



5.18 Wastewater



5.18 WASTEWATER

5.18.1 PURPOSE

This section identifies the nature and location of wastewater conveyance and treatment facilities and existing related infrastructure within the Study Area and provides an analysis of potential impacts associated with implementation of the General Plan Update. Potential impacts are identified and mitigation measures to address potentially significant impacts are recommended, as necessary.

5.18.2 EXISTING REGULATORY SETTING

FEDERAL REGULATIONS

Clean Water Act

The Clean Water Act (CWA) (33 *United States Code* Section 1251 et seq.) is the cornerstone of water quality protection in the United States. The statute employs a variety of regulatory and non-regulatory tools to sharply reduce direct pollutants discharges into waterways, finance municipal wastewater treatment facilities, and manage polluted runoff. These tools are employed to achieve the broader goal of restoring and maintaining the chemical, physical, and biological integrity of the nation's waters so that they can support "the protection and propagation of fish, shellfish, and wildlife and recreation in and on the water."¹

The CWA regulates discharges from "non-point source" and traditional "point source" facilities, such as municipal sewage plants and industrial facilities. The CWA makes it illegal to discharge pollutants from a point source to the waters of the United States. CWA Section 402 creates the National Pollutant Discharge Elimination System (NPDES) regulatory program. Point sources must obtain a discharge permit from the proper authority (usually a state, sometimes EPA, a tribe, or a territory). NPDES permits cover industrial and municipal discharges, discharges from storm sewer systems in larger cities, storm water associated with numerous kinds of industrial activity, runoff from construction sites disturbing more than one acre, mining operations, and animal feedlots and aquaculture facilities above certain thresholds.

All so-called "indirect" dischargers are not required to obtain NPDES permits. An indirect discharger is one that sends its wastewater into a city sewer system, so it eventually goes to a sewage treatment plant. Although not regulated under NPDES, "indirect" discharges are covered by the CWA "pretreatment" program.

¹ United States Environmental Protection Agency Website, *Introduction to the Clean Water Act*, https://cfpub.epa.gov/watertrain/moduleFrame.cfm?module_id=69&parent_object_id=2569&object_id=2569, accessed April 19, 2018.



STATE REGULATIONS

California Code of Regulations Title 22, Water Recycling Criteria

Title 22, *Water Recycling Criteria*, regulates how treated and recycled water are discharged and used. The standards require the State's Department of Health Services to develop and enforce water and bacteriological treatment standards for water recycling and reuse. Reclaimed water and its reuse are regulated under the Water Recycling Criteria and the Porter-Cologne Water Quality Control Act while effluent treatment standards are set and enforced by the State's nine Regional Water Quality Control Boards (RWQCB) in consultation with the California Department of Public Health. The City is located within the jurisdiction of the San Diego RWQCB.

LOCAL REGULATIONS

Santa Margarita Water District Sewer System Management Plan

The Santa Margarita Water District (SMWD) *Sewer System Management Plan* (SSMP) is intended to meet the requirements of the San Diego Regional Water Quality Control Board (RWQCB) and the Statewide General Waste Discharge Requirements (WDR). The SSMP identifies goals for the management, operation and maintenance of the sewer system and discusses the role of the SSMP in supporting these goals. These goals provide focus for SMWD to implement improvements in the management of the SMWD's wastewater collection system. The primary objective of the SSMP is to delineate the responsibilities of individuals, and identify proper maintenance and operation activities, notification procedures, and field activities, spill monitoring, record keeping, and training necessary for compliance with the State Water Resources Control Board (SWRCB) and RWQCB orders.

Rancho Santa Margarita Municipal Code

Rancho Santa Margarita Municipal Code (Municipal Code) Chapter 5.10, *Water Quality Control*, identifies regulations as mandated by the CWA to effectively prohibit non-stormwater discharges into the storm sewers and to reduce the discharge of pollutants. The CWA mandates, in part, that municipal separate storm sewer systems, such as in Orange County, obtain permits to "effectively prohibit non-stormwater discharges into the storm sewers" and "require controls to reduce the discharge of pollutants to the maximum extent practicable." The San Diego RWQCB has addressed the obligation to implement the CWA by issuing a NPDES permit governing stormwater runoff for the County of Orange, Orange County Flood Control District, and certain incorporated cities of Orange County. The City of Rancho Santa Margarita is participating as a "Co-permittee" under the NPDES Permit.

5.18.3 EXISTING ENVIRONMENTAL SETTING

Wastewater collection and treatment systems for the City are provided by the Trabuco Canyon Water District (TCWD) and Santa Margarita Water District (SMWD). The wastewater service areas are the same as the water service boundaries, shown in [Exhibit](#)



5.17-1, *Water District Service Areas*. As shown on *Exhibit 5.17-1*, TCWD serves the eastern portion of Rancho Santa Margarita, including Robinson Ranch, Trabuco Highlands, Dove Canyon, Rancho Cielo, Walden Communities, and the Northeast Future Planned Community. The remaining portions of the City are served by SMWD.

TRABUCO CANYON WATER DISTRICT

TCWD has sewer collection facilities and acquired treatment capacity from SMWD for the western portion of the District. The eastern portion of the District is served through District-owned sewer system, wastewater treatment facilities, and recycled water facilities. The District treats the collected wastewater at the Robinson Ranch Wastewater Treatment Plant (RRWWTP) and has the capability to divert or convey wastewater to SMWD for treatment at their Chiquita Wastewater Reclamation Plant. The District reclaims the treated effluent from RRWWTP by pumping treated and stored flows to the reclaimed water customers.

TCWD's wastewater facilities include RRWWTP, a 0.85-million gallon per day (mgd) water reclamation treatment facility, eight sewer lift stations and approximately 47 miles of sewers and interceptors. Reclaimed water from RRWWTP is stored at the RRWWTP Reclaimed Water Reservoir. The RRWWTP Reclaimed Water Reservoir has an approximate storage capacity of 130 acre-feet. The District's recycled water system is supplied with reclaimed water from the RRWWTP and with urban runoff captured and stored in Dove Lake. Dove Lake captures local runoff from the surrounding communities of Dove Canyon, Robinson Ranch, and Trabuco Highlands. In addition, the District's Dry Season Water Recovery Project captures urban runoff and stores it in Dove Lake for use in augmenting the District's non-potable irrigation system.

TCWD owns and operates the RRWWTP which provides wastewater collection and treatment for developments on the east side of the TCWD. The RRWWTP has a capacity of 0.85 mgd in its current configuration. However, the plant has treated influent flows of up to 1.20 mgd while meeting Title 22 discharge limits. The San Diego RWQCB currently has permitted the plant to operate at 1.1 mgd under Order 92-67. Current flows average 0.74 mgd.² Additionally, current treatment levels meet or exceed recycled water criteria and applications as defined in the California Administrative Code, Title 22, Division 4. TCWD utilizes 100 percent of the recycled wastewater produced at its RRWWTP.

The western portion of TCWD is served by SMWD which treats the flows collected by TCWD in this area. Approximately 0.08 to 0.1 mgd of TCWD service area flows are treated at SMWD's Chiquita Wastewater Reclamation Plant of which the effluent is either reused or discharged to the Pacific Ocean near San Juan Capistrano. Urban runoff is also captured within TCWD and pumped to a reservoir for storage and eventual use as non-potable water.

2 Montgomery Watson, *Trabuco Canyon Water District Water, Wastewater and Reclaimed Water Master Plan Final Report*, December 1999, <http://www.tcwd.ca.gov/home/showdocument?id=1336>, accessed April 23, 2018.



SANTA MARGARITA WATER DISTRICT

SMWD provides sewer service to portions of the cities of Rancho Santa Margarita, Mission Viejo, and San Clemente as well as unincorporated County areas within the District's sphere of influence. The District is divided into eight improvement districts that encompass approximately 62,000 acres of land. The District's sewer system consists of approximately 615 miles of pipe, ranging from six-inches to 42-inches in diameter, 20 sewer lift stations, and three sewage treatment plants. The District owns, operates, and maintains all the public sewer facilities within its service area.

SMWD's permits for the operation of its wastewater treatment facilities allow only irrigation and customer uses of recycled water. SMWD owns and operates a recycled water system with three existing treatment plants, an agreement to purchase water from the Irvine Ranch Water District (IRWD), and a seasonal storage reservoir. Recycled water is part of SMWD's overall menu of water supplies included in the UWMP for purposes of meeting the projected water demand for existing and planned future uses.

Wastewater generated in SMWD is treated at the following facilities:

- Oso Creek Water Reclamation Plant (OCWRP) is owned and operated by the District and has a design capacity of three mgd and current flow of 1.7 mgd.³ OCWRP diverts wastewater from the Oso Trunk Sewer and treats it to Title 22 tertiary levels where it is conveyed to the SMWD recycled water system for beneficial reuse. The solids removed during treatment are returned to Oso Trunk Sewer for handling at the J.B. Latham Treatment Plant.
- 3A Water Reclamation Plant (WRP) is jointly owned by SMWD and Moulton Niguel Water District and has been operated by SMWD since July 1, 2015. Wastewater diverted from the Oso Trunk Sewer is treated at 3A WRP to Title 22 tertiary levels prior to beneficial reuse in the MNWD and SMWD's recycled water systems. Flows exceeding the 2.4-mgd plant tertiary capacity bypass 3A WRP and flow to the J.B. Latham Treatment Plant. Solids are treated onsite. The plant has secondary treatment capacity of six mgd and tertiary treatment of 2.4 mgd. Current flows for secondary and tertiary treatment are 1.90 mgd, respectively.⁴ SMWD is currently in design for the expansion of the tertiary treatment capacity to six mgd.
- J.B. Latham is a 13-mgd wastewater treatment plant that is owned and operated by South Orange County Wastewater Authority (SOCWA) that treats wastewater to secondary effluent standards prior to discharge through the San Juan Creek Ocean Outfall. The District has a flow capacity of 2.25 mgd in the plant. Overall, J.B. Latham has a capacity of 13 mgd and average flow of 9.18 mgd.⁵ OCWRP,

3 Santa Margarita Water District, *Oso Water Reclamation Plant and 3A Treatment Plant Operational Modification Study Memorandum*, February 13, 2015, http://www.smwd.com/assets/downloads/meeting-agenda/2015-02-13_ECM_Handout1.pdf, accessed April 23, 2018.

4 Ibid.

5 Ibid.



3A WRP, and J.B. Lathan provide wastewater treatment for a majority of the City of Mission Viejo.

- Los Alisos Water Recycling Plant is owned and operated by the IRWD and the District has an agreement with IRWD to treat up to 0.7 mgd of wastewater. Treated wastewater that is not beneficially reused is discharged through the Aliso Creek Ocean Outfall. Approximately 670,000 gallons per day (gpd) of wastewater from the northeastern portion of Mission Viejo in the SMWD service area is conveyed to the Los Alisos Water Recycling Plant.
- Chiquita Water Reclamation Plant is owned and operated by the SMWD, which has a current secondary design capacity of nine mgd and tertiary treatment capacity of six mgd. Secondary treated wastewater is discharged to the San Juan Creek Ocean Outfall if the recycled water treatment capacity is reached, there is no recycled demand, or seasonal storage reservoirs are full.

SMWD provides additional treatment to a portion of its secondary treated wastewater, rather than discharging it to the ocean, and is used for landscape irrigation services. Demands continue to increase as new services are continually being connected to the recycled water system.

5.18.4 SIGNIFICANCE THRESHOLDS AND CRITERIA

Appendix G of the California Environmental Quality Act (CEQA) Guidelines contains the Initial Study Environmental Checklist, which includes questions relating to wastewater. The issues presented in the Initial Study Environmental Checklist have been utilized as thresholds of significance in this section. Accordingly, a project may create a significant environmental impact if it would:

- 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 could cause significant environmental effects; and
- Result in a determination by the wastewater treatment provider that serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

Based on these standards, the effects of the General Plan Update have been characterized as either a "less than significant impact" or a "potentially significant impact." Mitigation measures are recommended for potentially significant impacts. If a potentially significant impact cannot be reduced to a less than significant impact level through the application of mitigation, it is categorized as a significant unavoidable impact.



5.18.5 PROJECT IMPACTS AND MITIGATION MEASURES

WASTEWATER

- IMPLEMENTATION OF THE GENERAL PLAN UPDATE WOULD NOT EXCEED WASTEWATER TREATMENT REQUIREMENTS OF THE APPLICABLE REGIONAL WATER QUALITY CONTROL BOARD, REQUIRE OR RESULT IN THE CONSTRUCTION OF NEW WASTEWATER TREATMENT FACILITIES OR EXPANSION OF EXISTING FACILITIES, THE CONSTRUCTION OF WHICH COULD CAUSE SIGNIFICANT ENVIRONMENTAL EFFECTS, OR RESULT IN A DETERMINATION BY A WASTEWATER TREATMENT PROVIDER THAT SERVES OR MAY SERVE THE PROJECT THAT IT HAS INADEQUATE CAPACITY TO SERVE THE PROJECT'S PROJECTED DEMAND IN ADDITION TO THE PROVIDER'S EXISTING COMMITMENTS.**

Impact Analysis: Future development associated with implementation of the General Plan Update would accommodate an increase in the City's population and employment, and thus, an overall increase in demand on the existing sewer system associated with increased sewage flows. Based on the anticipated net growth of 528 dwelling units and 3,085,014 square feet of nonresidential development, the project could generate an additional 798,328 gpd, or 0.80 mgd of effluent sewer flow to the existing sewer conveyance system; refer to Table 5.18-1, Project Generated Wastewater.

**Table 5.18-1
Project Generated Wastewater**

Land Use	Net Growth	Wastewater Generation Factor ¹	Generated Wastewater (gpd)
Single-Family Residential	236 DUs	225 gpd/DU	53,100
Multi-Family Residential	292 DUs	175 gpd/DU	51,100
Non-Residential	3,085,014 SF	225 gpd/1,000 SF	694,128
TOTAL			798,328
Notes: gpd = gallons per day; DU = dwelling units			
Source:			
1 Santa Margarita Water District, <i>Revised Plan of Works Improvement District Nos. 4C, 4E, 5 & 6</i> , April 2013, http://www.smwd.com/assets/downloads/meeting-agenda/2013-04-24_BDM_Handout2.pdf , accessed April 20, 2018.			

Table 5.18-1 utilizes wastewater generation factors from SMWD; it should be noted that TCWD does not have standard wastewater generation factors applicable to all residential and non-residential uses. Instead, TCWD utilizes an equivalent dwelling unit (EDU) value for residential properties and equivalent residential dwelling unit (ERDU) value for non-residential properties, which are calculated for each individual property within TCWD's service area.⁶ Since the individual size and land use type of future developments in accordance with the General Plan Update are currently unknown, it is not possible to calculate EDU and ERDU values to estimate total project-generated wastewater. As such, Table 5.18-1 utilizes SMWD's wastewater generation factors for all anticipated development within the Study Area.

⁶ Montgomery Watson, *Trabuco Canyon Water District Water, Wastewater and Reclaimed Water Master Plan Final Report*, December 1999, <http://www.tcwd.ca.gov/home/showdocument?id=1336>, accessed April 23, 2018.



Depending on where development occurs within the City, wastewater generated by the proposed project would either be treated by TCWD or SMWD. TCWD's RRWWTP has a capacity of 0.85 mgd and an average flow of 0.74 mgd; thus, the RRWWTP has a remaining capacity of 0.11 mgd. SMWD has a number of wastewater treatment facilities. The OCWRP has a design capacity of three mgd and current flow of only 1.7 mgd; the 3A WRP has a capacity of six and 2.4 mgd for secondary and tertiary treatment, respectively, and current flows of 1.9 mgd for both secondary and tertiary treatment; and J.B. Latham has a capacity of 13 mgd and current flow of 9.18 mgd. As such, TCWD and SMWD wastewater treatment facilities would have combined remaining capacity to treat the project-generated 0.80 mgd of wastewater. Development of the proposed project would not result in a determination by TCWD or SMWD that either have inadequate capacity to serve the project's projected wastewater treatment demands and would not require the construction of new or expanded wastewater treatment facilities, the construction of which could cause significant environmental effects.

Further, future developments would be reviewed by the City and TCWD or SMWD, depending on where development occurs, during plan check review in order to determine if sufficient local and trunk sewer capacity exists to serve the specific development. Specifically, Municipal Code Section 9.10.040, *Requirements for Filing Tentative Maps*, requires evidence from proposed sewer agency and water supplier with respect to their capacity of serving the proposed subdivision. The City and TCWD or SMWD would ensure that new development does not exceed the capacity of wastewater conveyance and treatment facilities, and that new development pays its fair share to increase capacity of those facilities per Municipal Code Section 9.10.090, *Fees In-Lieu of Dedication or Improvement*. The General Plan Update includes policies encouraging coordination with TCWD and SMWD to ensure sewer service and facilities are provided and maintained to meet the community's need for sewer collection and treatment (Land Use Element Policy 6.1) and for the City, TCWD, and SMWD to review development proposals in cooperation with one another to ensure that adequate sewer collection and treatment facilities are available to meet the needs of development without negatively impacting the existing community (Land Use Element Policy 6.2). Thus, the General Plan Update policies would not result in significant impacts to wastewater service and facilities. Further, future development projects within either TCWD or SMWD's service areas would be required to pay connection fees to connect to the existing sewer system, which would mitigate the impact of the development on TCWD and SMWD's sewer system.

Furthermore, wastewater flows generated by the proposed project would not interfere with TCWD and SMWD's ability to meet wastewater treatment requirements of the San Diego RWQCB because the project-generated flows would be well within the design capacities of TCWD and SMWD's wastewater treatment facilities. Therefore, project implementation would not result in an exceedance of wastewater treatment requirements and impacts would be less than significant.



Proposed General Plan Update Goals and Policies:

LAND USE ELEMENT

Goal 6: Consult with local sewer treatment providers to provide and maintain adequate levels of sewage treatment.

Policy 6.1: Actively coordinate with Santa Margarita Water District and Trabuco Canyon Water District to ensure that sewer service and facilities are provided and maintained to meet the community's need for sewer collection and treatment.

Policy 6.2: In cooperation with the Santa Margarita Water District and Trabuco Canyon Water District, review development proposals to ensure that adequate sewer collection and treatment facilities are available to meet the needs of development without negatively impacting the existing community.

Mitigation Measures: No mitigation is required.

Level of Significance: Less Than Significant Impact.

5.18.6 CUMULATIVE IMPACTS

- **FUTURE DEVELOPMENT ASSOCIATED WITH IMPLEMENTATION OF THE GENERAL PLAN UPDATE AND OTHER CUMULATIVE DEVELOPMENT WOULD NOT RESULT IN CUMULATIVELY CONSIDERABLE IMPACTS TO WASTEWATER SERVICES AND INFRASTRUCTURE.**

Impact Analysis: For this topic, the cumulative impacts are analyzed in terms of impacts to wastewater conveyance systems and/or treatment facilities operated by the City, TCWD, and SMWD.

Implementation of the General Plan Update along with other cumulative projects would add demand for wastewater services within the TCWD and/or SMWD service area. The availability of adequate treatment capacity along with the continuous assessment of capacity flows would be determined on a project-by-project basis. Individual development projects would be required to verify that existing capacity exists to convey and treat the potential wastewater generated with the new development. Additionally, the General Plan Update proposes policies to increase coordination between the City and TCWD or SMWD, whichever district applies, to ensure adequate sewer collection and treatment facilities are available to meet the needs of existing and future development. Therefore, cumulative impacts to wastewater services and facilities would be less than significant.

Proposed General Plan Update Goals and Policies: Refer to the General Plan Update goals and policies cited above.

Mitigation Measures: No mitigation is required.



Level of Significance: Less Than Significant Impact.

5.18.7 SIGNIFICANT UNAVOIDABLE IMPACTS

Wastewater impacts associated with implementation of the General Plan Update would be less than significant. No significant unavoidable wastewater impacts would occur as a result of the General Plan Update.

5.18.8 SOURCES CITED

Montgomery Watson, *Trabuco Canyon Water District Water, Wastewater and Reclaimed Water Master Plan Final Report*, December 1999, <http://www.tcwd.ca.gov/home/showdocument?id=1336>, accessed April 23, 2018.

Santa Margarita Water District, *Oso Water Reclamation Plant and 3A Treatment Plant Operational Modification Study Memorandum*, February 13, 2015, http://www.smwd.com/assets/downloads/meeting-agenda/2015-02-13_ECM_Handout1.pdf, accessed April 23, 2018.

United States Environmental Protection Agency Website, *Introduction to the Clean Water Act*, https://cfpub.epa.gov/watertrain/moduleFrame.cfm?module_id=69&parent_object_id=2569&object_id=2569, accessed April 19, 2018.



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