los Angeles International Airport (LAX) Landside Access Modernization Program*, (SCH 2015021014), Section 4.13 – Utilities and Service Systems, February 2017. Available: https://www.lawa.org/en/connectinglax/automated-people-mover/documents.

[16] Los Angeles County Metropolitan Transportation Authority, *Airport Metro Connector 96th Street Transit Station Draft Environmental Impact Report*, (SCH 2015021009), Section 3.2 – Greenhouse Gas Emissions, June 2016. Available: https://media.metro.net/projects_studies/crenshaw/images/AMC_96th_St_Station_Draft_EIR_2016-6.pdf.

wastewater treatment capacity. Therefore, the wastewater flows associated with the cumulative development projects would not require or result in the relocation or construction of new or expanded wastewater treatment facilities.

As noted in Section 4.9.2.3.2, total wastewater flows at HWRP in 2030, which take into account future growth and new development projects in the Hyperion Service Area, are projected to be approximately 275 mgd, resulting in excess capacity of approximately 175 mgd. Together, wastewater from the proposed Project (approximately 0.03 mgd) and the cumulative projects at or adjacent to LAX (approximately 0.425 mgd), would generate approximately 0.455 mgd of wastewater, which would not cause HWRP to exceed its treatment capacity. Therefore, cumulative projects would not require or result in the relocation or construction of new or expanded wastewater treatment facilities, and cumulative impacts on wastewater treatment facilities would be ***less than significant***.

4.9.2.7 Summary of Impact Determinations

Table 4.9.2-1 summarizes the impact determinations of the proposed Project related to wastewater generation, as described above in Sections 4.9.2.5 and 4.9.2.6. Impacts determinations are based on the significance criteria presented in Section 4.9.2.4, and the information and data sources cited throughout Section 4.9.2.

Table 4.9.2-1
Summary of Impacts and Mitigation Measures Associated with the Proposed Project Related to Wastewater Generation

Environmental Impacts	Impact Determination	Mitigation Measures	Level of Significance After Mitigation
Impact 4.9.2-1: The proposed Project would not require or result in the relocation or construction of new or expanded wastewater treatment facilities, the construction or relocation of which could cause significant environmental effects. This would be a ***less than significant impact*** for construction and operations.	Construction: Less than Significant Operations: Less than Significant	No mitigation is required	Construction: Less than Significant Operations: Less than Significant
Impact 4.9.2-2: The proposed Project would not exceed wastewater treatment capacity due to Project-related wastewater treatment demand. There would be ***no impact*** for construction and operations.	Construction: No Impact Operations: No Impact	No mitigation is required	Construction: No Impact Operations: No Impact

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