



Section 5.17:

Wastewater



SECTION 5.17 WASTEWATER

5.17.1 PURPOSE

This section identifies the nature and location of wastewater conveyance and treatment facilities and existing related infrastructure for the City of Fullerton. An analysis of projected impacts to wastewater conveyance and treatment facilities, as well as the estimated demands that may result from implementation of The Fullerton Plan is provided. This section is based upon information from the *City of Fullerton Sewer Master Plan Draft Report (Master Plan)* prepared by RMC Water and Environment (August 2009) and the Orange County Sanitation District.

5.17.2 EXISTING REGULATORY SETTING

FEDERAL

Clean Water Act/ National Pollutant Discharge Elimination System Permits

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. "Indirect" dischargers send their wastewater into a city sewer system, which carries it to the municipal sewage treatment plant, through which it passes before entering surface water.

¹ United States Environmental Protection Agency website, Introduction to the Clean Water Act, <http://www.epa.gov/owow/watershed/wacademy/acad2000/cwa/index.htm>, accessed January 29, 2011.



National Pretreatment Program

The National Pretreatment Program is an extension of NPDES regulatory program. The National Pretreatment Program is a cooperative effort of federal, state, and local regulatory environmental agencies established to protect water quality. The program is designed to reduce the level of pollutants discharged by industry and other non-domestic wastewater sources into municipal sewer systems, and thereby, reduce the amount of pollutants released into the environment through wastewater. The objectives of the program are to protect Publicly Owned Treatment Works (POTW) from pollutants that may interfere with plant operation, to prevent pollutants that may pass through untreated from being introduced into the POTW, and to improve opportunities for the POTW to reuse wastewater and sludges that are generated.

The term “pretreatment” refers to the requirement that non-domestic sources discharging wastewater to POTW control their discharges, and meet limits established by EPA, the state or local authority on the amount of pollutants allowed to be discharged. The control of the pollutants may necessitate treatment prior to discharge to the POTW (therefore the term “pretreatment”). Limits may be met by the non-domestic source through pollution prevention techniques (product substitution recycle and reuse of materials) or treatment of the wastewater.

STATE

In California, the State Water Resources Control Board (SWRCB) is responsible for ensuring the highest reasonable quality of waters of the State, while allocating those waters to achieve the optimum balance of beneficial uses. The SWRCB’s current challenge is exacerbated by California’s rapid population growth, and the continuing struggle over valuable water flows. The agency faces tough new demands which include fixing ailing sewer systems; building new wastewater treatment plants; and tackling the cleanup of underground water sources impacted by the very technology and industry that has provided California with a robust economy and made it a desirable place to live.

LOCAL

City of Fullerton Municipal Code

Fullerton Municipal Code (FMC) Chapter 12.08 (Sewer Connections) identifies regulations for sewer system connections, improvements, and maintenance. Any person wishing to construct or reconstruct a lateral sewer service or to make connection to the public sewer system shall obtain a public works permit, conform to construction standards as set forth in Title 16, Subdivisions, of the FMC, and obtain approval by the City Engineer. All new connections shall be tested for infiltration per the standards set forth in the latest edition of the Standard Specifications for Public Works Contracts (Green Book). Additionally, the City imposes a sewer maintenance fee on all improved properties to connect to the City’s sewer system.



5.17.3 EXISTING ENVIRONMENTAL SETTING

CITY OF FULLERTON

Conveyance Infrastructure

The City of Fullerton’s sewer system operates entirely by gravity and discharges to several of Orange County Sanitation District’s (OCSD) trunk lines. The estimated total length of the City’s sewer system is 330 miles, including 2.7 miles of privately-owned sewers. The system also includes 36 inverted siphons; refer to Exhibit 5.17-1, Existing Sewer System. The City’s sewers range in diameter from six inches to 48 inches, with approximately 81 percent of the City’s sewers being six or eight inches in diameter. Siphons range from six to 36 inches in diameter. Approximately 99 percent of the sewers are constructed of vitrified clay pipe (VCP). The oldest sewers in Fullerton’s system were constructed in 1921, with the current average age of all sewers being 44 years. A large portion of the sewers, approximately 41 percent, were constructed before 1958 and are over 50 years old.²

Existing Deficiencies

Continuous maintenance of the City’s sewer system prevents build up of debris, roots, grease, and other materials that could cause sewer blockages and spills. Typical sanitary sewer system problems include the following:³

- Old and deteriorated main and lateral pipes;
- Cracked sewer pipes;
- Misaligned and open pipe joints;
- Undersized sewer;
- Defective manholes;
- Missing and/or unrecorded sewer pipes and manholes; and
- Flat or level sewer main/lateral.

Table 5.17-1, Planned Sewer Reconstruction Projects – In Design identifies sewer reconstruction projects that are currently planned within the City.

**Table 5.17-1
Planned Sewer Reconstruction Projects – In Design**

Street	Start	End	Scheduled to Begin Construction
Arroyo Drive	Euclid Street	End of Arroyo Drive Alley	March 2012
Sewer Lining 2010-11	Various locations	Various locations	January 2012
Euclid Street	Valley View Place	Fern Drive	Fall 2011
Malvern Avenue	Carhart Avenue	1000' East of Carhart Avenue	Fall 2011
Bastanchury Road	Laguna Road	Euclid Avenue	Fall 2012

Source: City of Fullerton, official website, Sanitary Sewer Program Background Information, http://www.ci.fullerton.ca.us/depts/engineering/project_development_in_design/sewers.asp, accessed August 2011.

² City of Fullerton Sewer Master Plan Draft Report, RMC Water and Environment, August 2009.

³ City of Fullerton official website, Sanitary Sewer Program Background Information, http://www.ci.fullerton.ca.us/depts/engineering/projects_in_design/sewers.asp, accessed August 2011.



ORANGE COUNTY SANITATION DISTRICT

The OCSD collects, treats, and disposes of and/or reclaims the wastewater generated by 2.5 million people living and working in central and northwestern Orange County. OCSD's service area encompasses approximately 479 square miles and its system includes approximately 580 miles of sewer lines and two treatment plants located in the cities of Fountain Valley and Huntington Beach. Through these facilities, OCSD collects, conveys, treats, and/or reclaims approximately 230 million gallons of wastewater generated daily in its service area. Approximately 80 percent of the wastewater comes from homes (i.e., sinks, toilets, showers, laundry, and dishwashers). The remaining 20 percent comes from businesses (i.e., retail stores, restaurants, manufacturers, hotels, offices, and other industries).⁴

The OCSD maintains two trunk sewers that serve the City, the Knott Interceptor and the Miller-Holder Trunk Sewer. Wastewater from the City's local conveyance system is discharged into one of two OCSD trunk sewers and treated at the OCSD Plant No. 2 located in Huntington Beach.

Wastewater Treatment

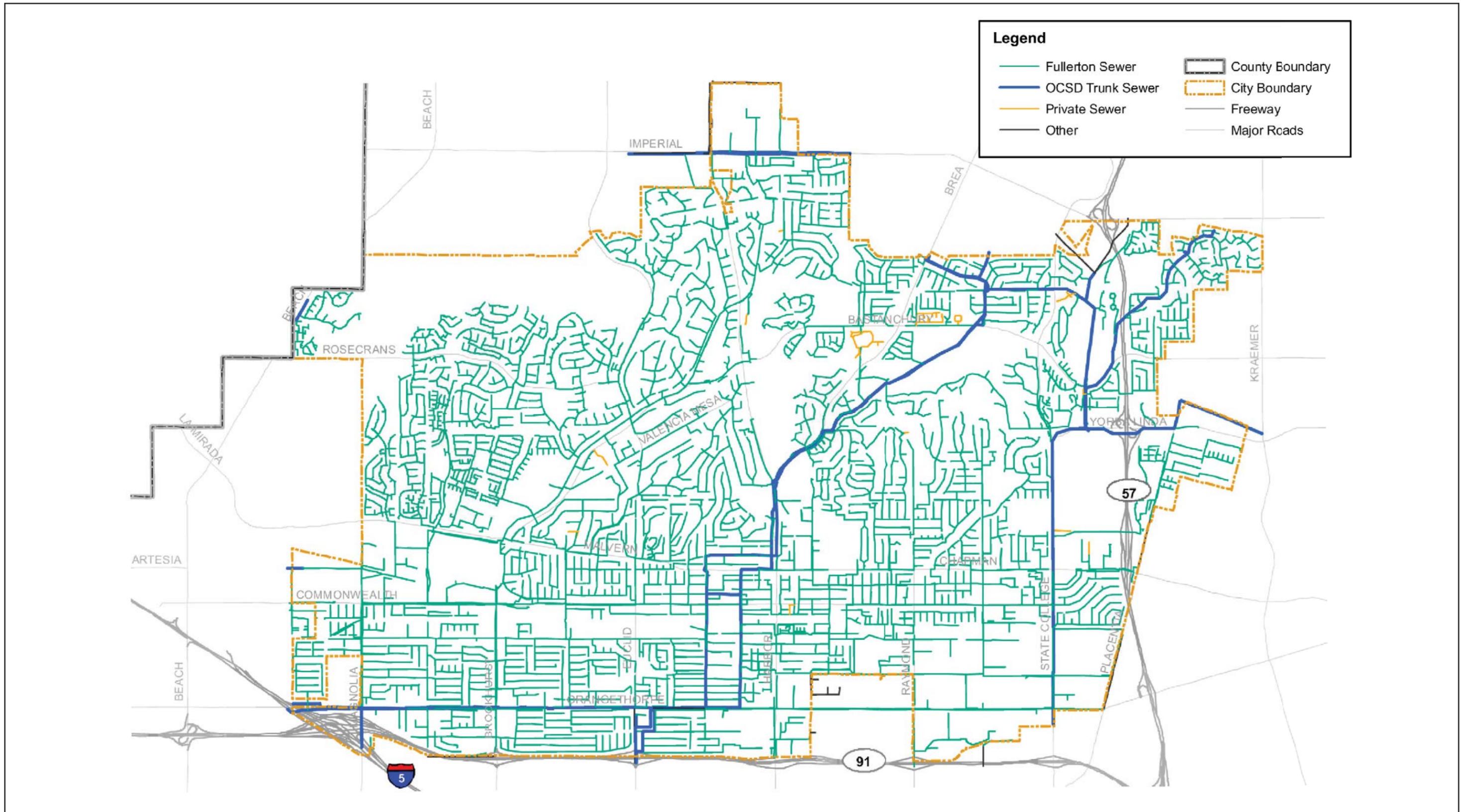
The OCSD has two operating facilities (Reclamation Plant No. 1 and Treatment Plant No. 2) that treat wastewater from residential, commercial, and industrial sources within their service area. The OCSD Revenue Area 3 serves the City of Buena Park, La Habra, Fullerton, Anaheim, Cypress, La Palma, Stanton, Los Alamitos, Westminster, and Fountain Valley. All sewage flow from Revenue Area 3 is collected and treated at Treatment Plant No. 2, which is located at 22212 Brookhurst Street, Huntington Beach.

The estimated average daily effluent received at Plant No. 2 is 127 million gallons (mgd). This facility currently has a total primary treatment capacity of 168 mgd, with an average daily treatment of approximately 127 mgd. Therefore, there is approximately 41 mgd of excess primary treatment capacity at OCSD Plant No. 2.

Plant No. 2 also has 90 mgd of secondary treatment capacity. The OCSD does not anticipate full secondary treatment capacity for all primary wastewater flows until approximately year 2012. The City of Fullerton does not receive recycled water from OCSD.

In order for the Districts to conform to the requirements of the Federal Clean Air Act (CAA), the design capacities of the Districts' wastewater treatment facilities are based on SCAG's regional growth forecasts. Specific policies included in the development of SCAG's regional growth forecasts are incorporated into the South Coast Air Quality Management District (SCAQMD) Air Quality Management Plan (AQMP). Therefore, all expansions of Districts' facilities must be sized and service phased consistent with SCAG's regional growth forecasts.

⁴ Orange County Sanitation District official website, http://www.ocsd.com/about/general_information/about_us.asp, Accessed July 13, 2011.



Source: City of Fullerton Sewer Master Plan Draft Report, prepared by RMC, August 2009.

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5.17.4 SIGNIFICANCE THRESHOLDS AND CRITERIA

Appendix G of the *CEQA Guidelines* contains the Initial Study Environmental Checklist, which was included with the Notice of Preparation to show the areas being analyzed within the EIR; refer to [Appendix A](#) of this EIR. The Initial Study includes questions relating to wastewater. The issues presented in the Initial Study Checklist have been utilized as thresholds of significance in this Section. Accordingly, a project would typically have a significant impact on wastewater treatment and infrastructure if the project would result in the following:

- 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.
- 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 Fullerton Plan 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.

5.17.5 PROJECT IMPACTS AND MITIGATION MEASURES

WASTEWATER

■ IMPLEMENTATION OF THE FULLERTON PLAN COULD RESULT IN INCREASED DEMAND FOR WASTEWATER SERVICES AND INFRASTRUCTURE.

Impact Analysis: Future development associated with implementation of The Fullerton Plan would potentially result in 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 a population growth of 29,989 persons and employment growth of 24,032 employees, The Fullerton Plan could generate an additional 2,849,975 gallons per day of effluent sewer flow to the existing sewer conveyance system at buildout.⁵

The Master Plan identifies system deficiencies and develops a 20-year CIP program to address the deficiencies. The Master Plan assesses the capacity of the City's major sewers under existing and future flow conditions and identifies improvement projects needed to provide capacity through the year 2035.

⁵ Based on wastewater generation rates of 75 gallons per capita per day and 25 gallons per employee per day provided by the City of Fullerton Public Works Department, July 27, 2011.



Future flows were estimated based on the Center for Demographic Research's (CDR) population and employment projections, as well as input from City Staff. These projections show increases in population and employment which correspond directly to specific development projects. The projections also include a standard minimum increase in population and employment due to infill, densification, and/or household size increases throughout the City. Project-specific population and employment growth associated with specific development projects within the City were also accounted for, including the Fullerton Transportation Center and West Coyote Hills Specific Plan.

The Master Plan established sewer deficiency criteria in order to determine when the capacity of a sewer is exceeded to the extent that a relief sewer or larger replacement sewer is required. The following 2030 buildout deficiencies were identified for design wet weather flows:

- West Bastanchury Road and Morellia Place between North Euclid Street and Arbolado Drive (8" - 10")
- North Euclid Street from Rosecrans Avenue to Bastanchury Road (8")
- North Euclid Street between West Malvern Avenue and West Commonwealth Avenue (8" - 10")
- West Valencia Drive between South Euclid Street and South Woods Avenue (8")
- Evergreen Avenue and Laurel Avenue between Maple Avenue and Lark Ellen Drive (8")
- Arroyo Drive between Ramona Drive and West Malvern Avenue (6")
- West Malvern Avenue between Arroyo Drive and North Basque Avenue (8"- 10")
- North Basque Avenue between West Malvern Avenue and Gregory Avenue (10" - 12")
- Gregory Avenue between North Wanda Drive and North Basque Avenue (15" - 18")
- Johnson Place between Carhart Avenue and North Stephens Avenue (6")
- West Valencia Drive and South Basque Avenue from South Brookhurst Road to West Elm Avenue (8" - 12")
- East Bastanchury Road from Amberleaf Street to Puente Street (8" deep sewer)

In addition to the above improvements, the City is also upsizing an existing 12" line to a 15" line on Commonwealth Avenue from Highland Avenue to Short Street.⁶

Population, housing, and employment growth anticipated by The Fullerton Plan are greater than CDR growth estimates utilized for the Master Plan. CDR projections anticipate a 15.4 percent increase in population, 7.7 percent increase in housing units, and 11.9 percent increase in employment over 2003 conditions. As indicated in Section 5.2, *Population, Housing, and Employment*, buildout of The Fullerton Plan would involve a 22 percent increase in population and housing, and a 40 percent increase in employment over existing (2010) conditions. Thus, buildout of The Fullerton Plan could result in greater sewer deficiencies than currently identified in the Master Plan.

The Master Plan does not assess specific impacts to OCSD facilities associated with future growth. Buildout of The Fullerton Plan would result in greater amounts of wastewater requiring treatment by the OCSD. However, it is anticipated that OCSD would have available capacity to serve buildout of The Fullerton Plan. There is approximately 41 mgd of excess primary treatment capacity at OCSD Plant No. 2. OCSD's current Sewer Master Plan anticipates regional growth to year 2030 with a population baseline of 2004. The OCSD indicates it will

⁶ Thuy Nguyen, Civil Engineer, City of Fullerton, July 27, 2011.



analyze future regional sewer demands around 2030, during preparation of the next Sewer Master Plan.

Individual developments would be reviewed by the City of Fullerton and OCSD in order to determine if sufficient local and trunk sewer capacity exists to serve the specific development. The City and OCSD 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. The Fullerton Plan includes Policies and Actions to evaluate infrastructure capabilities (Policy P7.4) and ensure that development is appropriate in scale to current and planned infrastructure capabilities (Policy 7.5). The CIP would be used to evaluate and prioritize infrastructure maintenance, replacement, and improvement projects (Action A7.1). Further, future development projects would be required to comply with FMC Chapter 12.08 in order to connect to the City's sewer system, including payment of a sewer maintenance fee in order to construct new sewer infrastructure and/or incremental expansions to the existing sewerage system to accommodate individual development, which would mitigate the impact of the development on the sewerage system.

The City and OCSD would only allow new developments to connect to their sewer systems if there is sufficient capacity or planned expansions of its facilities to accommodate the new developments. Therefore, new development would not be permitted to exceed the capacity of wastewater conveyance systems or treatment facilities, since adequate capacity must be demonstrated in order to contribute flows to the system. All expansions of OCSD facilities must be sized and service phased to be consistent with the SCAG regional growth forecasts for the City. The available capacities of OCSD facilities are limited to levels associated with the approved growth identified by SCAG.

The Fullerton Plan would exceed population projections provided by SCAG for 2030. As indicated in *Section 5.2, Population, Housing, and Employment*, The Fullerton Plan would result in approximately 12,809 more people and 7,384 more jobs than projected by SCAG. Although the City's population and housing growth would be greater than projected by SCAG, project implementation would not conflict with SCAG's forecasts. The Fullerton Plan accounts for the population growth and establishes Goals, Policies, and Actions to reduce potential growth-related impacts. The Growth Management Element is intended to ensure that infrastructure planning meets the needs of current and future residents of Fullerton by setting forth policy related to growth management and providing implementation and monitoring provisions. Accordingly, it is the City's goal (Goal 7) to encourage growth and development that is aligned with infrastructure capabilities. To this end, the City would support regional growth and development within areas that can be adequately served by existing and planned infrastructure systems (Policy P7.1, *Balanced Decisionmaking*). Additionally, the forecast population growth would occur over a 20-year period, allowing for development of necessary services and infrastructure commensurate with the proposed growth. City coordination with OCSD, implementation of The Fullerton Plan goals, policies, and actions, and mitigation measures requiring individual development projects to verify sufficient wastewater transmission and treatment plant capacity is available to serve the proposed development, would reduce impacts to a less than significant level.



Proposed General Plan Update Policies and Actions:

- 3.23 ***Neighborhood-Based Community Enhancement***
The City acknowledges the success of recent neighborhood-based community enhancement efforts such as the Richman Park neighborhood. The City shall identify specific neighborhood focus areas to establish strategies, programs, and improvements to address deferred maintenance, overcrowding, infrastructure deficiencies, and other issues that affect neighborhood quality. The City shall aggressively pursue local, State, and federal funding to assist in the improvement of identified neighborhoods.
- 3.27 ***Address Overcrowding***
The City acknowledges that overcrowding in housing causes undue strain on infrastructure, quality of life and negatively affects housing conditions. The City shall evaluate the potential causes to overcrowding, which may include limited availability of appropriately sized housing units, housing costs, and other issues. Based upon this evaluation, the City shall set forth a strategy of actions to address identified causes and reduce overcrowding. Actions to address overcrowding may include proactive code enforcement activities, coordinating with property management and homeowners' associations to monitor overcrowding, and evaluating potential for including units with larger bedroom counts in new developments.
- P7.1 ***Balanced Decisionmaking***
Support regional and subregional efforts to focus growth and development within areas that can be adequately served by existing and planned infrastructure systems.
- P7.2 ***Housing Growth***
Support projects, programs, policies and regulations to accommodate housing growth consistent with the Regional Housing Needs Assessment in areas of the City with existing and planned infrastructure capabilities.
- P7.3 ***Infrastructure Planning***
Support projects, programs, policies and regulations to plan for appropriate levels and types of infrastructure based on the desired character of each neighborhood or district.
- P7.4 ***Focus Area Planning***
Support projects, programs, policies and regulations to evaluate infrastructure capabilities as part of community-based planning of Focus Areas.
- P7.5 ***Appropriate Development Scale***
Support projects, programs, policies and regulations to ensure that development is appropriate in scale to current and planned infrastructure capabilities.
- A7.1 ***Capital Improvement Program***
Utilize the Capital Improvement Program to evaluate and prioritize infrastructure maintenance, replacement and improvement.



Mitigation Measures:

- WW-1 Prior to issuance of a building permit for any future development project, the Project Applicant shall prepare an engineering study to support the adequacy of the sewer systems and submit the engineering study to the City for review and approval. Any improvements recommended in the engineering study shall be installed prior to the certificate of occupancy for the development project.
- WW-2 Prior to issuance of a building permit for any future development project, the Project Applicant shall provide evidence that the OCSD has sufficient transmission and treatment plant capacity to accept sewage flows from buildings for which building permits are being requested.

Level of Significance After Mitigation: Less Than Significant Impact.

5.17.6 CUMULATIVE IMPACTS

- FUTURE DEVELOPMENT ASSOCIATED WITH IMPLEMENTATION OF THE FULLERTON PLAN AND OTHER CUMULATIVE DEVELOPMENT COULD 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 of Fullerton and OCSD.

Buildout of The Fullerton Plan along with other local projects would add demand for wastewater services within the service area of the City and OCSD. 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 Fullerton Plan proposes Policies and Actions to reduce potential growth related impacts associated with implementation of The Fullerton Plan, including wastewater services and facilities. Implementation of the Policies and Actions identified in The Fullerton Plan and recommended mitigation measures (WW-1 and WW-2), would reduce potential cumulative impacts to wastewater services and facilities to a less than significant level.

Proposed General Plan Update Policies and Actions: Refer to the Policies and Actions cited above.

Mitigation Measures: Refer to Mitigation Measures WW-1 and WW-2.

Level of Significance After Mitigation: Less Than Significant Impact.



5.17.7 SIGNIFICANT UNAVOIDABLE IMPACTS

Wastewater impacts associated with implementation of The Fullerton Plan would be less than significant with compliance with the goals, policies, and actions in The Fullerton Plan and the recommended mitigation measures. Therefore, no significant unavoidable wastewater impacts would occur as a result of The Fullerton Plan.

5.17.8 SOURCES CITED

City of Fullerton Municipal Code.

City of Fullerton official website, Sanitary Sewer Program Background Information, http://www.ci.fullerton.ca.us/depts/engineering/projects_in_design/sewers.asp, accessed August 2011.

City of Fullerton, official website, Orange County Sanitation District official website, http://www.ocsd.com/about/general_information/about_us.asp, Accessed July 13, 2011.

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RMC Water and Environment, *City of Fullerton Sewer Master Plan Draft Report*, August 2009.