

September 9, 2015

FOCUSED MUNICIPAL SERVICE REVIEW

Orange County Sanitation
District Service Area 7



ORANGE COUNTY LOCAL AGENCY FORMATION COMMISSION

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I. INTRODUCTION

FOCUSED MSR ROADMAP

The MSR contains five key sections: *Introduction, Background, Agency Profiles, Review of Alternative Service Providers and Municipal Service Review Determinations*. To provide a “roadmap” of the MSR’s content and organization for the reader, a general description of each section is summarized below:

- ***Introduction*** – provides an overview of LAFCO’s legislative mandate to prepare MSRs, a description of the service-related factors reviewed in the MSR, and an overview of the MSR Study Area’s land use, population and demographics. This section also describes alternative service providers for local sewer service identified by key stakeholders, and a summary of agency positions and interests related to service provision in OCSD Service Area 7. Finally, this section includes a description of the OC LAFCO applications filed by the East Orange County Water District and the Irvine Ranch Water District to assume local sewer service for the Orange County Sanitation District Service Area 7, the requirements for a “plan for service,” and LAFCO’s outreach efforts with respect to this MSR.
- ***Background*** - offers a history of local and regional sewer service in the MSR Study Area, beginning with the formation of nine regional Orange County Sanitation Districts in the late 1940s, the formation of Sewer Maintenance Districts in the 1960s to provide local sewer service, and the consolidation of several independent County Sanitation Districts in 1998. This section also summarizes prior MSRs and sphere of influence reviews conducted by OC LAFCO for agencies addressed in this MSR Study.
- ***Agency Profiles*** – provides operational profiles for each of the key agencies addressed in the MSR, including the Orange County Sanitation District, East Orange County Water District, Irvine Ranch Water District, City of Orange, and City of Tustin. The profiles provide a brief history of each agency, key services provided, a description and map of the agency service area, and an overview of the governance structure. This section also includes a description of each agency’s sewer and /or water infrastructure system.
- ***Review of Alternative Service Providers*** – provides an overview of the three primary functions of a sewer provider: (1) operations and maintenance, (2) capital rehabilitation and replacement, and (3) emergency repairs and spill response, and describes how those services are financed by sewer agencies. This section also provides an in depth comparison of service levels, financing, operating budgets, service plans, staffing, and

proposed sewer fees for local sewer service provision under the Orange County Sanitation District, the East Orange County Water District, and the Irvine Ranch Water District. A comparative chart of primary service activities, staffing and equipment, and financial information is included as **Appendix A**.

- **Municipal Service Review Determinations** - includes the determinations required for MSRs under Government Code §56430 for each agency considered in the report. The determinations address each of the five agencies reviewed in the focused MSR (OCSD, EOCWD, IRWD, and the Cities of Orange and Tustin). OC LAFCO is required to prepare a written statement of determinations with respect to seven determinations (see **Appendix B**). The seventh determination references inclusion of any other information not addressed in the other six determinations related to effective and efficient service delivery, as required by commission policy. For purposes of this Focused MSR, information reviewed was addressed through the six determinations.

HISTORY OF MSRS

Since 1971, LAFCOs have been required to establish spheres of influence (areas of planned growth) for cities and special districts under LAFCO's authority. In conjunction with this legislative mandate, LAFCO is also required to conduct Municipal Service Reviews (MSRs) "in order to prepare and update spheres of influence." As part of the MSR, LAFCO is required to adopt a statement of determinations to address key service areas. To meet these statutory requirements, Orange County LAFCO (OC LAFCO) has completed sphere reviews and updates and three cycles of MSRs for each of the cities and dependent and independent special districts providing municipal services to Orange County residents.

This report includes a "focused¹" MSR in that it reviews the short- and long-term options and related cost impacts for a single municipal service, which includes local sewer service delivery to residents and businesses located in the Orange County Sanitation District (OCSD) Service Area 7.

FOCUSED MSR OVERVIEW

In response to proposed applications received by the East Orange County Water District (EOCWD) and Irvine Ranch Water District (IRWD), OC LAFCO has completed a focused MSR to review the potential transfer of local sewer service for OCSD Service Area 7 from the current provider, OCSD, to an alternative provider. Because OC LAFCO has received two proposed applications for OCSD Service Area 7, in addition to the MSR determinations, OC LAFCO will

¹ OC LAFCO focused MSRs involve the review of a single municipal service or agency for a service provided within a designated or countywide area.

review other service-related factors through the MSR. These factors include, but are not limited to, the condition of the infrastructure, available cash reserves for capital outlay and emergency response, current and projected sewer fee rates, staffing levels, service delivery methods (including contractual service arrangements), and emergency response times. OC LAFCO’s evaluation, including the MSR determinations, will be referenced in the Commission’s subsequent consideration of the proposed EOCWD and IRWD applications.

OC LAFCO’s first round of MSRs in the early and mid-2000s were conducted on a sub-regional basis, involved heavy stakeholder participation, and were highly data intensive. MSRs for the EOCWD, IRWD, OCS D and the Cities of Orange and Tustin were conducted as a part of this process. Relevant information from these past efforts, and two subsequent MSR cycles and sphere reviews, were used in completing this service review. This MSR represents a transparent, largely stakeholder driven process for meeting OC LAFCO’s statutory requirements and will be used in evaluating the study area and applications and described in the following sections.

STUDY AREA LAND USE, POPULATION, AND DEMOGRAPHICS

The MSR Study Area includes the area referred to as “OCS D Service Area 7” and contains a portion of the City of Tustin, and the unincorporated communities of North Tustin, Lemon Heights, Cowan Heights and Panorama Heights. In addition, there are two unincorporated “islands” completely surrounded by the City of Orange known as El Modena and North El Modena and a portion of North Tustin within the City’s sphere of influence that are located in the northern portion of Service Area 7. The MSR Study area totals approximately 7,777 acres of territory with 17,378 local sewer service connections.

The unincorporated areas within Service Area 7 are characterized by low density, single family residential development. However, the City of Tustin portion of the MSR Study Area includes a wide diversity of land uses including low and medium/high density residential, commercial, industrial and institutional uses. The California State University, Fullerton Center for Demographic Research (CDR) provided the current and projected population projections for the MSR Study Area as indicated in *Exhibit 1*, below. *Exhibit 2*, on the following page, depicts the current local sewer service boundary for OCS D Service Area 7. The MSR Study Area is fully built-out, and population growth over the next 15 years is projected to be stagnant. In fact, CDR projects a modest drop in population from 2015 to 2035 of 46 residents.

EXHIBIT 1: TOTAL SERVICE AREA 7 POPULATION - CURRENT AND PROJECTED

	2015	2020	2025	2030	2035
<i>City of Tustin</i>	49,149	48,924	48,963	49,051	49,030
<i>Unincorporated</i>	31,634	30,603	31,623	31,686	31,677
<i>Total</i>	80,783	80,527	80,586	80,737	80,707

STUDY AREA INFRASTRUCTURE CONDITION, CAPACITY, AND FLOWS

Since WDR-2006 was adopted by the State Water Resources Control Board in 2006, OCSD has conducted two studies (2007 and 2012) to assess the condition of the local sewers in OCSD Service Area 7. As discussed in more detail later in the report, the condition assessment studies provide the basis used setting rates for sewer service. The studies completed by OCSD indicate that the Service Area 7 infrastructure is generally in good condition. The majority of the local sewer pipe lines in Service Area 7 consist of clay pipes constructed in the 1960s that have an estimated life span of 100 years. The approach taken by OCSD to rehabilitate the existing infrastructure to extend its useful life and methods proposed by EOCWD and IRWD are key items discussed in this report.

The sewer system capacity of OCSD Service Area 7 was largely determined by the residential and commercial developments that occurred during the 1950s and 1960s. According to OCSD, the sewer system was designed with a capacity to support the current and future population projections in the area under the existing land use designations. Sewer system capacity is measured on a pipe-by-pipe basis and is dependent upon many factors including size, roughness, and slope of the pipe. OCSD does not currently monitor the capacity of the Service Area 7 collection system in real time. Additionally, the hydraulic model prepared by OCSD in 2006 to assist with capacity assessment of regional and local sewer infrastructure did not include all the pipes located in this area of the District's collection system. However, with the exception of the Browning Sub-Trunk, the local sewer system in Service Area 7 has no known capacity issues. Within the next three years, OCSD plans to conduct a system-wide capacity study that will include collecting the data necessary to determine the future modifications, if needed, to the Browning Sub-trunk. The majority of the area in OCSD Service Area 7 is residential, and according to the Center for Demographic Research, the area's population is unlikely to increase in the future. Furthermore, the OCSD has found that flow generation rates for residential land uses have continued to decrease over time due to increased conservation efforts on behalf of homeowners.

The local sewer system in OCSD Service Area 7 conveys sewage generated within the service area to three regional trunks: Redhill Trunk, Sunflower Trunk, and the Harvard Avenue Trunk Sewer (HATS). Exhibit 3 presents the directional flows for the local sewer lines in OCSD Service Area 7 and the regional lines. The local sewer lines have been color coded based on their respective regional trunk lines: Redhill (coral), Sunflower (blue) and HATS (green). OCSD's regional trunk lines are depicted in orange.

The sewage flowing to the Redhill and Sunflower Trunk is treated by OCSD at the Reclamation Plant No. 1. The sewage flowing to the HATS line is treated by IRWD at the Michelson Water Reclamation Plant (MWRP). The sewage flowing to the HATS line, as depicted in green arrows on Exhibit 3, includes sewage generated in OCSD Service Area 7 and the Irvine Business Complex which was transferred from OCSD to IRWD in 2003.

SEPTIC SYSTEMS

Even with 174 miles of sewer pipes running through OCSD Service Area 7, there are approximately 150 identified septic systems within OCSD Service Area 7. Septic systems were the first form of sewer control in Orange County. As suburban and agricultural communities thrived in the first half of the 20th century, many areas were not in close proximity to the developing sewer infrastructure. Over time, many of these communities began to have access to improved municipal services, but some residents continued to use septic systems. As a result, pockets of septic systems are found throughout the County. Federal, State, and local policies are driving the conversion of the septic systems to sanitary sewer systems for health and safety reasons.

To prevent an increase in septic systems, the California building code requires that all new developments within 150 feet of a local sewer system must connect to the sewer system. Recent revisions to health codes also require local health departments to order an abatement of septic systems not functioning properly and declare them public nuisances. The California Building Code restricts issuance of a construction or repair permit for a septic system if a public sewer is within 200 feet of a sewer line.

Additionally, legislation was passed in 2011 (AB741) authorizing public wastewater agencies to offer assistance in the construction of the infrastructure necessary to connect to the public sewer system. The request must come from the property owner, and the cost of construction requires a private lien on the property amortized over 30 years. According to industry experts, this new financing option for property owners will encourage conversions, the costs of which can range between \$14,000 and \$30,000 depending on various factors including size of septic system, proximity to a sanitary sewer system and the topography of the area. As part of the 2011 OC LAFCO Sewer & Water Infrastructure Report, OC LAFCO staff worked with OC Public Works to update the County's 2003 countywide inventory of septic systems. The 2011 inventory of septic systems within Service Area 7 is included as *Exhibit 4*. To support both the statewide effort described above, it would be good public policy for the local sewer service provider to work with private septic system owners to connect to sewer systems. The next section describes current efforts (by OCSD) and proposed efforts (by EOCWD and IRWD) to encourage conversions to sewer systems within OCSD Service Area 7.

CONVERSION FROM SEPTIC TO SEWER

Over the past several years, OCS D has taken several steps to encourage residents with septic systems to connect to the local sanitary sewer system. For example, in 2003 the Board adopted a policy to financially incentivize sewer conversions by allowing property owners to pay the currently adopted sewer connection charge over a period of 5-years to offset the costs to connect to the local sewer system. The program provide for payments to be fully amortized over the five-year period without any prepayment penalties. In order to qualify for the zero interest time payment plan, the property must have been using a septic tank on October 1, 2003 and must connect to the local sewer within 3 years of the availability of a local sewer.

OCS D also processed large “blanket annexations” for the unincorporated areas of Orange Park Acres, Cowan Heights, and Lemon Heights over the past eight years. These areas were developed starting in the mid-1950s, and have experienced septic tank failures requiring property owners to connect their property to a sewer. The blanket annexation process allows for a savings of about \$4,000 per property, compared with the cost of processing an individual annexation of a single property. Blanket annexations also speed up the permit processing by up to one year. OC LAFCO has encouraged the District’s approach to “blanket” annexations and the efforts to offset costs to property owners that would incentivize owners of septic systems to connect to the local sewer system.

As a potential alternative sewer service provider, EOCWD recognizes the potential public health threat of failing septic tanks to some property owners and, in some cases, the inaccessibility of a local sewer for connection. The District has stated that septic tank conversions will be an important part of their initial assessment of the sewer system that will be conducted within its first year after system transfer. The District’s scope of work will require that a consultant rank the area’s septic systems (in consultation with the Orange County Water District) based upon potential water quality threat, age of system, and vicinity of nearest existing sewer mainline. The consultant would produce a recommended conversion plan that includes a capital improvement program for District facilities and ranks the conversions as: “critical,” “strategic,” and “non-critical.” Additionally, estimated costs (within 90 percent accuracy), an individual property financing plan, and a conversion design and construction schedule would also be produced by the consultant.

Once the prioritized list is developed, the District would reach out to the “critical” property owners. District staff would explain the necessity for the conversion and describe the four major costs associated with converting from a septic system to a sewer system: 1) the public sewer infrastructure (required to extend the mainline to the property to be connected), 2) side sewer construction (lateral from property to mainline), 3) septic system abandonment and, 4) payment of connection fees. The District’s goal would be to determine the level of support for the conversion and the property owner’s desires regarding funding, project management, and construction. The District will offer options that allow for long-term financing and other options to assist homeowners.

As another potential alternative sewer service provider, IRWD was also asked to provide information about how the District would encourage the process septic to sewer conversion, including administrative procedures and financing incentives. IRWD has successfully developed a Sewer Master Plan for its customers in the Orange Park Acres community to convert homeowners from septic systems to a public sewer system. If IRWD becomes the operator of the sewers in Service Area 7, the District has stated that it would develop a similar Sewer Master Plan for those Service Area 7 customers currently on septic systems.

The Sewer Master Plan would define the needs and costs for designing and constructing a public sewer system. Where possible, a gravity sewer system is preferred, though sewage lift stations may be necessary in some locations. The plan would identify system requirements, construction phasing, and a detailed cost analysis. As was done with its customers in Orange Park Acres, IRWD would solicit the input of community leaders and the broader community as the Sewer Master Plan is being developed and unless there was a specific regulatory requirement to implement a sewer system for the customers, IRWD would only proceed with the construction of sewer with the approval of these customers.

While IRWD would take the lead for constructing the public sewer system, improvements to be made on private property remain the responsibility of the property owner. Improvements to private property include the abandonment of their current septic system and construction of a new lateral system from their home to the public sewer system. Construction costs of these private property improvements will vary depending on the current configuration of the existing septic system, lot size, and location of the building(s) on the property.

To help mitigate the upfront costs of constructing improvement for sewer service on private property, IRWD sponsored AB 741 (Hoffman) which allows local agencies to develop programs to help customers finance the improvements needed to convert from septic systems to a public sewer system, or to repair and replace damaged sewer laterals. Under AB 741, property owners could voluntarily enter into agreements with IRWD to finance the necessary sewer improvements. IRWD has researched funding opportunities through State or Federal grant or low-interest loan programs for septic conversion projects. While funding sources are typically earmarked for either disadvantaged communities or communities that were identified “as a significant source of non-point source pollution,” IRWD intends to investigate new funding opportunities after the Sewer Master Plan is completed.

If the community decides not move forward with the septic conversion program outlined in the Sewer Master Plan, IRWD will continue work with individual homeowners who wish to be connected to a public sewer system, as was done in Orange Park Acres. IRWD has committed to working with individual homeowners through special agreements to accommodate individual situations.

EXHIBIT 2: OCSD SERVICE AREA 7 VICINITY MAP

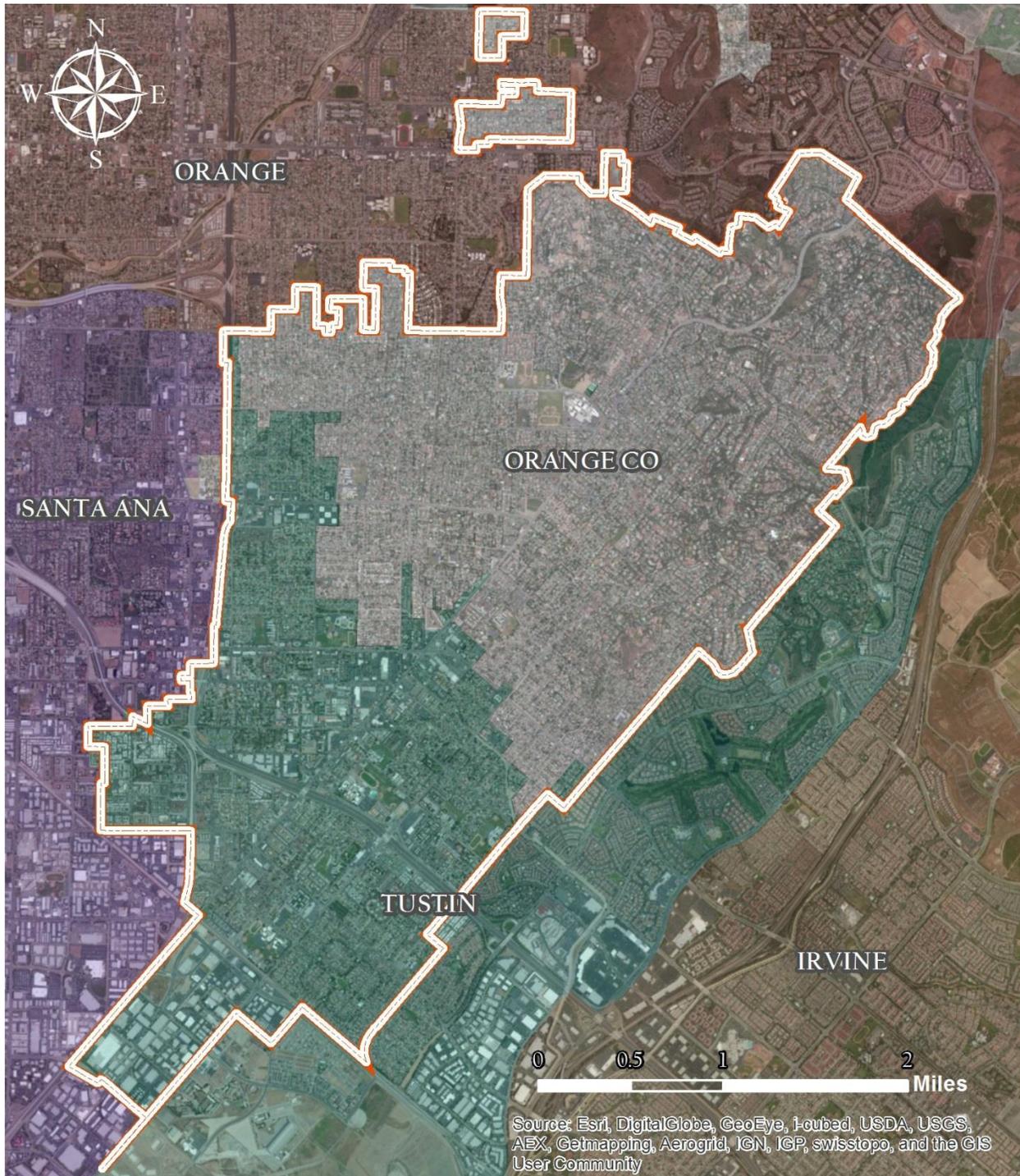


EXHIBIT 3: OCSD SERVICE AREA 7 - SEWAGE FLOWS

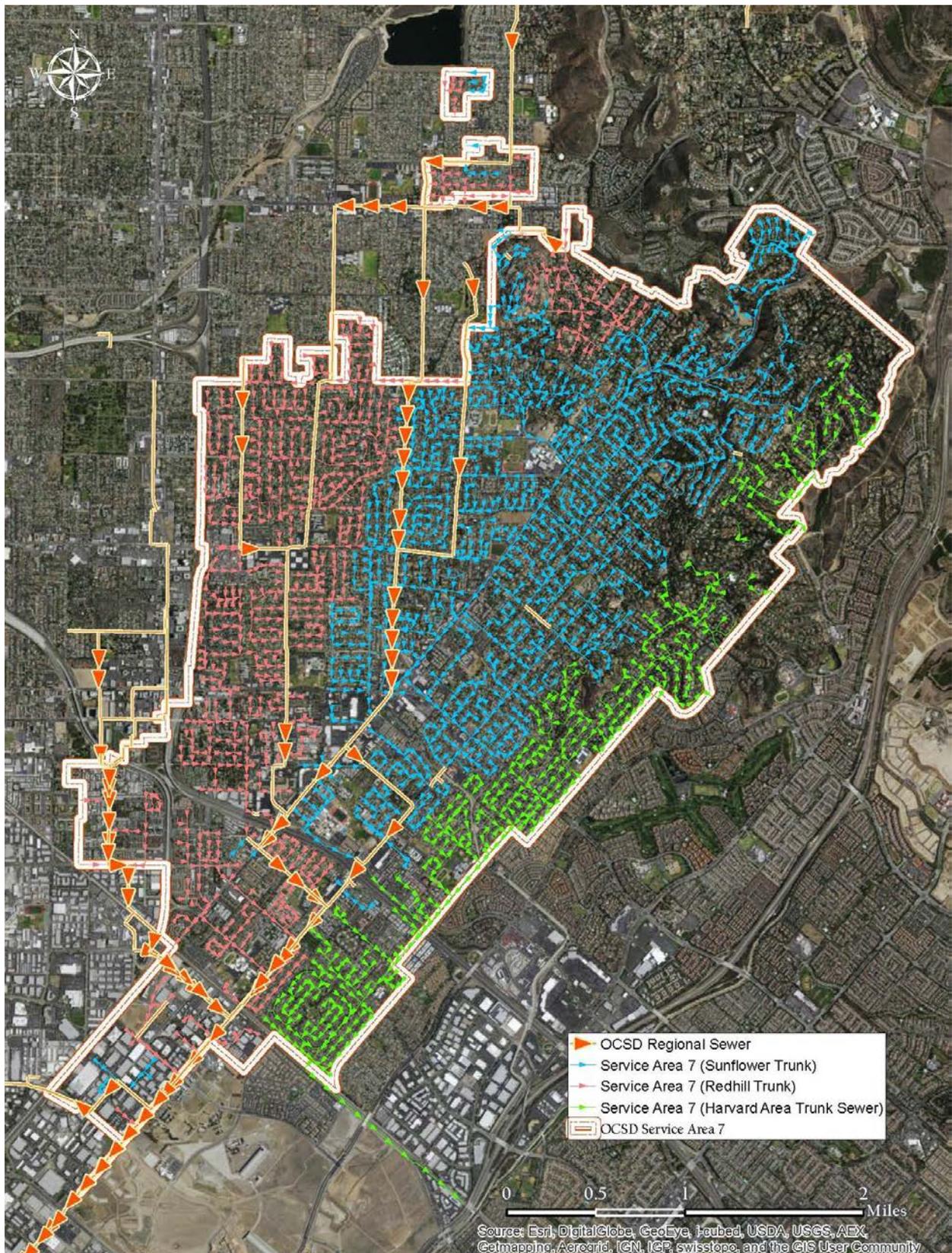
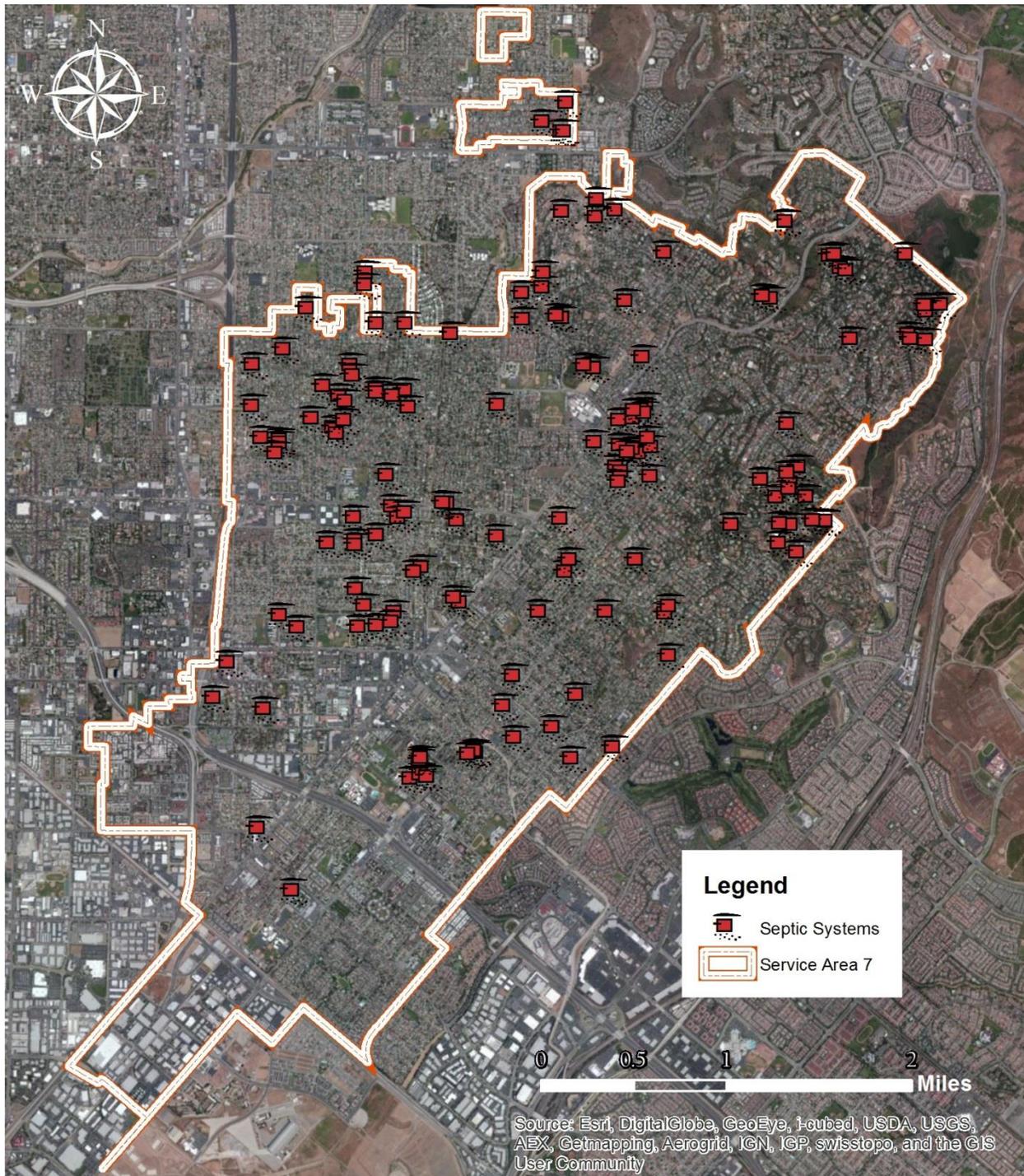


EXHIBIT 4: INVENTORY OF SEPTIC SYSTEMS IN SERVICE AREA 7 (2011)



GOVERNANCE ALTERNATIVES

Government Code Sections 56824.12(a)(6) and 56430(b) require OC LAFCO to review alternative service delivery methods and governance structures “for improving efficiency and affordability of infrastructure and service delivery.” Over the last year, OC LAFCO staff has worked with the key stakeholders (East Orange County Water District, Irvine Ranch Water District, Orange County Sanitation District, and the Cities of Tustin and Orange) to gather data and information necessary to prepare the MSR. The following summarizes agency positions and interests related to local sewer service provision within OCSD Service Area 7:

- OCSD, the current service provider of local sewer service in Service Area 7, is reviewed as the “status quo” alternative, but the District has expressed the desire to divest from local sewer service provision.
- EOCWD has filed an application to assume local sewer service for OCSD Service Area 7 and is reviewed as a potential service provider in this MSR.
- IRWD has filed an application to assume local sewer service for OCSD Service Area 7 and is reviewed as a potential service provider in this MSR.
- The City of Orange is identified by OC LAFCO as the logical service provider for five unincorporated areas located in OCSD Service Area 7. The Orange City Council has executed a Memorandum of Understanding (MOU) with EOCWD that addresses the eventual transfer of local sewer service responsibilities to the City upon annexation of the unincorporated areas to OCSD Service Area 7. The City’s interest in the eventual transfer of local sewer service responsibility to the City upon annexation aligns with the City’s current sphere of influence and the Commission’s policy on transitioning unincorporated areas to adjacent cities.
- The City of Tustin has expressed no interest in assuming local sewer service for OCSD Service Area 7.

EOCWD AND IRWD REORGANIZATION APPLICATIONS

Since 2007, OCSD has strategically planned for divesting itself from the provision of local sewer service for multiple areas within its service boundary. According to the District, this would allow OCSD to focus its full attention on regional development and maintenance of major sewer transmission infrastructure and the collection, treatment and disposal of wastewater. Two

proposed applications have been submitted to OC LAFCO to transfer the provision of local sewer service from OCSD for Service Area 7. Descriptions of each of the reorganization applications proposing to assume local sewer service from OCSD within Service Area 7 are provided below.

EAST ORANGE COUNTY WATER DISTRICT

On March 27, 2014, the East Orange County Water District (EOCWD) formally filed an application for the “East Orange County Water District Reorganization for Local Sewer Service” (RO 14-01). A vicinity map of the proposed EOCWD reorganization is included below (*Exhibit 5*). The reorganization application would allow OCSD to divest itself of its local retail sewer service responsibilities and facilities in the territory referred to as OCSD Service Area 7, and transfer those services and responsibilities to EOCWD.

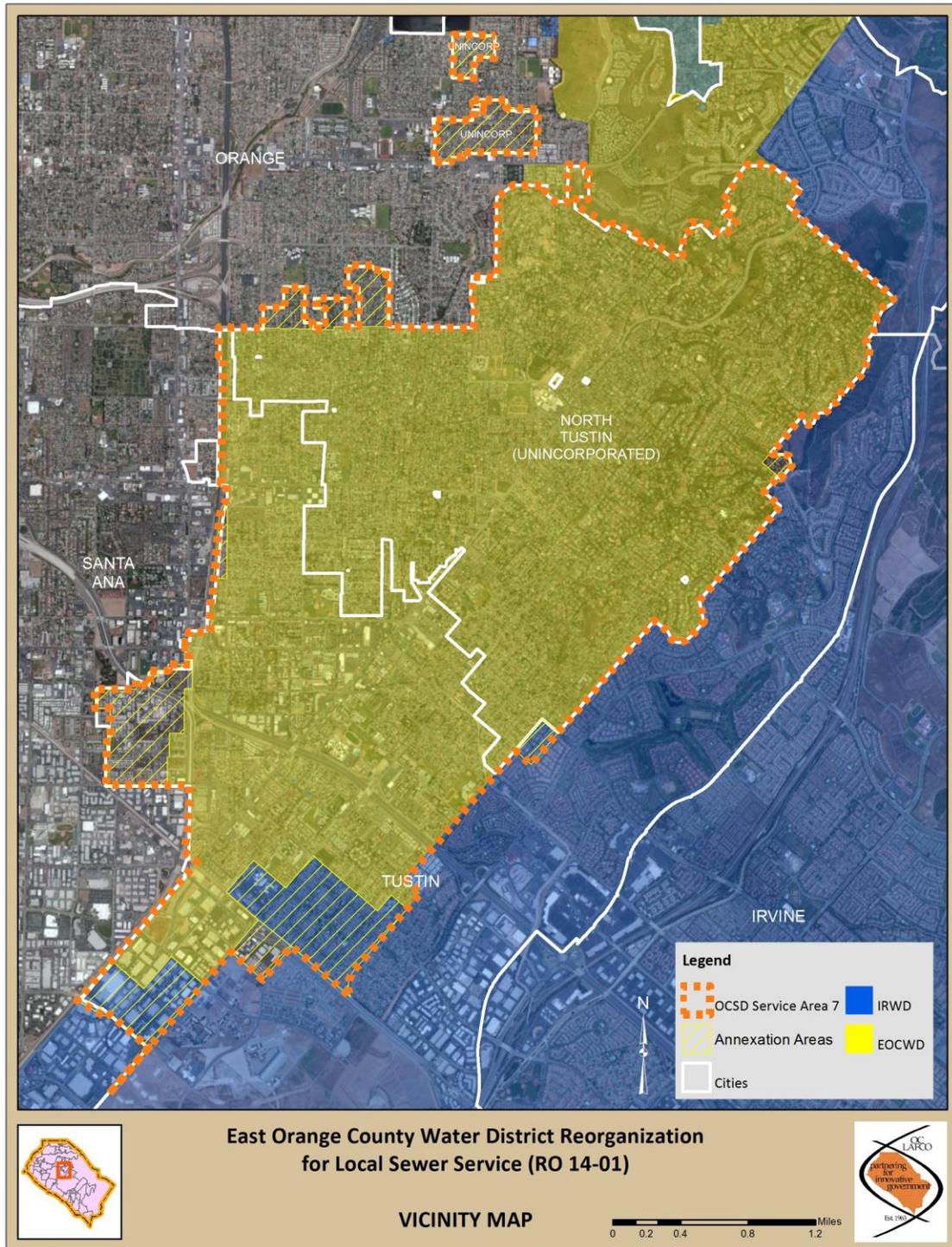
Prior to submitting its LAFCO application, EOCWD participated in discussions with OCSD for approximately one year that resulted in a sewer transfer agreement. The agreement was approved by both Districts in February 2014. EOCWD provides retail water service directly to 1,211 service connections in the District’s Retail Zone which encompasses approximately 20 percent of OCSD Service Area 7. The District’s wholesale service boundary currently includes approximately 90 percent of OCSD Service Area 7 and the District’s application proposes annexation of the remaining 859 acres to include the entirety of OCSD Service Area 7. Since EOCWD does not currently provide local sewer service, OC LAFCO approval of the activation of EOCWD’s latent power to provide that service is required. The application and accompanying Plan for Service request OC LAFCO to consider:

- Activation of EOCWD’s latent power to provide local retail sewer service to OCSD Service Area 7;
- Annexation of territory to EOCWD, solely for local sewer service, located in OCSD Service Area 7 but not currently in EOCWD’s boundary; and
- Concurrent amendment of EOCWD’s sphere of influence to include the annexation territories.

Latent service or power means those services, facilities, functions or powers authorized by the principal act under which the district is formed, but that are not being exercised as determined by LAFCO pursuant to subdivision (i) of Section 56425 (Government Code §56050.5). The activation of a special district’s latent power to provide a new or different function or class of service is, in principle, similar to the formation of a new agency to provide that service. For that reason, in 2001, the California Association of LAFCOs (CALAFCO) worked cooperatively with the Association of California Water Agencies (ACWA) to develop a new application process specific to the activation of special district latent powers. AB 948 (Chapter 667, Statutes of 2001) was sponsored by ACWA and implemented the latent power application procedures contained in Government Code Sections 56824.10 through 56824.14, including the requirement to submit a specialized Plan for Service justifying the need to activate the latent power.

AB 948 acknowledged that while activation of latent powers may result in efficiencies through economies of scale, it also recognized that, generally, service providers do not already possess the expertise, capacity, personnel, vehicles, equipment and assets needed to provide the new service. Accordingly, Government Code Section 56824.12 requires OC LAFCO to comprehensively review a detailed Plan for Service that contains the agency's financing plan to provide the new service, the estimated cost to customers, the potential fiscal impact to customers of existing service providers, and alternatives to activating the latent power, including alternative service providers (*See Appendix C*). The MSR will be used as a vehicle for evaluating the District's plan for service included in its proposed application.

EXHIBIT 5: VICINITY MAP - EOCWD REORGANIZATION



IRVINE RANCH WATER DISTRICT

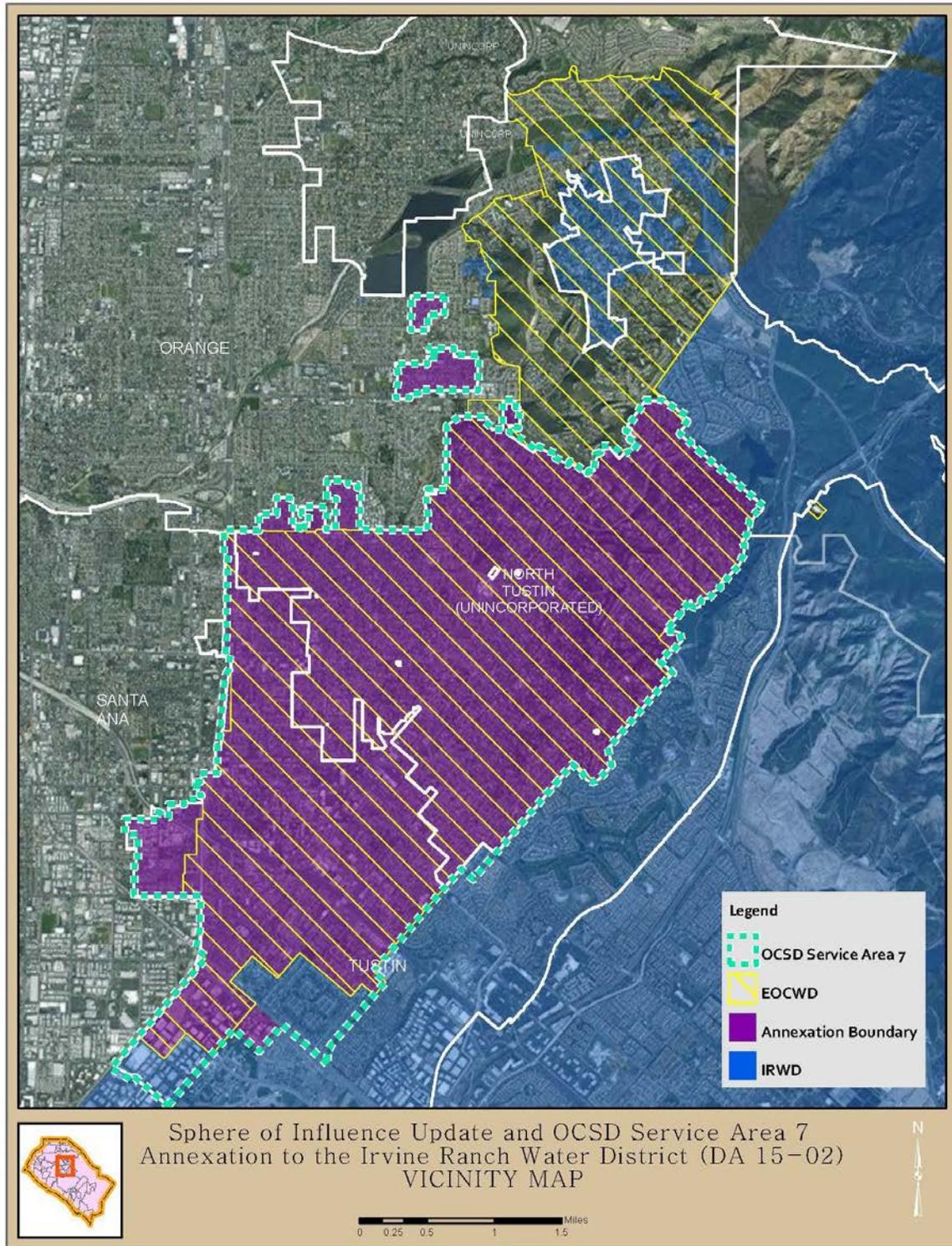
On March 23, 2015, the Irvine Ranch Water District (IRWD) filed a proposed application involving OCSD Service Area 7. The application was assigned the project title and number, “Sphere of Influence Update and OCSD Service Area 7 Annexation to IRWD” (DA 15-02). A vicinity map of the proposed IRWD annexation is included below (*Exhibit 6*). IRWD’s application would permit OCSD to divest itself of local retail sewer service responsibilities and facilities within OCSD Service Area 7 and transfer those services and responsibilities to IRWD.

IRWD’s boundary currently includes portions of OCSD Service Area 7 and the District’s application proposes annexation of an additional 7,387 acres to include the entirety of OCSD Service Area 7. IRWD’s current boundary encompasses less than five percent of the current OCSD Service Area 7. In 2003, IRWD assumed local sewer service for approximately 50 percent of Service Area 7 (then referred to as Revenue Area 7), and currently treats the sewage flows from approximately 20 percent of the remaining Service Area 7 (by agreement with OCSD). IRWD is currently a local retail water and sewer provider, and latent power activation would not be required for IRWD to assume retail sewer service.

The IRWD application and related Plan for Service request that OC LAFCO consider:

- Annexation of territory, solely for local sewer service, located in OCSD Service Area 7 but not currently located within IRWD’s boundary; and
- Concurrent amendment of IRWD’s sphere of influence to include the annexation territories.

EXHIBIT 6: VICINITY MAP - IRWD ANNEXATION



CONFLICTING PROPOSALS

OC LAFCO has two applications on file, described above, each requesting a transfer of service responsibilities and facilities for local sewer service within OCSD Service Area 7. Commission guidance for processing two “conflicting” proposals is found in Government Code Sections 56655, 56657, 56069 and the Commission’s adopted “Policy & Procedures for Processing Conflicting Proposals.” The following sections are particularly relevant to the current applications:

§56655. If two or more proposals pending before the commission conflict or in any way are inconsistent with each other, as determined by the commission, the commission may determine the relative priority for conducting any further proceedings based on any of those proposals. That determination shall be included in the terms and conditions imposed by the commission. In the absence of that determination, priority is given to that proceeding which shall be based upon the proposal first filed with the executive officer.

§56069. “Proposal” means a desired change of organization or reorganization initiated by a petition or by resolution of application of a legislative body or school district for which a certificate of filing has been issued.

Neither the EOCWD nor the IRWD applications are complete – each are missing key documents that are required by Statute and Commission policy before the Executive Officer can file a Certificate of Filing (COF) and set a proposal for hearing. As such, neither application is considered to be a “proposal” at this time, as defined by Government Code §56069. When either or both applications are deemed complete, the Executive Officer will issue a COF and set a public hearing date. The application deemed complete first, will be considered the “subject” application. Each subsequent proposal shall be deemed a competing proposal if the Executive Officer issues a COF within 60 days. The Executive Officer must set a public hearing within 90 days of issuing a COF and the Commission, in accordance with its policy, may hear both proposals at the same public hearing.

PLAN FOR SERVICE REQUIREMENTS

For each proposed change of organization or reorganization considered by OC LAFCO, the application must include a Plan for Service. The Plan for Service is the central document of an application. It is the basis for the staff and Commission evaluation of: (1) the ability of an agency to provide services in a cost-effective manner, and (2) the benefit to be received by an area relative to alternative service delivery. In general, the Plan for Service provides the opportunity for the applicant to describe how a proposed change of organization will be implemented, if approved, and takes into account the existing services, capacity, cost and adequacy of services and how those services will be affected by the requested OC LAFCO action.

LAFCO law and Commission policies also contain special requirements for the review of proposals for the activation of latent powers. Government Code Sections 56653 and 56824.12,

and OC LAFCO's locally adopted policies (*Appendix D*), require OC LAFCO to comprehensively review a detailed Plan for Service that contains, but is not limited to:

- An enumeration and description of the services to be extended to the affected territory;
- The level and range of those services;
- An indication of any improvement or upgrading of structure, roads, sewer or water facilities, etc.;
- The agency's financing plan to establish and provide the new service;
- The estimated cost to provide the service;
- The estimated cost to customers;
- The potential fiscal impacts to customers of existing service providers; and
- Alternatives to activating the latent power, including alternative service providers.

The fiscal impact of activating the latent power to provide sewer service is a primary focal point of OC LAFCO's review of EOCWD's Plan of Service, including the review of alternative service providers. The Plan for Service is critical because OC LAFCO is statutorily prohibited from approving the activation of a latent power unless the Commission determines that the special district will have sufficient revenues to carry out the new service (Government Code §56824.14(a)). This MSR appropriately serves as the vehicle for comprehensive review involving the above-listed factors and to provide a platform for stakeholder and community input.

OC LAFCO OUTREACH

The outreach component of the MSR process is designed to inform the residents (customers) of the proposed applications for potential change in sewer service provision for their area. While the engagement of stakeholder agencies is critical to ensure the completeness of OC LAFCO's review, educating the public of the proposal, the LAFCO process, and contents of the MSR report are equally essential in order to receive credible public feedback. It is particularly important that the MSR information be accessible and understood by the customers of OCSD Service Area 7, as they will ultimately be given the opportunity to support or oppose (through protest proceedings) any change in jurisdictional responsibility involving sewer service.

A public review draft of the MSR was made available on the OC LAFCO website on June 10, 2015. Additionally, an OC LAFCO-sponsored community workshop was held on the evening of June 17, 2015 at North Tustin's Foothill High School located in the center of OCSD Service Area 7. The workshop provided an opportunity for LAFCO staff to present an overview of the focused MSR report to community residents and address questions and concerns. The public comments received by LAFCO staff are summarized in *Appendix E*. Other written comments submitted to LAFCO staff are also included.

II. BACKGROUND

MSR STUDY AREA

The study area is known as “OCSD Service Area 7” and includes territory that is currently provided local sewer service by the Orange County Sanitation District (OCSD). OCSD Service Area 7 includes territory formerly within two County Sewer Maintenance Districts (dissolved in 1986) and the unincorporated islands of El Modena and North El Modena located in the City of Orange’s SOI.

OCSD was formed through the consolidation of several independent County Sanitation Districts to streamline operations and administration of regional sewer service that was approved by OC LAFCO in 1998. Today, the entire OCSD service boundary covers approximately 479 square miles of territory of central and northwest Orange County, and the district is responsible for both regional and local sewer service provision.

Prior to the formation of OCSD, regional sewer service was provided to residents in northwestern Orange County through nine County sanitation districts that began forming in the late 1940s under Health and Safety Code 4700. Although the districts were each separate independent special districts, the nine sanitation districts were functionally consolidated with a shared staff and jointly owned treatment facilities. Known collectively as the County Sanitation Districts of Orange County, or CSDOC, the districts operated under cooperative agreements to acquire and operate regional sewer facilities.

OCSD Service Area 7 History

1940s & 1950s

- County Sanitation District No. 7 formed in 1948 to provide regional sewer collection and treatment.

1960s & 1970s

- EOCWD formed in 1961 to supply wholesale imported water to mutual water companies in the North Tustin area, EOCWD started as the retail water service provider in a portion of its service area in 1985.
- Irvine Ranch Water District formed in 1961 to provide retail water and local sewer to the new development on the Irvine Ranch property, which currently includes the City of Irvine and portions of the Cities of Costa Mesa, Newport Beach, Santa Ana and Tustin.
- Formation of 7th (Tustin area) and 70th (North Tustin area) Sewer Maintenance Districts in 1961 and 1964 by County BOS to provide local sanitary

1980s & 1990s

- 1982 Grand Jury issued report on special districts in Orange County.
- County BOS dissolved 7th and 70th Sewer Maintenance Districts in 1986 and transferred local sewer service to County Sanitation District No. 7.
- Consolidation of the County Sanitation Districts 1, 2, 3, 5, 6, 7, 11, 13 & 14 into OCSD in 1998.

2000s & 2010s

- OCSD transferred portion of local sewer service responsibility to IRWD in 2003.
- LAFCO completed MSRs and sphere reviews for EOCWD (2005), OCSD (2007) and Irvine (2006).

The number of different sanitation districts formed reflected the need to localize service and allocate costs among urban areas that were separated by large agricultural areas common to Orange County at that time. As Orange County's population surged during the post-World War II era, there was a transition from septic tanks to local and regional sewer systems to serve new residential and business development. However, the natural topography of the area and the pattern of development as the area transitioned from agricultural production to residential homes have impaired the transition to local sewer and many homes remain on septic systems.

During the 1950s, regional collection and treatment to OCSD Service Area 7 was provided by County Sanitation District Number 7. The service territory of County Sanitation District No. 7 covered over 20,000 acres. It extended south of the current study area to the interchange of the 405 and 73 freeways and included portions of the cities of Santa Ana, Tustin, Newport Beach, Irvine, Orange and several unincorporated areas.

In the early 1960s, the County Board of Supervisors created several Sewer Maintenance Districts to provide local sanitary sewer service to accommodate the rapid growth of residential developments in the study area and elsewhere in the County. The 7th and 70th Sewer Maintenance Districts were formed at that time to provide local sewer service to residents of unincorporated north Tustin and as well as portions of the City of Tustin. While the Sewer Maintenance Districts provided local sewer service, the construction of sewer infrastructure to accommodate growth in the area was financed, constructed and owned by County Sanitation District No. 7.

Assessment districts were formed to finance construction of the sewer lines and the sewer service was funded by property taxes. In June of 1982, the Orange County Grand Jury of 1981-1982 released a report on special districts in Orange County. The report included recommendations that several of the county sanitation districts be consolidated and that the County divest itself of small dependent districts providing water and sewer to unincorporated communities scattered throughout the County.

A specific issue raised in the report was related to the management of the sewer maintenance districts. While the County had formed the sewer maintenance districts, local sewer services had been provided by County Sanitation District No. 7 by contract since the early 1960s. The report also focused heavily on the impact that Proposition 13 had on small dependent districts, such as the sewer maintenance districts. In the wake of Proposition 13, the vast majority of special districts found that the property taxes were insufficient to cover the costs of service and began to assess fees necessary to cover costs of operations.

In response to the Grand Jury report, the County began to seek independent special districts capable of assuming service responsibility. In 1986, the County sponsored legislation that was successful and resulted in revisions to the California Streets and Highways Code (§ 5847.5) that allow a county to transfer management and operation of sewer maintenance districts to an existing sanitation district within their county so long as the governing body of the maintenance district agrees to the transfer.

On June 3, 1986, the Board of Supervisors adopted Resolution 86-737 which dissolved the two existing Sewer Maintenance Districts (the 7th and 70th) and transferred local sewer maintenance responsibilities to OCSD's predecessor, the County Sanitation Districts of Orange County. In 2003, a portion of the local sewer service area within IRWD's service territory, that includes the Irvine Business Complex and the balance of the former Tustin Marine Base, was transferred to the District. IRWD had been performing routine maintenance to sewers in the area under contract with OCSD since 1997. The 2003 transfer aligned local sewer service with IRWD's water service in the area. The transfer also established the current boundary of the OCSD Service Area 7.

Sanitation District No. 14:

OCSD & IRWD Special Arrangement

In 1985, Sanitation District No. 14 was formed as the most efficient means of extending the sewage treatment capacity of Irvine Ranch Water District and providing capacity for treatment of wastewater that could not be treated or reused by IRWD. The consolidation of the County Sanitation Districts and formation of OCSD in 1998 had an effect on the financial administration of regional collection and treatment in former County Sanitation District No. 14.

To maintain continuity of the District's accounting practices, the revenues for each of the former County Sanitation District's finances continued to be accounted for within revenue areas of the same number. For example, the area within County Sanitation District No. 14 became Revenue Area 14. As such, Revenue Area 14 is particularly important due to ongoing arrangements between OCSD and IRWD for regional collection and treatment as well as accompanying exchange of revenue. IRWD also provides local sewer service to territory that was previously within OCSD Service Area 7 and County Sanitation District No. 7 (internally referred to as Revenue Area 7 for accounting purposes).

MSR AND SOI REVIEWS FOR STUDY AREA

OC LAFCO is required by State statute to conduct Municipal Service Reviews (MSRs) for all cities and special districts located within the County to look at future growth and how agencies are planning for that growth within their municipal service and infrastructure systems. OC LAFCO has now completed three cycles of MSRs – the first round of MSRs (2003-2007) involved a collaborative, stakeholder-driven process involving County, city, special district and OC LAFCO staff. The results were detailed, data specific MSRs for each Orange County agency. For the second cycle of MSRs (2008-2012), the Commission largely “reaffirmed” the first round

determinations for most of the County's agencies. The third round of MSRs (2013-2017) embraced an innovative approach to both streamline the process and add increased value to our stakeholders. For the third round, the Commission directed staff to approach MSRs from a countywide perspective using OC LAFCO's Fiscal Trends, Shared Services, Demographic Trends and Public Engagement Programs to meet the mandated MSR requirements for Orange County's cities and special districts.

State law also requires LAFCOs to adopt spheres of influence (SOI) for each city and special district within its home County at least once every five years. SOIs must be prepared concurrently, or subsequent to, the preparation of an MSR. SOIs define the logical, long-term service plan for an agency. An SOI means a plan for the probable physical boundaries and service area of a local agency, as determined by the Commission.² According to OC LAFCO's adopted policy, OC LAFCO can amend an agency's SOI to be larger or smaller or the same ("coterminous") than the existing jurisdictional boundary. Agencies can also receive a "transitional" sphere of influence which means, in the long-term, LAFCO has determined that the agency should be reorganized.

LAFCO considers several factors in determining agency spheres of influence, including: present and planned land uses in the area, including agricultural and open space lands; present and probable need for public facilities and services in the area; present capacity of public facilities and adequacy of public services that the agency provides or is authorized to provide; and, the existence of an social or economic communities of interest in the area if the commission determines that they are relevant to the agency.

Two "first round" MSRs prepared by OC LAFCO staff provided the most detailed look at the agencies within the subject MSR Study Area. They included: (1) the "Orange/Villa Park/Orange MSR" adopted by OC LAFCO on March 9, 2005; and, (2) the "Orange County Sanitation District MSR" adopted on May 9, 2007.

ORANGE/VILLA PARK/ORANGE SOI MSR (2005)

The 2005 Orange/Villa Park/Orange SOI Municipal Service Review included a number of cities and special districts located within a single geographic sub-region. The agencies reviewed in the MSR included:

- The Cities of Orange and Villa Park

² See Government Code Section 56076

- The Irvine Ranch Water District, Serrano Water District, Silverado-Modjeska Recreation and Parks District, East Orange County Water District and the Orange Park Acres Mutual Water Company
- The County of Orange

The MSR involved a ten-month, “stakeholder driven” effort with representatives from each of the subject agencies (i.e. “stakeholders”) and OC LAFCO staff working together to develop a 20-year vision plan for the area’s governance, services and infrastructure. The stakeholders identified four key areas of focus in the 2005 MSR Study:

- Open Space and Recreation
- Septic-Sewer Conversion Challenges (Orange Park Acres/North Tustin)
- Unincorporated Islands (fiscal and governance issues)
- Water/Wastewater/Urban Runoff

With respect to improving sewer service within the sub-region, the options, alternatives and future strategies identified by the stakeholders included: (1) focus the design, maintenance and operation of sewer systems to eliminate sewage discharges; (2) provide for infrastructure replacement schedules and funding sources; (3) develop a cost-effective transfer plan for realigning sewer responsibilities between regional and local agencies; and, (4) monitor regulatory changes and promote joint facilities use among agencies.

For the East Orange County Water District (EOCWD), specifically, the MSR identified nine government structure options (one of the required nine MSR determinations) which included seven from an organizational study commissioned by EOCWD in 1999 and two additional alternatives developed by OC LAFCO. The options included:

- Formation of a Joint Powers Agency (JPA) to replace EOCWD.
- Development of a Joint Powers contract among the EOCWD sub-agencies and subsequent dissolution of the district.
- Dissolution of EOCWD and division of its assets and service responsibility between the Cities of Orange and Tustin.
- Dissolution of EOCWD and division of its assets and service responsibility between the Cities of Orange and Tustin and the Southern California Water Company (renamed Golden State Water Company in 2005).
- Reorganization of the EOCWD and Municipal Water District of Orange County (MWDOC) with MWDOC assuming the assets and responsibility of EOCWD.
- Dissolution of the EOCWD, with MWDOC serving as an interim agency until final disposition of assets is completed.
- Privatization of wholesale services.
- Reorganization of EOCWD with Orange Park Acres Mutual Water Company.

- Reorganization of EOCWD with Irvine Ranch Water District.

On March 9, 2005, the Orange/Villa Park/Orange SOI MSR was approved by LAFCO. MSR approval requires LAFCO to adopt a statement of determinations to address key service areas and does not require any reorganization of the agencies studied. However, Government Code §56430 does require approval of an MSR prior to, or concurrent with, the adoption of an agency “sphere of influence.”

Spheres of influence were reviewed and updated for the agencies considered in the Orange/Villa Park/Orange SOI MSR in late 2005. Minor adjustment to the Orange and Tustin sphere of influence boundary in North Tustin was approved by LAFCO in 2008 and subsequently reaffirmed in 2013. IRWD’s SOI was also reaffirmed in 2013. A review of EOCWD’s sphere of influence was originally scheduled for LAFCO consideration on September 14, 2005. The item was continued to October 12, 2005 to allow further discussion by LAFCO. In November 2005, the District submitted a letter to LAFCO stating its interest in pursuing expansion opportunities such as providing local sewer service to OCSD Service Area 7. At the request of EOCWD, the sphere issue was continued again to December 14, 2005 to allow further discussions between EOCWD and LAFCO staff.

As indicated in the approved minutes from OC LAFCO’s December 14, 2005 hearing, there was considerable discussion among the LAFCO Commissioners regarding sphere of influence options for the EOCWD. OC LAFCO’s staff’s recommendation was for a transitional SOI – signaling the need for reorganization of the District in the future. Several Commissioners supported staff’s recommendation, but others believed that a transitional SOI could have negative implications for EOCWD as it engaged in negotiations with other agencies. An initial motion to adopt a transitional SOI for EOCWD failed. Ultimately, OC LAFCO approved a coterminous SOI with the expectation that EOCWD continue discussions with other agencies regarding service provision and potential reorganization in the future.

Discussions between OC LAFCO and EOCWD regarding restructuring alternatives for the District continued over the ensuing years. In the past, EOCWD has publicly acknowledged the need to take affirmative action to reorganize the District for the long-term. In June 2009, EOCWD issued a Request for Proposal (RFP) seeking interest from neighboring public and private retail providers regarding: (1) buying out EOCWD’s retail service operations; and, (2) a possible consolidation with EOCWD’s retail water function. The RFP resulted in no public or private agency interest at that time. The District’s sphere of influence was most recently reaffirmed in 2013.

ORANGE COUNTY SANITATION DISTRICT MSR (2007)

LAFCO first established OCSD’s sphere of influence (SOI) on May 2, 1977 as coterminous with the District’s boundary. This SOI was subsequently reviewed and updated by the Commission several times over the years, most recently on February 13, 2013. In each review, the Commission adopted a coterminous SOI for OCSD.

The 2007 Orange County Sanitation District (OCSD) MSR, unlike the 2003 Orange/Villa Park/Orange SOI MSR which reviewed multiple agencies, was focused on a single agency - OCSD. The District provides regional wastewater collection, treatment and disposal for approximately 87 percent of the population of Orange County as well as local sewer service to some areas in north Orange County. In addition to addressing regional collection operation and facilities, the 2007 MSR also identified several key issues with OCSD's continued management of local sewers, including:

- The current ad valorem apportionment paid by homeowners is inadequate to pay the cost to maintain local sewers.
- The need for a separate financing system to fund the construction and operation of local sewers owned and managed by OCSD.
- The cost to maintain local sewers by OCSD was subsidized by the remainder of the 2.3 million residents of OCSD from its regional fee revenue stream.
- The adoption of the State Water Resources Control Board's Order No. 2006-0003-DWQ on May 2, 2006 established stricter requirements for sewer design, operation, repair monitoring and reporting and increased overall costs for both regional and local sewer agencies;
- Small diameter local sewers require more maintenance, inspection, cleaning and repair than larger regional sewers; while local sewers comprise 30 percent of the total sewer miles operated by OCSD, they are responsible for over 95 percent of the historical sewer spills.

Subsequent to approval of the 2007 MSR determinations, OCSD completed a Sewer System Management Plan (SSMP) required by the State Water Quality Control Board. Development of the SSMP and subsequent sewer condition assessments have addressed many of the issues identified in the 2007 MSR. Additionally, the District has conducted several rate studies and adopted the current rates in 2008 which funds annual operations and maintenance of the local sewer system as well as long-term capital rehabilitation and replacement.

OCSD STRATEGIC PLAN

OCSD's Strategic Plan of 2007 recommended transferring local sewer assets to cities and special districts. A 2008 Resolution adopted by the OCSD Board and subsequent Strategic Plans, including the District's current 5-Year Strategic Plan (adopted in November 2013), reaffirmed OCSD's desire to divest itself of the remaining areas where it continues to provide "local" sewer services. According to the District, this will allow OCSD to focus its staff's full attention on regional development and maintenance of major sewer transmission infrastructure and the collection, treatment and disposal of wastewater.

Since 2008, OCSD has transferred 61 miles of sewers and two pumping facilities to member cities and sewer agencies. In 2011, OCSD staff contacted OC LAFCO staff to discuss the District’s effort to transfer local sewer responsibilities to local jurisdictions and asked OC LAFCO to support the effort. On March 9, 2011, OC LAFCO approved a letter generally supportive of the effort (*Appendix F*). However, the Commission specifically noted, “the Commission also recognizes that there are many challenging issues that OCSD and our Orange County cities or special districts must mutually resolve before any transfer of local sewer assets occurs.”

OCSD REGIONAL AND LOCAL SEWER FEES

In the mid-2000s, after new Waste Discharge Requirements and Sewer System Management Plan Regulations were adopted by the State Water Resources Control Board, it became clear that the dedicated ad valorem taxes were insufficient to meet the total expenditure needs to maintain and replace the local collection system in Service Area 7. As discussed in the 2007 MSR prepared for OCSD, the District’s regional user fee revenues were used to meet this shortfall. In 2008, OCSD began charging an annual local sewer user fee to its customers in Service Area 7. That fee appears as a special assessment on the annual property tax bill. Prior to 2008, customers that received local sewer service from OCSD were not charged a local sewer user fee.

In 2008, OCSD hired the water engineering firm of Carollo Engineers, Inc. to undertake a study to determine a local sewer fee that would support the ongoing costs of operating and maintaining the local sewers within Service Area 7. The findings of the study indicated that the local sewer service in Service Area 7 was underfunded and that the dedicated ad valorem taxes were not sufficient alone to fund the estimated \$6.5 million annual revenue needs. Absent the implementation of a local sewer fee, the remaining deficiency would continue to be funded using regional sewer user fees.

Based on the results of the study, it was recommended that OCSD adopt an equitable local sewer user fee that would allow local sewers to be self-supporting. On June 25, 2008, the OCSD Board of Directors adopted a local sewer fee schedule (Ordinance No. OCSD-38) shown in *Exhibit 7*, below:

EXHIBIT 7: OCSD SERVICE AREA 7 ANNUAL LOCAL SEWER FEE SCHEDULE

2008-09	2009-10	2010-11	2011-12	2012-13
\$199	\$204	\$208	\$212	\$216

Sewer service user fees are specifically exempted from some of the requirements of Proposition 218.³ Most notably, they are exempt from the election requirements, but not the requirement that fees cannot exceed the reasonable cost of service. A notice of the proposed fee was mailed to every property owner in Service Area 7 on May 9, 2008. On May 28, 2008, the OCSD Board of Directors had the first reading of the proposed rate ordinance followed by a second reading and ordinance adoption on June 25, 2008. At the District's request, Carollo conducted another rate study for both regional and local sewer fees that was presented in January 2013. Although the report recommended rate increases for regional and local sewer services fees, OCSD adopted a rate increase for regional users only.

³ Proposition 218, effective July 1, 1997, amended the California Constitution (Articles XIII C and XIII D) which, as it relates to assessments requires the local government to have a vote of the affected property owners for any proposed new or increase assessment before it could be levied.

III. AGENCY PROFILES

Within the 7,777-acre MSR Study Area, municipal services are provided to residents through the County of Orange⁴, two cities (Tustin and Orange) and two special districts (Orange County Sanitation District, East Orange County Water District). IRWD does not currently provide any services to the Study Area but is also included since the District provides water and sewer to properties adjacent to the study area and has submitted an application to assume local sewer service to the Study Area. Below are agency profiles for each of the aforementioned special districts and cities.

ORANGE COUNTY SANITATION DISTRICT

The Orange County Sanitation District (OCSD) is a public agency that provides wastewater collection, treatment, and disposal services for approximately 2.5 million people in central and northwest Orange County. OCSD is a dependent special district⁵ that is governed by a Board of Directors consisting of 25 board members appointed from 20 cities, two sanitary districts, two water districts, and one representative from the Orange County Board of Supervisors (*Exhibit 8*).

OCSD has two operating facilities that treat wastewater from residential, commercial and industrial sources, 12 major trunk sewer systems, two discharge outfalls and two emergency weir outlets. Approximately 580 miles of trunk and local sewers are currently operated and maintained by OCSD. The District is the third largest wastewater discharger in the western United States. Although primarily a regional sewer agency, OCSD also provides local sewer service in several areas of the County, the largest being OCSD Service Area 7.

⁴ The County of Orange provides regional level services to all Orange County residents including, but not limited to, regional parks and recreation, social services, courts, transportation, and health care. In the unincorporated areas of the MSR Study Area (OCSD Service Area 7), the County also provides certain local services including, but not limited to, code enforcement, planning, animal control, Sheriff patrol and waste management services.

⁵ A special district is an agency of the state, formed pursuant to general law or a special act, which provides governmental services within limited boundaries (or outside district boundaries when authorized by LAFCO pursuant to Government Code §56133).

The first sanitation districts were formed in Orange County in 1947 under the County Sanitation Act adopted by the State Legislature in 1923. Three districts were formed in 1947 (District Nos. 1, 5 and 6), and four additional districts were formed in 1948 (District Nos. 2, 3, 7 and 11). The new districts replaced an existing joint powers organization that owned an outfall sewer and provided regional wastewater collection and treatment to serve the rapidly expanding sewer systems developing within central and northwest Orange County. By 1954 all of the Districts, except District 14⁶, were operated by a single administrative agency known as the County Sanitation Districts of Orange County, even though each District had its own Board of Directors and separate user fees. In 1998, the existing sanitation districts combined into a single district – OCSD – with a uniform regional service fee.

EXHIBIT 8: ORANGE COUNTY SANITATION DISTRICT MEMBER AGENCIES

Cities (20)	
Anaheim	La Palma
Brea	Los Alamitos
Buena Park	Newport Beach
Cypress	Orange
Fountain Valley	Placentia
Fullerton	Santa Ana
Garden Grove	Seal Beach
Huntington Beach	Stanton
Irvine	Tustin
La Habra	Villa Park
Special Districts (4)	
Costa Mesa Sanitary District	Irvine Ranch Water District
Midway City Sanitary District	Yorba Linda Water District
Orange County Board of Supervisors Representative (1)	

OCSD’s sphere of influence (SOI), which defines the logical, long-term service area for an agency, was originally adopted by OC LAFCO on November 23, 1977. OCSD’s sphere was last reviewed by OC LAFCO on February 13, 2013. A profile of the District is provided on *Exhibit 9* and the District’s current boundary and SOI are identified on *Exhibit 10*.

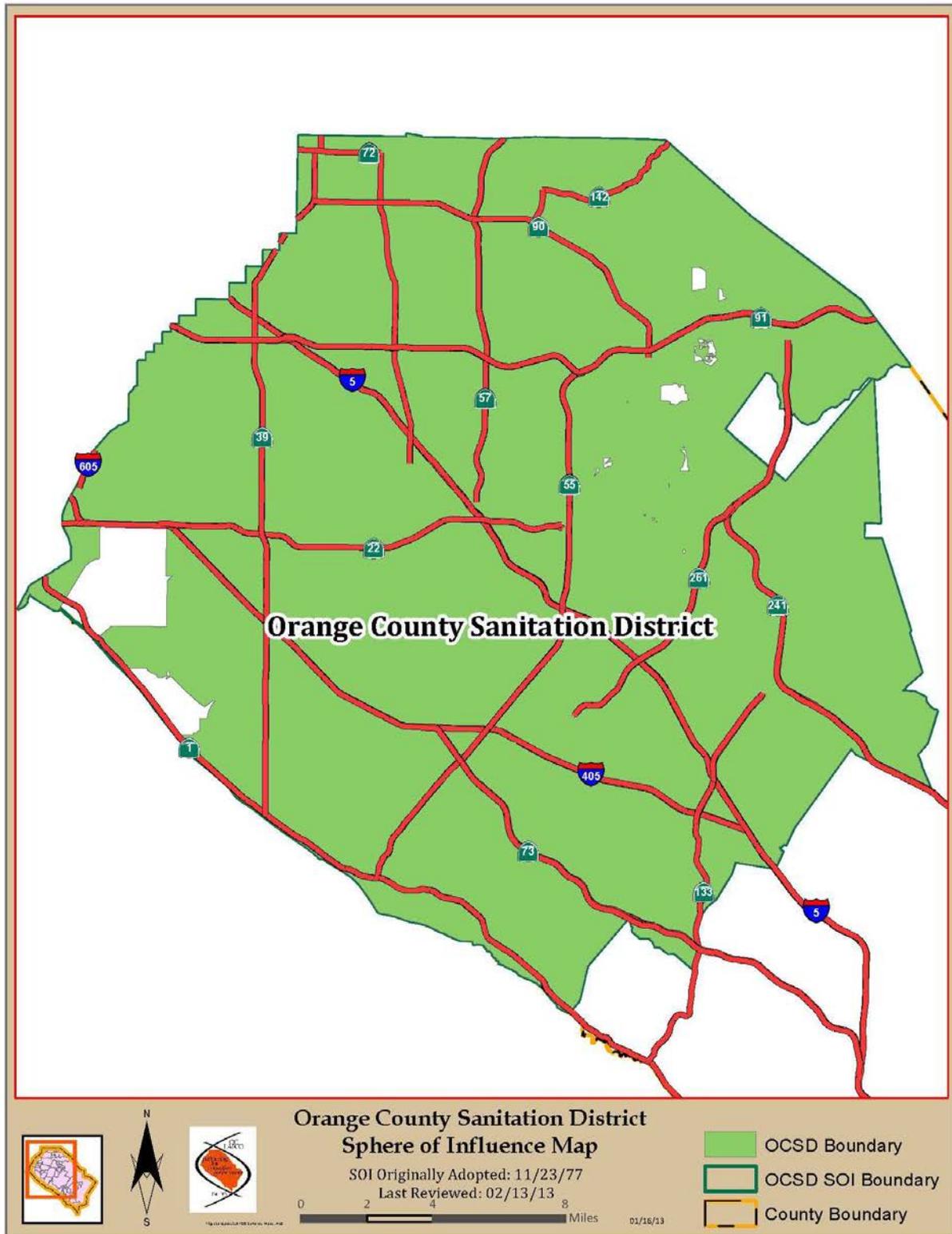
⁶ Sewers, pump stations and treatment facilities within District 14 are owned and managed by the Irvine Ranch Water District (IRWD). Effluent that is not reused by IRWD is discharged into the OCSD system. IRWD has an ownership interest in OCSD facilities and pays for operations and capital facilities proportionally to the ratio of its wastewater flow to the total OCSD flow.

Exhibit 9: Orange County Sanitation District Profile

General Information	
Agency Type	Dependent Special District ⁷
Principal Act	County Sanitation Act
Address	10844 Ellis Avenue, Fountain Valley, CA 92708
Date Formed	1954
Key Services	Wastewater collection, treatment and conveyance; water resource recovery
Service Area	
Location	Central and northwest Orange County
Sq. Miles	Regional: 471 square miles Local: 12.15 square miles
Land Uses	Residential, commercial, industrial, institutional and open space
Population Served	Regional: 2.5 million (87 percent of the County's population) Local: 80,783
Last MSR	2/13/13
Last SOI Update	2/13/13
Sewer Infrastructure	
Facilities	2 treatment/reclamation plants; 15 pump stations; 580 miles of sewer pipeline
Primary Disposal Method	The majority of OCSD's treated wastewater (full secondary treatment) is sent to the Orange County Water District for additional treatment as part of the Groundwater Replenishment System and the remainder is discharged into the Pacific Ocean through the ocean outfall pipeline.
Governance	
Local Representation	25-member Board of Directors consisting of representatives of 20 cities, four special districts, and one representative from the Orange County Board of Supervisors.
Board Compensation	Board members are compensated up to \$212.50 per meeting (up to a maximum of six meetings per month). The Chair may be compensated up to ten meetings per month. Board members do not receive health or dental benefits. Board members are eligible to receive deferred compensation benefits.
Meetings	Monthly, 4 th Wednesday, 6 PM OCSD Administrative Offices, 10844 Ellis Avenue, Fountain Valley, CA 92708
Website	www.ocsd.com
Agency Contact	James Herberg, General Manager

⁷ A Dependent special district includes any special district having a legislative body that consists, in whole or part, of ex officio members who are officers of a county or another local agency, or who are appointees of those officers, and who are not appointed to fixed terms.

EXHIBIT 10: OCSD SPHERE OF INFLUENCE MAP



EAST ORANGE COUNTY WATER DISTRICT

The East Orange County Water District (EOCWD) wholesale boundary encompasses an area of approximately 15.7 square miles, and the retail area encompasses an area slightly less than one square mile. The District was formed in December, 1961, to provide wholesale water to the areas within its boundaries. The District operates under the County Water District Law which is contained in Division 12 of the California Water Code Sections 30000-33901. EOCWD is an independent special district governed by a Board of Directors elected to four-year terms by the voters within the District. The District does not have a limit on the number of terms that a Director may serve on the EOCWD Board.

EOCWD, in its wholesale operations capacity, is a contracting agency of the Municipal Water District of Orange County (MWDOC), which is a member agency of the Metropolitan Water District of Southern California (MWD). As a wholesale water purveyor, East Orange County Water District (EOCWD) is entitled to receive imported water from the Colorado River Aqueduct and the State Water Project purchased through the MWDOC and delivered through MWD's water conveyance facilities. EOCWD is not limited to purchasing water from MET/MWDOC. The District can also purchase other local and imported supplies. EOCWD is currently evaluating options for reconstruction of its water treatment plant, obtaining water from independent sources and selling it to a non-MWDOC agency. The Feasibility Study is scheduled for completion by September 2015.

EOCWD distributes and sells imported water through its wholesale water delivery system to five contracting retail providers: the District's Retail Zone, the Cities of Orange and Tustin, the Irvine Ranch Water District, and the Golden State Water Company. In its wholesale capacity, EOCWD works directly with each of the retail water providers. In this capacity, the District does not interact with retail customers that are the responsibility of the relative water providers. The exception is the approximate 1,211 customers located within the District's Retail Zone. The respective retail water agencies directly serve the approximately 100,000 residents within EOCWD's wholesale operation zone. While Golden State Water Company, IRWD, Tustin and Orange are members of MWDOC, per existing agreements they are required to purchase retail water from EOCWD for the areas of their respective jurisdictions that are within EOCWD's boundary.

In July, 1985, EOCWD assumed the retail water operations from the County of Orange Waterworks District No. 8 (OCWD #8) which, until that time, had been managed by the County of Orange Flood Control District. OCWD #8 acquired the water system in 1951 out of bankruptcy from the El Modena Mutual Irrigation Company and is now approximately 100 years old. Concurrent with the acquisition of this water system by EOCWD, OCWD #8 was dissolved and was designated the EOCWD "Retail Zone."

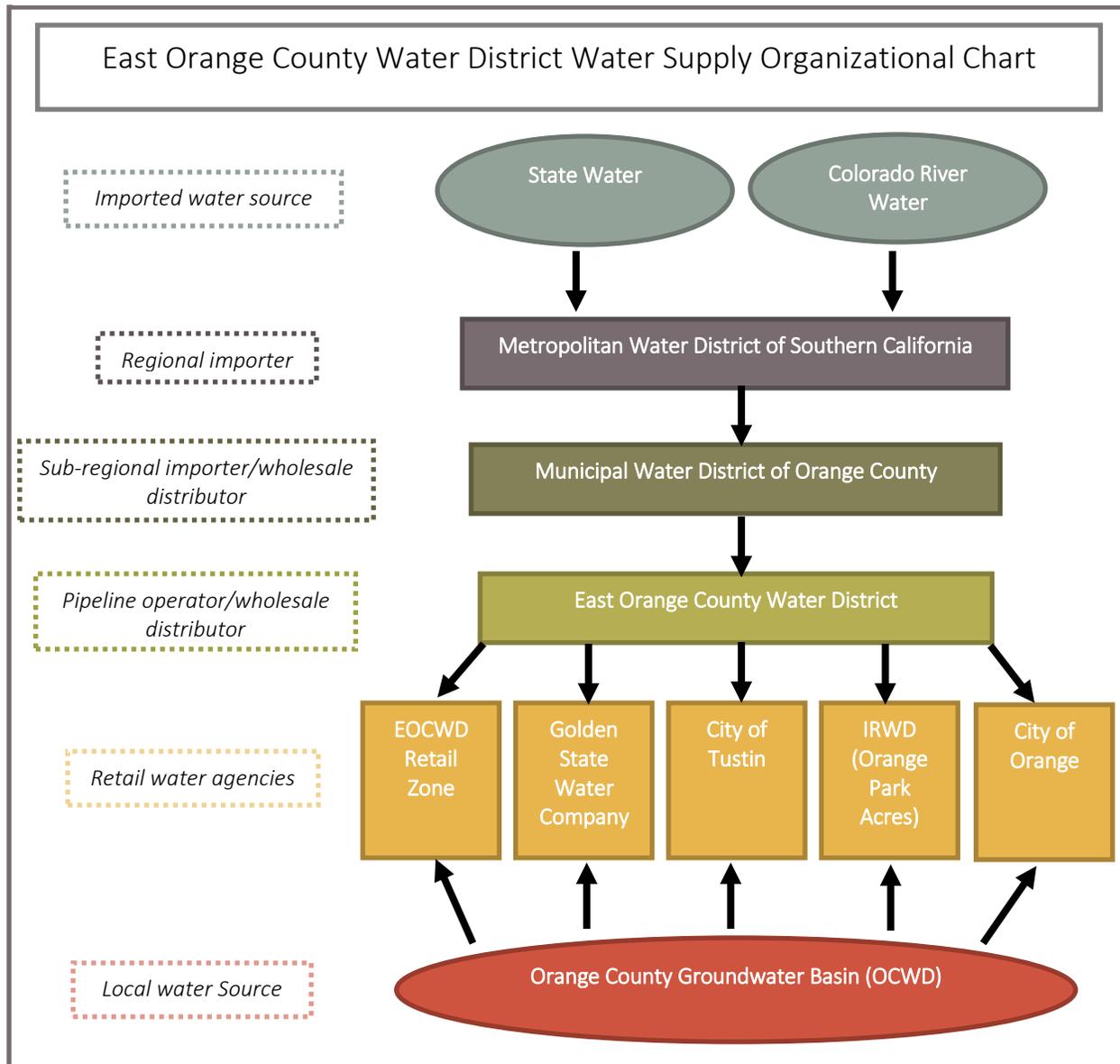
The Retail Zone is comprised of two groundwater wells, five pump stations, a disinfection system, two reservoirs (and a portion of a third) with a capacity of 1.775 MG, and approximately

16 miles of small to medium size pipelines. According to EOCWD staff, no reserve funds were transferred with the retail operations, only a small operating fund; the water system was in a poor state of repair and did not meet fire flow requirements at the time. Today, the reserve fund includes one year of operating reserves as well as the equivalent of an additional year of capital reserves. The system is compliant with fire flow requirements, and the system Master Plan update is underway with completion scheduled by September 2015.

In the Wholesale Zone, EOCWD owns and operates a distribution system comprised of three treated and one untreated connection to MET/MWDOC with a combined capacity of 34.57 cubic feet per second (cfs), three reservoirs with a combined capacity of 18.5 million gallons (MG), and a network of over 12 miles of large diameter pipelines. The Wholesale Zone reserve fund includes one year of operating reserves as well as the equivalent of four years of capital reserves. The Wholesale Zone Master Plan update is underway with completion scheduled for October 2015.

Since 1985, EOCWD has been both a wholesale and retail water purveyor. A portion of the District's retail supply is pumped from the Orange County Groundwater Basin, administered by the Orange County Water District, while the balance of the retail water supply is provided from imported water obtained from MWD and MWDOC, and the EOCWD Wholesale Zone. The District's retail service area includes the Panorama Heights area (considered a part of the North Tustin larger unincorporated area) and includes 1,211 service connections to a population of approximately 3,195 residents. *Exhibit 11*, below provides a graphic depiction of EOCWD's current role as a wholesale distributor and retail agency.

EXHIBIT 11: CURRENT EOCWD WATER SUPPLY ORGANIZATIONAL CHART



EOCWD’s SOI, which defines the logical, long-term service area for an agency, was initially adopted by OC LAFCO on March 10, 1976. The District’s SOI was last reviewed by OC LAFCO on February 13, 2013. The District’s sphere of influence is depicted in *Exhibit 13* and a detail map of the District’s retail zone is depicted in *Exhibit 14*. The Commission reaffirmed a “coterminous” sphere for EOCWD, meaning the District’s jurisdictional boundary and SOI boundary are identical.

EXHIBIT 12: EAST ORANGE COUNTY WATER DISTRICT PROFILE

General Information	
Agency Type	Independent Special District
Address	185 N. McPherson Road, Orange, CA
Principal Act	California Water Code, Section 30000 et seq.
Date Formed	1961
Key Services	Treatment and distribution of wholesale and retail water
Service Area	
Location	Unincorporated North Tustin and portions of the Cities of Tustin and Orange (covers approximately 90 percent of OCSD Service Area 7)
Sq. Miles	Wholesale Zone Service Area: 15.7 square miles Retail Zone Service Area: 2.34 square miles
Land Uses	Primarily residential; also includes commercial, industrial and institutional uses
Population Served	Wholesale –100,000 Retail – 3,195
Last MSR	2/13/2013
Last SOI Review	2/13/2013 (reaffirmed coterminous sphere of influence boundary)
Water Infrastructure	
Facilities	Wholesale Zone: 3 pressure zone, 3 reservoirs; 3 connections to MET/MWDOC; 12 miles of pipeline; 15 retail agency connections Retail Zone: 2 reservoirs and part of a third; 2 groundwater wells; 5 pump stations; 1 chlorination treatment system; 23.5 miles of pipeline; 1,211 metered connections
Governance	
Local Representation	5 – Member Board of Directors elected at large.
Board Compensation	Directors receive \$175 per day for attendance at regular and special meetings of the Board; Board members are compensated \$125 per day for each committee meeting or when attending a conference or seminar (with prior approval from the Board); Board members may be appointed to attend meetings of other public agencies or associations of agencies; the maximum number of days Board members can receive compensation in any calendar month is 10 days, with a maximum of 120 days per year. Board members do not receive health or dental benefits. Board members are eligible to receive retirement benefits.
Meetings	Monthly, 3 rd Thursday, 5 PM EOCWD Headquarters, 185 N. McPherson Road, Orange, CA
Website	www.eocwd.com
Agency Contact	Lisa Ohlund, General Manager

EXHIBIT 13: EOCWD SPHERE OF INFLUENCE MAP

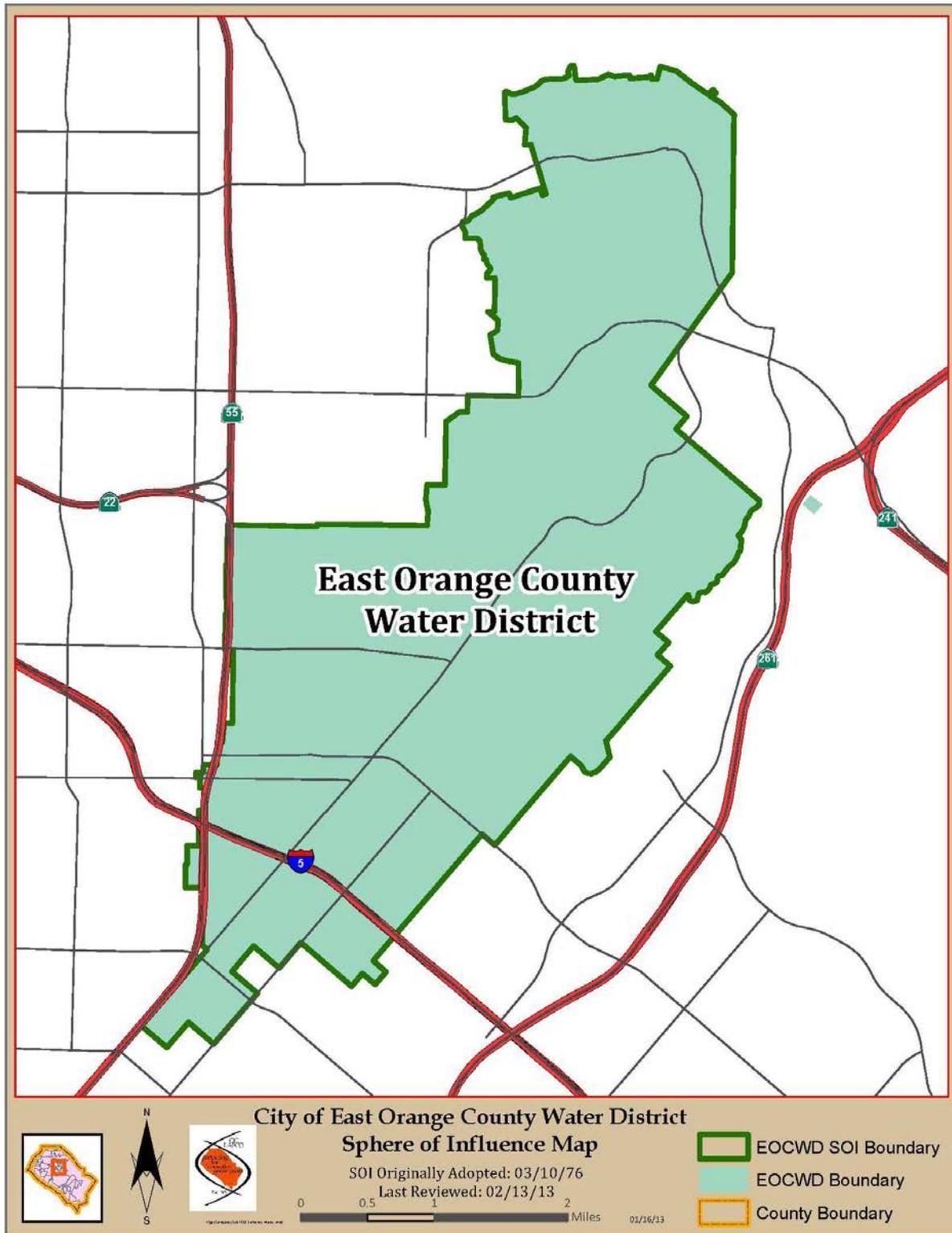
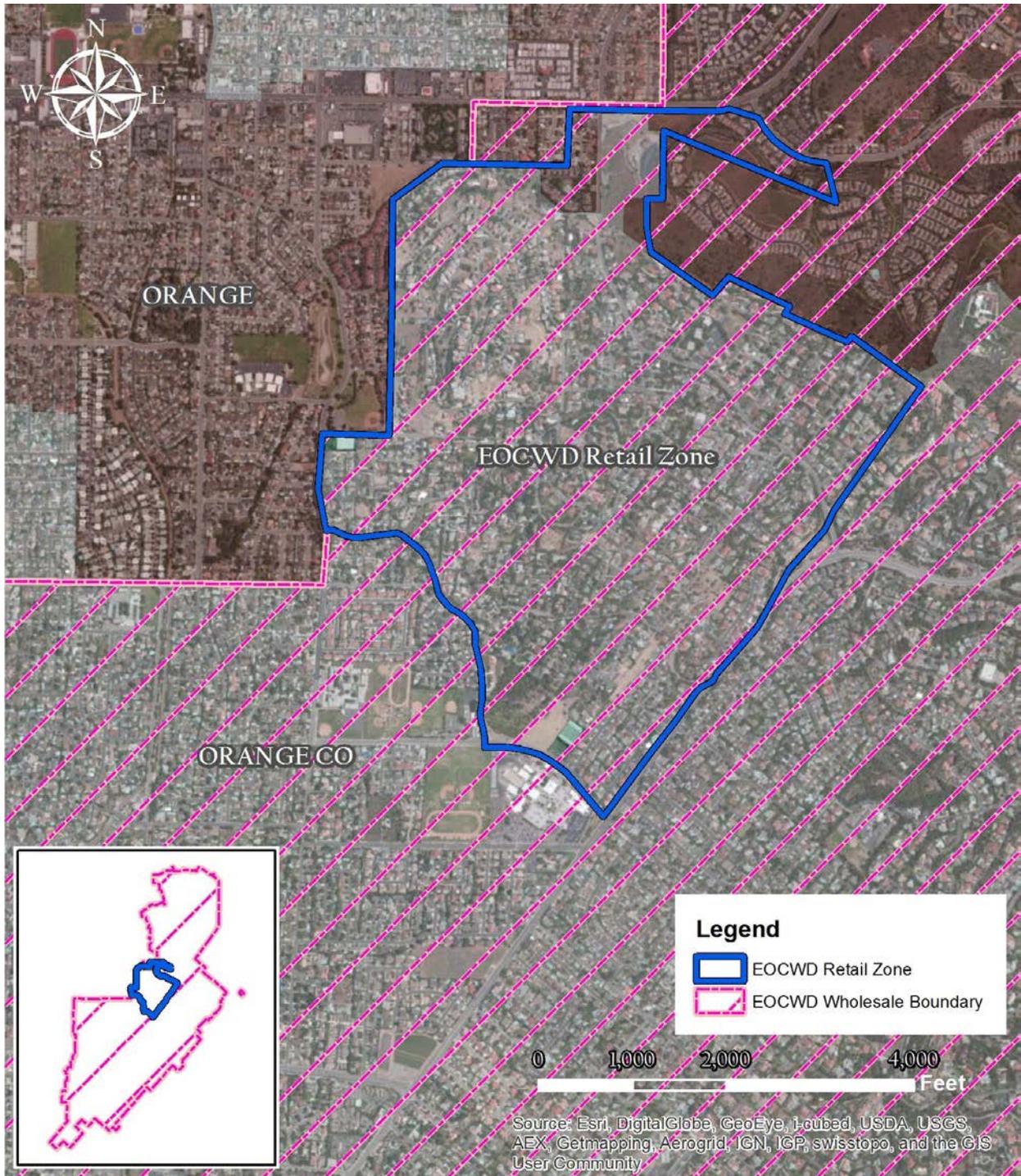


EXHIBIT 14: EOCWD RETAIL ZONE



IRVINE RANCH WATER DISTRICT

Established in 1961 as a California Water District under the provisions of the California Water Code, the Irvine Ranch Water District (IRWD) is an independent special district serving the south central portion of Orange County. IRWD provides water, wastewater collection and treatment, recycled water programs, and urban runoff treatment services. The District's service territory overlies most of the old Irvine Ranch property and includes all of the City of Irvine and portions of surrounding jurisdictional agencies including the cities of Tustin, Santa Ana, Orange Costa Mesa, Lake Forest, Newport Beach, and unincorporated areas of the County. The District is governed by a five-member publicly elected Board of Directors. Board members are elected at-large for four-year terms. There are no limits to the number of terms that a Board member may serve.

Over the last 18 years, IRWD has consolidated with five water districts:

- A merger between Orange Park Acres Mutual Water Company (530 connections) and IRWD was approved by the OPAMWC shareholders on April 10, 2008 and became effective June 1, 2008.
- On July 6, 2006, the former Santiago County Water District (740 connections) consolidated with IRWD.
- On January 1, 2001, IRWD merged with the eastern boundary of the Los Alisos Water District (12,400 connections).
- The Carpenter Irrigation District, which largely served agricultural interests, merged with IRWD on December 31, 1998.
- In 1997, the Santa Ana Heights Water Company (approximately 2,800 connections) was successfully merged with IRWD.

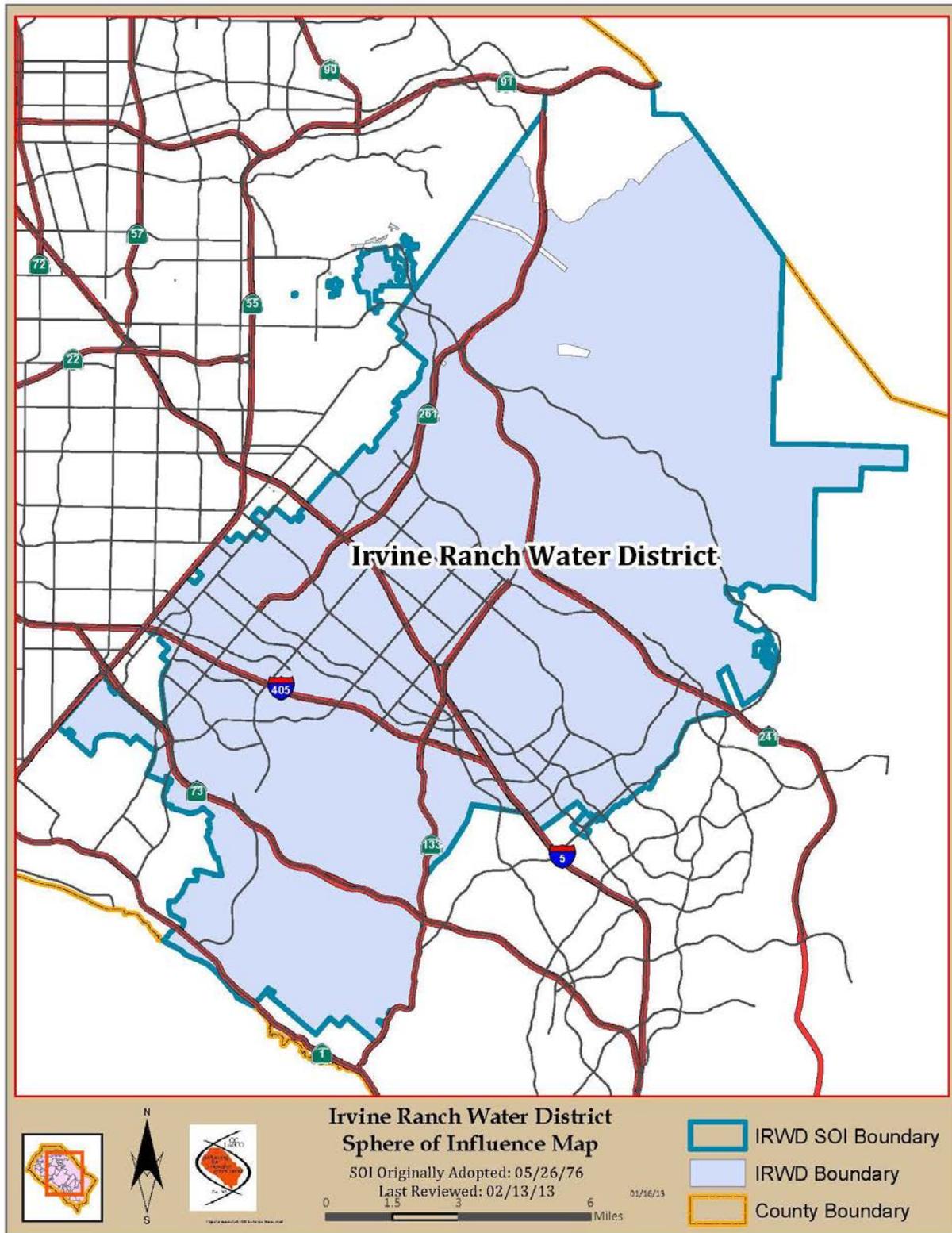
IRWD owns a sewer system with over 97,000 sewer connections serving approximately 370,000 customers. The District's sewer Collection Department operates and maintains 1,025 miles of sewer mains, 23 lift stations, 12 miles of force mains, 20 siphon structures, and 10 diversion structures spanning over 180 square miles. In addition to the operation of a large sewer collection system, IRWD owns and operates two water recycling plants with a combined capacity of 35.5 million gallons per day that treat over 90 percent of the sewage generated in the service area, with the remainder of the sewage and solids being sent to OCS D for treatment and disposal.

IRWD's sphere of influence (SOI), which defines the logical, long-term service area for an agency, was initially reviewed by OC LAFCO on May 26, 1976. The most recent review of the District's SOI was completed on February 13, 2013. A map depicting IRWD's current boundary and SOI is included as **Exhibit 16**.

EXHIBIT 15: IRVINE RANCH WATER DISTRICT PROFILE

General Information	
Agency Type	Independent Special District
Address	15600 Sand Canyon, Irvine, CA 92618
Date Incorporated	1961
Key Services	Potable and non-potable water supply, wastewater collection, treatment and disposal, wastewater recycling, and urban run-off treatment
Service Area	
Location	Central Orange County (City of Irvine and the portions of surrounding cities of Tustin, Santa Ana, Orange, Costa Mesa, Lake Forest, Newport Beach, and unincorporated areas of the County)
Sq. Miles	181 square miles
Land Uses	Residential, commercial, industrial, institutional and open space
Population Served	370,000
Last SOI Update	2/13/2013
Infrastructure	
Sewer Facilities	97,000 sewer connections, 1,025 miles of sewer mains; 12 miles of force mains; 23 lift stations; 20 siphon structures; 2 water recycling plants (combined 35.5 million gallons per day capacity)
Governance	
Local Representation	5-member Board of Directors, elected at-large to four year terms, no term limits
Board Compensation	Directors are compensated \$248 per meeting, not to exceed 10 meetings per month. Board members also receive health, dental and vision benefits and are eligible to receive retirement benefits.
Meetings	Bi-monthly, 2 nd and 4 th Mondays, 5 PM IRWD District Office, 15600 Sand Canyon, Irvine, CA 92618
Website	www.irwd.com
Agency Contact	Paul Cook, General Manager

EXHIBIT 16: IRWD SPHERE OF INFLUENCE MAP



CITY OF ORANGE

The City of Orange was incorporated on April 6, 1888 under the general laws of the State of California. The City provides a full range of services for its residents including, but not limited to, police, fire, water, sewer, paramedic, emergency transportation, library, recreation and parks, planning and development, street improvements and lighting, and general administration. According to the City's most recent land use survey referenced in the Orange General Plan, residential development represents the predominant land use in the City (approximately 46 percent), with commercial and industrial uses covering about 14 percent of the land area, while natural hillsides, parks and open space represent approximately 32 percent.

As part of its regional role, OCSD is responsible for the collection, conveyance, and treatment of residential, commercial and industrial sewage from the City's collection system. The City's Department of Public Works is responsible for all installation and maintenance of the City's local sewer collection facilities. The City began installation of its sewer infrastructure in 1910 and now maintains approximately 308 miles of pipeline. The existing wastewater collection system is primarily a gravity collection system that discharges into Orange County Sanitation District trunk sewers for eventual treatment and disposal. The City does not own or operate any wastewater treatment facilities.

The City's 2010 General Plan allows for increased densities and intensities compared to the City's previous 1989 General Plan. A Sewer System Master Plan Update was prepared in December 2014 to: (1) provide a planning tool to mitigate potential cumulative impacts to the City's sewer collection system under the development scenario anticipated by the 2010 General Plan; and, (2) to provide a Capital Improvement Program (CIP) and related fees and cost recovery plan for financing the CIP improvements.

The City of Orange has a water system dating back to the nineteenth century. The present system provides water service to a service population of approximately 142,000 within its 32 square mile service area. The City receives its water from two main sources, the Lower Santa Ana River Groundwater Basin, which is managed by the Orange County Water District (OCWD) and imported water from the Municipal Water District of Orange County (MWDOC). Portions of the City within the wholesale service territory of EOCWD receive imported water from EOCWD which purchases the water from MWDOC. Groundwater is pumped from 15 active wells located throughout the City, and imported water is treated at the Diemer Filtration Plant and delivered to the City through eight imported water connections. The City's water system also includes 16 reservoirs (with a total storage capacity of over 40 million gallons), 16 pumping stations, 450 miles of pipelines, and over 35,000 service connections.

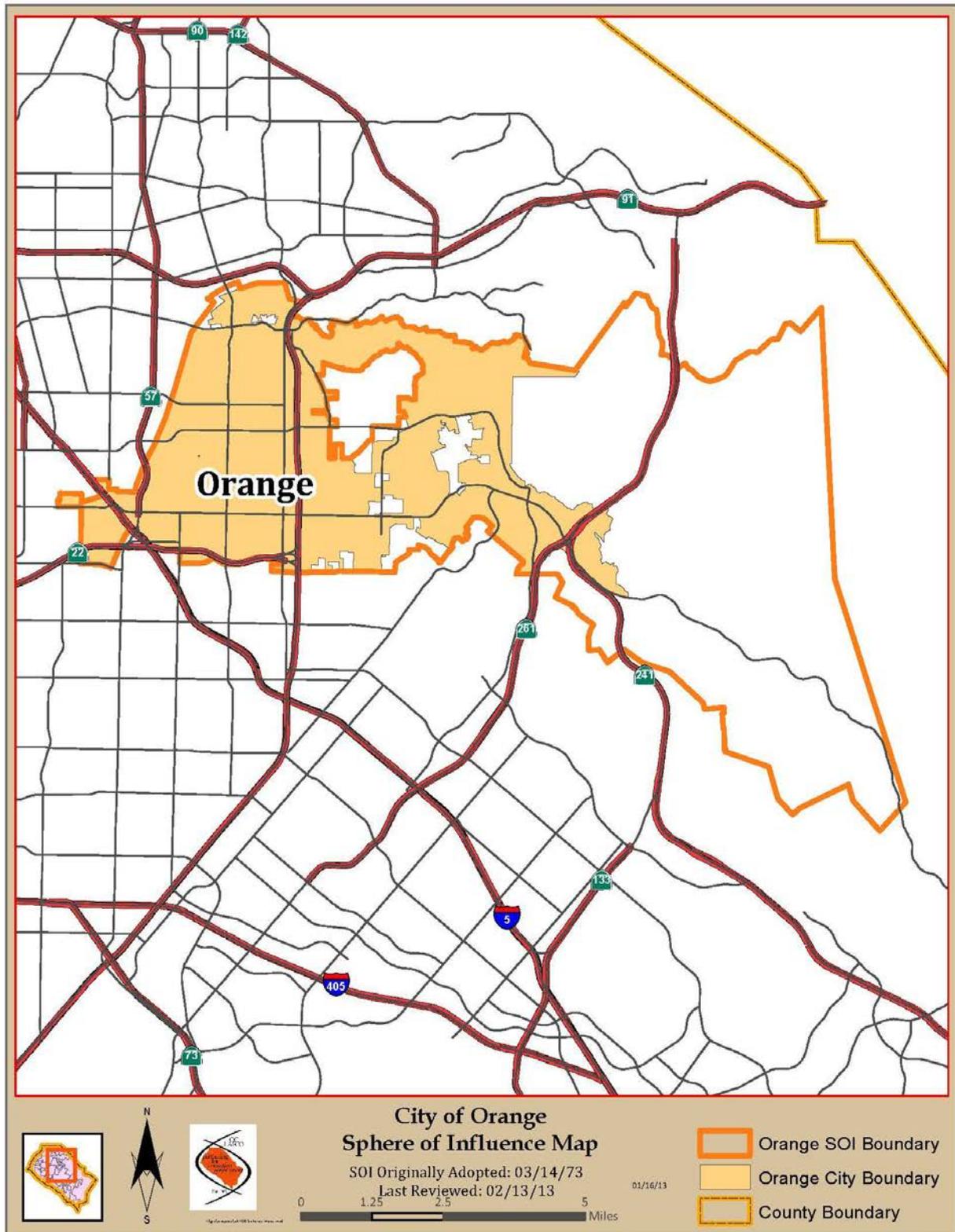
Orange's sphere of influence (SOI), which defines the logical, long-term service area for an agency, was initially reviewed by OC LAFCO on March 14, 1973. Since 2000, the City has expanded its jurisdictional boundary through annexation of 11 islands and other unincorporated areas proposed for development within the City's sphere of influence totaling approximately

1,134 acres. There are six remaining unincorporated islands and a portion of the larger unincorporated North Tustin area in the City’s sphere of influence. The most recent review of the City’s SOI was completed on February 13, 2013. A map depicting the City’s current boundary and SOI is included as **Exhibit 18**.

EXHIBIT 17: CITY OF ORANGE PROFILE

General Information	
Agency Type	General Law City
Address	300 E. Chapman Avenue, Orange, CA
Date Incorporated	1888
Key Services	Police, fire/paramedic, water, sewer, emergency transportation, library, recreation and parks, planning and development, street improvements and lighting, general administration
Service Area	
Location	North-Central Orange County
Sq. Miles	27 square miles
Land Uses	Residential, commercial, industrial, institutional and open space
Population	138,640
Last SOI Update	2/13/13 (SOI includes portions of unincorporated North Tustin)
Infrastructure	
Water Facilities	450 miles of pipeline, 15 active groundwater wells, 8 connections to imported water supply, 16 reservoirs, 16 pumping stations, 35,000 service connections
Sewer Facilities	308 miles of sewer pipeline
Governance	
Local Representation	5-member City Council, elected at-large.
Board Compensation	Council members receive no compensation or benefits.
Meetings	Monthly, second Tuesdays, 6 PM City Hall, 300 E. Chapman Avenue, Orange, CA
Website	www.cityoforange.org
Agency Contact	Rick Otto, Interim City Manager
Sources: Orange General Plan, Orange Urban Water Management Plan (2010), OC LAFCO Municipal Service Reviews	

EXHIBIT 18: CITY OF ORANGE SPHERE OF INFLUENCE MAP



CITY OF TUSTIN

The City of Tustin was incorporated in 1927 as a small agricultural community making it the tenth oldest city in Orange County. Significant population growth and development began in the 1950s. From 1955 to 1965, two major areas were annexed to the City: (1) the Irvine Ranch Agricultural Preserve, which is now Tustin Ranch; and, (2) the former Marine Corps Air Station Tustin which is now Tustin Legacy, a master-planned community with residential, commercial and institutional uses. The City has changed significantly over the past 30 years to include master planned communities, regional shopping centers such as the Tustin Marketplace, The District, Tustin Legacy and the Tustin Auto Center. According to the State Department of Finance, the current City's population is 78,360.

The City of Tustin provides a full array of services to its residents. Some services are provided by contract or through a joint powers agreement. The City provides water service to most of the incorporated area of the City and to unincorporated areas north of the City. Tustin receives the majority of its water from underlying groundwater in the Lower Santa Ana Groundwater Basin which is monitored by the Orange County Water District. The remaining amount is imported water purchased from the Municipal Water District of Orange County through East Orange County Water District for the portion of the City within EOCWD's wholesale boundary.

Tustin has nine groundwater wells that pump directly into the distribution system, and two treatment facilities that treat groundwater from five additional wells. The City delivers water supplies through 172 miles of water mains and four booster stations. The existing water storage system consists of six reservoirs with a combined storage capacity of approximately 13.9 million gallons. Tustin has 14,127 water service connections and seven connections to imported water supplies.

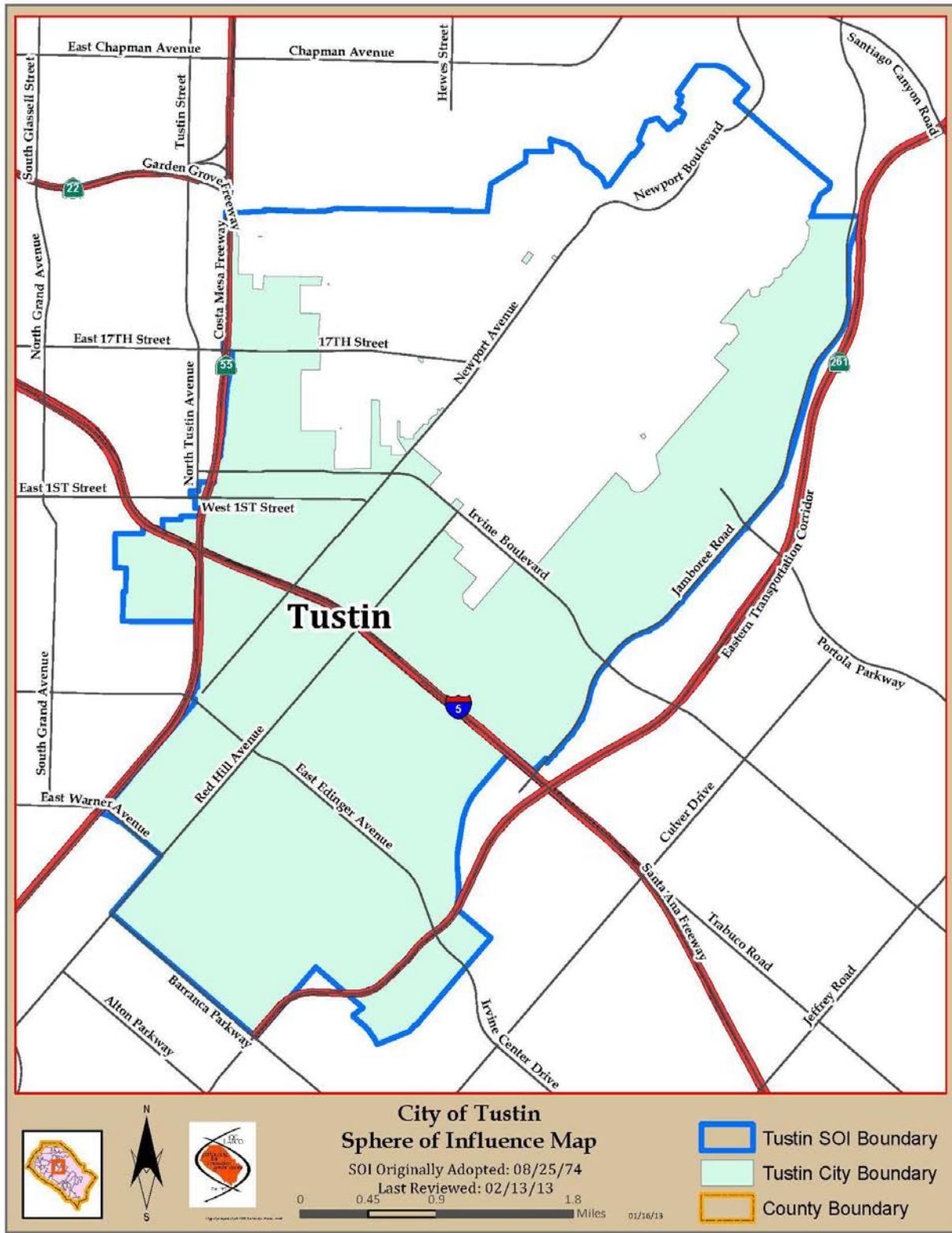
Tustin does not provide sewer service to its residents – that responsibility is divided between the Orange County Sanitation District and the Irvine Ranch Water District. Wastewater infrastructure includes collection and sewer main lines and lift stations. Both agencies operate regional treatment facilities to handle wastewater from their respective sewer service areas.

Tustin's sphere of influence (SOI), which defines the logical, long-term service area for an agency, was initially reviewed by OC LAFCO on August 25, 1974. The most recent review of the City's SOI was completed on February 13, 2013. A map depicting the City's current boundary and SOI is included as *Exhibit 20*.

EXHIBIT 19: CITY OF TUSTIN PROFILE

General Information	
Agency Type	General Law City
Address	300 Centennial Way, Tustin, CA 92780
Date Incorporated	1927
Key Services	Administration, police, planning, code enforcement, public works, parks and recreation, fire (Orange County Fire Authority), animal control (County of Orange), retail water service (City of Tustin, Irvine Ranch Water District), , sewer (Orange County Sanitation District and Irvine Ranch Water District), libraries (County of Orange)
Service Area	
Location	Central east Orange County, bounded by the City of Orange to the north, the City of Santa Ana to the west, the City of Irvine to the south, and unincorporated areas of Orange County to the east.
Sq. Miles	11.07
Land Uses	Residential, commercial, industrial, planned community
Population	78,360 (State Department of Finance, 2014)
Last SOI Update	2/13/13 (SOI includes portions of unincorporated North Tustin)
Infrastructure	
Water Facilities	308 miles of water mains, 3 booster stations, 12 groundwater wells, 5 reservoirs, 2 water treatment plants (Main Street Plant and 17 th Street Desalter Plant)
Governance	
Local Representation	5-member City Council, elected at-large; Council members are eligible to serve two consecutive four-year terms.
Board Compensation	Council members receive no compensation or benefits.
Meetings	Monthly, first and third Tuesdays, 7 PM City Hall, 300 Centennial Way, Tustin
Website	www.tustinca.org
Agency Contact	Jeffrey C. Parker, City Manager

EXHIBIT 20: CITY OF TUSTIN SPHERE OF INFLUENCE MAP



IV. REVIEW OF ALTERNATIVE SERVICE PROVIDERS

The MSR's primary focus and objectives are to review the provision of local sewer service and related cost impacts to residents and businesses in OCSD Service Area 7. OC LAFCO's evaluation, including the MSR determinations, will help guide the Commission's review of service delivery alternatives for OCSD Service Area 7 and the EOCWD and IRWD applications to assume local sewer service provision. In addition to the MSR determinations codified in state law, OC LAFCO will also review a number of additional issues through the MSR, including: (1) current and proposed service levels; (2) proposed service delivery methods and financing, and (3) existing and projected sewer rates, as described below.

- Current and Proposed Service Levels

What is the current level of service to OCSD Service Area 7 provided by OCSD?

What are the proposed levels of service to OCSD Service Area 7 by EOCWD and IRWD, including frequency of operations and maintenance ("O&M") activities (e.g., CCTV, sewer line cleanings), emergency response, complaint response, and facilities rehabilitation/replacement?

- Proposed Service Delivery Methods and Financing

What will the short and long-term costs be to EOCWD and IRWD to assume and operate the local sewer system in OCSD Service Area 7, including staffing, equipment/materials, vehicles, and contract services for O&M activities and asset management (e.g., facilities rehabilitation/replacement)? How does that cost compare to OCSD's current and historic costs of service?

What is each agency's financial ability to provide the service and the agency's plan for financing the service?

- Existing and Projected Sewer Rates

If OCSD continues to provide local sewer service to Service Area 7, what are the anticipated sewer fees for the customers?

How does each agency's (OCSD, EOCWD, IRWD) anticipated cost of service translate into costs to the customers based on current sewer fees being charged to residential and commercial/industrial customers in OCSD Service Area 7?

This section of the MSR explores these contributing factors for each of the governance alternatives for OCSD Service Area 7, including the "status quo" (OCSD). Local sewer service is one component of wastewater collection and treatment systems which are highly regulated in California. Accordingly, the ability of agencies to administratively and financially comply with state regulations is central to the review of alternative service providers in the Focused MSR. The regulatory information below provide a foundation for the subsequent review of provision and financing of local sewer service by OCSD and proposed by EOCWD and IRWD.

REGULATION OF SANITARY SEWER SYSTEMS

Local sewer service is one component of wastewater collection and treatment systems which are highly regulated in California. In May 2006, the State Water Resources Control Board adopted statewide general Waste Discharge Requirements (WDRs) for sanitary sewer systems as Water Quality Order No. 2006-0003-DWQ. Statewide, almost 1,000 sewer providers are now “enrolled” in this permit process. Each owner is required to report sewer spills to the California Integrated Water Quality System (CIWQS) as well as provide general information on their system.

Since 2006, all cities and wastewater collection agencies throughout the state have been required to adopt and execute Sewer System Management Plans (SSMPs) that implement measures to reduce sewage spills and mitigate the impacts of sewage spills if they occur. As a condition of these state-approved plans, each of the public agency collection system owners must evaluate the capacity of their systems and provide adequate capacity where needed. The cities and special districts are obligated to: (1) inspect and rehabilitate aging sewers as necessary; (2) adopt and enforce ordinances requiring private property owners to maintain their own sewers; and, (3) ensure long-range planning, staff development, and funding mechanisms are sufficient to operate, maintain, and improve their systems.

System condition assessments are required to guide short- and long-range rehabilitation plans and related financial needs. This approach by the state is unique nationally and provides more public disclosure on system performance, financial and staffing issues, and drives the need for appropriate funding. The efforts to fulfill the state’s regulatory requirements establish the service levels for each agency.

Over the past 30 years, OCSA has established and amended service levels as needed to address the state’s regulatory requirements as they have evolved over time. OCSA has adopted a SSMP to address sewage spills and mitigate potential impacts to public health and the environment. As the current service provider with over 30 years of service to Service Area 7, they are used in this report as a benchmark for reviewing alternative service providers.

FINANCING LOCAL SEWER SERVICE

This section provides a general overview of how local sewer service is financed. It is intended to assist in the review of each approach of the alternative service providers to providing service and the associated costs and customer fees for Service Area 7.

Local government finance is comprised of two basic components: (1) the money that flows into the agency as revenue and, (2) the money spent on infrastructure, facilities, administration and service provision. To determine the appropriate revenue levels, sewer providers must assess current and future needs of the system and establish user fee rates adequate to cover three primary functions:

- Operations and maintenance of the system;
- Capital rehabilitation/replacement; and

- Emergency repairs/spill response

The combination of these three expenses and their service levels are used to determine the appropriate revenue levels to sustain both current and future costs to operate and maintain the system.

OPERATIONS & MAINTENANCE

Operations and maintenance (O&M) refers to the day-to-day operations and administration of an agency and routine maintenance. Sewer agencies are required by state and federal laws to establish policies and procedures that ensure proper controls over their sanitary sewer system. Poor controls over the operations and maintenance of sanitary sewer systems can result in system failures.

To ensure the facilitation of appropriate funding and management controls for sanitary sewer systems, in 2006, the State Water Resources Control Board issued Order 2006-0003 which established statewide general Waste Discharge Requirements (WDR) and required the development of Sewer System Management Plans (SSMPs) by sewer agencies. The enactment of WDR Order 2006-0003 triggered OCSO's adoption of local sewer rates in 2008 to meet these state requirements.

Some of the basic requirements of the WDR Order 2006-0003 as they relate to sewer system operations and maintenance include the following:

- Maintain an up-to-date map of the sanitary sewer system, showing all gravity line segments and manholes, pumping facilities, pressure pipes and valves, and applicable storm water conveyance facilities;
- Describe routine preventive operation and maintenance activities by staff and contractors, including a system for scheduling regular maintenance and cleaning of the sanitary sewer system with more frequent cleaning and maintenance target at known problem areas. The Preventative Maintenance (PM) program should have a system to document scheduled and conducted activities, such as work orders;
- Develop a rehabilitation and replacement plan to identify and prioritize system deficiencies and implement short-term and long-term rehabilitation actions to address each deficiency. The program should include regular visual and TV inspections of manholes and sewer pipes, and a system for ranking the condition of sewer pipes that are at risk of collapse or prone to more frequent blockages due to pipe defects. Finally, the rehabilitation and replacement plan should include a capital improvement plan that addresses proper management and protection of the infrastructure assets. The plan shall include a time schedule for implementing the short- and long-term plans plus a schedule for developing the funds needed for the capital improvement plan;

- Provide training on a regular basis for staff in sanitary sewer system operations and maintenance, and require contractors to be appropriately trained; and
- Provide equipment and replacement part inventories, including identification of critical replacement parts.

Meeting the requirements of the WDR Order 2006-0003 takes significant staffing and resources. The East Bay Municipal Utility District provided a peer review of the Focused MSR and recommended the following key areas for sewer agencies to address the state's regulatory requirements:

- Knowledge and understanding of existing regulations as well as potential regulations for collection systems;
- Adequate legal authority governing: allowable connections to the sewers; allowable discharges to the sewers; discharge limits on fats, oils, and grease and other substances; permission to inspect dischargers; charges, permit requirement and enforcement and penalty requirements for violations; and requiring maintenance of private sewer laterals, establishing testing protocols for integrity of private sewer laterals, and requiring repair or replacement of private sewer laterals as needed;
- Property rights where needed to provide adequate access to the sewers for maintenance, emergency response, repair, etc.;
- Understanding of the potential for any future growth, including infill, in the service area;
- Knowledge of existing flows and flow patterns in the system, including cleaning root control, etc. as required;
- Complete and accurate maps of the system;
- Comprehensive programs for maintenance of the system, including cleaning, root control, etc. as required;
- Current information on the condition of the system, with a corresponding capital improvement plan for projected asset repair/replacement;
- Adequate funding for budgeting support for operating, maintaining, and repairing the system;
- Robust emergency response program;
- On-going training programs for staff to ensure all work is done safely and competently

- Design and construction standards for new facilities or rehabilitation of existing facilities; and
- A public outreach/communication program.

Financing Operations and Maintenance

Sewer agencies rely on various revenue sources to fund O&M in order to comply with applicable state and local regulatory requirements and to properly operate and maintain sanitary sewer systems. Special districts, like OCSD, fund services with revenue from several sources, including property taxes, special assessments, fees and charges. The enactment of Proposition 13 in 1978, and Proposition 218 in 1997, resulted in several changes to the financing of local government services as discussed in the following sections.

Property Taxes

Property taxes can be a major revenue source for cities, counties and certain special districts. The enactment of Proposition 13 in 1978 limited local public agencies to a portion of the one percent base levy property tax for each parcel within its jurisdiction and created financial stress for many public agencies. For example, the County's Sewer Maintenance Districts (SMDs) and County Waterworks Districts were eventually dissolved by the County due to the funding shortfalls created by Proposition 13.

While many of the enterprise special districts continue to receive property tax revenue, the increase in the cost for service has required enterprise utilities such as water and sewer service providers to implement fees and assessments to maintain the operations and maintenance of the infrastructures. These fees are either included on bi-annual property tax bills or billed directly to residential and non-residential (i.e., commercial, industrial) properties based on the use of the service.

As the successor agency to the former 7th and 70th Sewer Maintenance Districts, the Orange County Sanitation District receives two allocations of the one percent base levy property tax within the service territory of Service Area 7. The apportionment of the property tax base levy rate that OCSD receives was based upon a pre-Proposition 13, three-year average of fees. The average property tax apportionment received by OCSD is approximately \$14 per year to provide local sewer services, which accounts for approximately 26 percent of the current annual cost of operations and maintenance provided by OCSD.

User Fee or Service Charge

To fully fund the operations and maintenance and long-term infrastructure needs of the system created by the imposition of Proposition 13, OCSD has enacted regional and local sewer fees within its regional collection and treatment boundary and Service Area 7 boundary, respectively. State law requires that a user fee or service charge cannot exceed the estimated reasonable cost of providing a service or facility. Proposition 218 was approved by California voters in 1996 and was enacted on July 1, 1997. The new law also placed limitations and procedural specific

requirements on existing and new user fees and charges. For example, OCSD's enactment of regional and local sewer user fees followed the procedural requirements established by Proposition 218.

Sewer service user fees are specifically exempted from some of the requirements of Proposition 218. Most notably, they are exempt from the election requirements (e.g., Proposition 218 usually requires a public vote prior to a fee increase), but not the requirement that fees cannot exceed the reasonable cost of service. There are requirements to notify ratepayers and hold public hearings on the rate adoption, but no requirement for affirmative voter approval of the new sewer rates.

CAPITAL REHABILITATION AND REPLACEMENT

In addition to the day-to-day operations of the system, sewer agencies must also be prepared to finance the rehabilitation and replacement of infrastructure over the long-term and be prepared to respond to unforeseen emergencies.

Agencies with substantial infrastructure to maintain, such as water and sewer districts, typically establish rehabilitation replacement programs to guide the long-term maintenance of the system. For infrastructure such as sewer lines and manholes, the full economic cost is not limited to initial costs to construct the system, but includes the entire lifecycle cost. Lifecycle cost refers to the cumulative costs over the life of the asset which has three key phases: (1) initial purchase and installation, (2) maintenance, rehabilitation/refurbishment, and (3) disposal and replacement.

State law requires specific monitoring of the system to ensure that agencies are constantly assessing the condition of sanitary sewer system to reduce the risk of spills. These condition assessments lead to the development of asset management plans which are used by the agency to guide long-term rehabilitation and replacement of the system. The assessments also provide the baseline information for subsequent rate studies to determine not only the costs of O&M, but the amount of funds required to finance capital rehabilitation and replacement.

Financing Capital Rehabilitation and Replacement

Approaches to financing long-term capital rehabilitation and replacement include the use of capital reserve funds and debt issuance. Agencies may also establish a separate reserve fund to provide the available cash necessary to respond to emergency repairs. Two common approaches to financing long-term infrastructure are explained separately below, but many agencies use a combination of capital reserves and debt issuance to maintain lower service fees. Capital reserves are typically accumulated over a longer period of time and are expended at one-time or through several short periods of capital outlay. The use of debt financing can also extend the costs of rehabilitation and replacement of the infrastructure across longer periods of time to spread the significant costs across generations of sewer users.

Capital Reserve Fund/Sinking Fund

Agencies may maintain capital reserve funds (also known as a sinking fund) to build up sufficient reserves to fund long-term infrastructure improvements. One key aspect of this type of financing is that the initial fees are designed to build up sufficient reserves to fund large capital outlays on a pay-as-you-go basis. This approach to long-term financing allows for direct access to reserves as needed, but requires time to build up sufficient reserves.

For example, OCSO hired Carollo Engineers in 2008 to complete a five-year rate study to determine a fair and equitable local sewer user fee that would support the cost of operating, maintaining, and replacing the local sewer in Service Area 7. The Carollo Study recommended that OCSO create a sinking fund as a technique to



establish a reserve for the purposes of funding future capital expenditures. The sinking fund allows agencies to increase reserves during periods of smaller capital expenditures to support larger capital expenditures in future years. The technique also minimizes impacts to user fees. The use of capital reserve/sinking funds, and how each of the alternative service providers calculated the appropriate funding level, is discussed in more detail later in this report.

Recommended industry guidelines⁸ regarding agency reserves levels are as follows:

- Working Capital Reserve – approximately 15 percent to 50 percent of annual O&M
- Emergency Repair – one percent to three percent of current replacement value
- Self-Insurance Reserve (if self-insured) – one percent to three percent of current replacement value
- Debt Service Reserve – As needed if debt has been issued by the agency.

Bond Financing

Another financing technique available to special districts is the ability to issue bonds to finance capital improvements with the debt payment supported by general fund revenue, service charges, or other fees. Water and sewer special districts can issue general obligation (G.O.) bonds or revenue bonds to fund capital facilities. General obligation bonds are a type of bond in which the full faith and credit of the insuring government are pledged for payment. The agency's

⁸ Peer review of Focused MSR provided by East Bay Municipal Utility District, a wastewater collection and retail water service provider.

ad valorem property taxes are pledged to pay the bond, and two-thirds voter approval is required prior to bond issuance. Revenue bonds are issued pledging future revenues (such as sewer charges) to cover debt payments and require a majority voter approval prior to bond issuance. According to the California Debt Investment and Advisory Commission's "An Overview of Local Government General Obligation Bond Issuance Trends 1985-2005," the issuance of G.O. bonds by special districts has dramatically decreased due to voter approval requirements. Bond financing allows for immediate access to capital, but requires additional costs related to interest payments over the term of the bond repayment.

EMERGENCY REPAIRS AND SPILL RESPONSE

Sewer service providers are required to adequately prepare and plan for emergency response to spills and other system failures. An agency's response time and remedial actions are important factors in situations involving emergency repairs and spill response. Emergency response may include, but are not limited to, rerouting of wastewater flows around the line failure, clean-up of debris around the location of the failure, and a public notification system to inform the public of system failures that result in exposure to raw sewage. To minimize impact to the environment and public safety, additional sewer cleaning equipment and special spill response equipment with trained staff must be available in short notice either by owning and maintaining the necessary equipment or having an agency specific, on-call contract in place with private vendors. WDR Order 2006-0003 requires the Sanitary Sewer Management Plan (SSMP) prepared by each wastewater agency to include an Emergency Response Plan and stipulates the following for emergency spill response:

When a sanitary sewer overflow occurs, the Enrollee (i.e. agency responsible for the sewer system) shall take all feasible steps and necessary remedial actions to 1) control or limit the volume of untreated or partially treated wastewater discharged, 2) terminate the discharges, and 3) recover as much of the wastewater discharged as possible for proper disposal, including any wash down water.

The Enrollee shall implement all remedial actions to the extent they may be applicable to the discharge and not inconsistent with an emergency response plan, including the following:

- i. Interception and rerouting of untreated or partially treated wastewater flows around the wastewater line failure;
- ii. Vacuum truck recovery of sanitary sewer overflows and wash down water;
- iii. Cleanup of debris at the overflow site;
- iv. System modifications to prevent another SSO at the same location;
- v. Adequate sampling to determine the nature and impact of the release; and

- vi. Adequate public notification to protect the public from exposure to the SSO.

Financing Emergency Repairs and Spill Response

In order for emergency response plans to be effective, sewer agencies need to maintain a budget that should include appropriate funding for any repairs as well as assets, such as vacuum trucks and qualified staff, to address and fix system failures. Agencies can either maintain a separate emergency reserve fund or ensure allocation of a proportionate share of the long-term capital financing plan is dedicated for such purposes. Each agency's methodology for calculating adequate funding levels for emergency response is discussed further under each of the sewer service alternatives discussed below.

FINANCIAL ACCOUNTING OF SEWER SERVICE REVENUES AND EXPENDITURES

There are various practices for the financial accounting of sewer service revenues and expenditures. Agencies may use a special fund to segregate revenues and expenditures for specific enterprise functions such as water or sewer service. For example, the East Orange County Water District currently maintains separate enterprise fund accounts within the District's accounting software for the District's Wholesale Zone and Retail Zone enterprise operations. This practice allows the agency to use a single bank account to hold the funds.

Another practice is to isolate the funds using different bank accounts to account for the revenues and expenditures for specific functions. Internal districts can also be established by the governing board of the public agency to not only isolate the revenues and expenditures but provide greater autonomy for the internal district to issue general obligation bonds to finance the construction of capital facilities within the geographic area of the internal district. For example, the Irvine Ranch Water District's sewer service area is geographically divided into ten sewer improvement districts. Each improvement district is a sub-fund of the District, and their primary purpose is to allocate costs and funding on an equitable basis for the construction of sewer infrastructure. Each improvement district has the authority to issue general obligation bonds and has the authority to levy and collect connection fees and ad valorem taxes on the land within its legal boundaries sufficient to meet its general obligation bond indebtedness. The connection fees paid by developers and the property taxes paid by property owners vary by improvement district based on several factors. The fees are primarily tied to the costs to finance sewer infrastructure.

GOVERNANCE ALTERNATIVES

State law requires LAFCO to review alternative service delivery methods and governance structures “for improving efficiency and affordability of infrastructure and service delivery.” OC LAFCO’s review of alternatives is not limited to a single method or a single successor agency. Given the overlap of OCSD Service Area 7 with multiple jurisdictions, several alternative service providers were explored, including the East Orange County Water District, Irvine Ranch Water District, City of Orange, City of Tustin, and the Orange County Sanitation District, as a “status quo” alternative. As a part of the focused MSR process, and based on responses received from these stakeholders, the alternatives presented in *Exhibit 21*, below, were considered for the review in this report.

EXHIBIT 21: GOVERNANCE ALTERNATIVES

Governance Alternatives	Description	Alternative Service Provider(s)
OCSD Remains Local Sewer Provider	Status quo alternative – OCSD remains the local sewer provider.	OCSD
Transfer Entire System to Single New Provider	Transfer local OCSD Service Area 7 facilities/services wholly to a single new service provider. EOCWD and IRWD are existing regional utility agencies in the area, and have submitted applications to OC LAFCO to assume local sewer service.	EOCWD IRWD
Transfer Portions of System to Cities of Orange and Tustin	Transfer of local OCSD Service Area 7 facilities/services were discussed with cities of Tustin and Orange as alternative service providers to portions of Service Area 7 within their respective spheres of influence. Through the MSR Working Group process, the Cities of Orange and Tustin expressed no interest in taking over local sewer service from OCSD at this time. However, exploration of potential arrangements to facilitate eventual annexation of the El Modena and North El Modena islands surrounded by the City of Orange are discussed in this report.	Cities of Orange and Tustin

The next sections review how the current and potential alternative service providers have determined the costs of service and costs to customers for future sewer service to Service Area 7. State and federal laws and regulations require that the fees collected by sewer system

operators be sufficient to provide operations and long-term maintenance of the system. Using the financial components of previous section as a reference, the review of each alternative service provider will focus on the assumptions and methodologies used by each agency to determine the costs to operate and maintain Service Area 7 sewer infrastructure as well as the proposed service fees necessary to support the service. None of the alternatives discussed below would impact the current wastewater flows from OCSD Service Area 7 to OCSD's regional collection and treatment system. Additionally, at the end of this section is a brief discussion of potential contractual agreements as an alternative.

ORANGE COUNTY SANITATION DISTRICT – STATUS QUO ALTERNATIVE

OCSD has been responsible for local sewer service to OCSD Service Area 7 since 1986. Over much of that time, the portion of the ad valorem property tax revenue the District received as the successor agency to the County's 7th and 70th Sewer Maintenance Districts has been insufficient for covering the costs of operations and maintenance of the local sewer system.

To make up the shortfall, the costs of local sewer service to the area were subsidized by the District's regional fees for collection and treatment.⁹ Coinciding with the State Water Quality Control Board's 2006 requirement for sewer districts to prepare financing plans for operations and maintenance (O&M) and long-term capital replacement, OCSD initiated a local sewer fee study to determine the appropriate fees for Service Area 7.

At the same time, the District began to incorporate the eventual divestiture of local sewer service as a Strategic Plan priority. Since 2007, OCSD's Strategic Plans have prioritized the transfer of the District's local sewer facilities and divestiture of service responsibilities throughout its service territory. While OC LAFCO recognizes the role of OCSD as a regional provider, it is also the responsibility of OC LAFCO to explore and encourage logical and orderly service provision that benefits the customers, increases infrastructure reliability, and improves service delivery efficiencies.

Existing Service Levels

The regulatory requirements imposed by the State Water Resources Control Board does not establish industry-wide benchmarks for sewer system operators. The services that are provided by OCSD to address the state's regulatory requirements are generally similar to the services provided by other sewer system operators. However, the specific service levels and frequencies are specific to the unique conditions of OCSD's sewer regional and local sewer systems. Certain service frequencies are specific to OCSD Service Area 7. Accordingly, it is appropriate to use the current service levels established by OCSD as the benchmark for comparing the services proposed by EOCWD and IRWD.

⁹ 2007 MSR/SOI Report Prepared for the Orange County Sanitation District
September 9, 2015

The District’s approach to operations and maintenance of its sewer system is found in several documents, including the District’s Strategic Plan, Sanitary System Management Plan (SSMP), and Asset Management Plan. The District currently contracts for operations and maintenance (O&M) services and would continue to do so should OCSD retain local sewer service of Service Area 7 in the future. Existing services and levels of services would remain the same.

The District currently has a contract with Performance Pipeline Technologies for the cleaning of the approximately 175 miles of sewer line and manholes located in Service Area 7 (**Appendix G**). The District’s staff would continue to adhere to a one-hour emergency response time to reports of blockages or potential spills. OCSD staff has indicated that the District would continue to inspect, maintain and repair local sewers under the standards identified by the District’s Asset Management Plan and Sanitary Service Management Plan (SSMP). OCSD would continue to make minor repairs to sewer line segments and manholes as problems were identified in order to maintain reliability, as part of the O&M program.

OCSD prepares a two-year operating budget with annual updates. OCSD includes long-term capital rehabilitation and replacement for Service Area 7 infrastructure in the District’s capital reserve budget. Some smaller repair and replacement efforts, such as manhole frame and cover replacements and spot repairs, are funded through OCSD’s operating budget. Forecasts for the two-year operating budget are based upon historical data from the previous fiscal year budget expenditures and projections and recommendations from staff going forward. Staff anticipates a 3.5 percent decrease in OCSD’s FY 2015-2016 overall Operating Budget, of which the local operating budget is a subset. Current O&M activity for OCSD Service Area 7 is depicted in **Exhibit 21**, below.

EXHIBIT 22: OCSD O&M ACTIVITIES

OCSD O&M Activity	Frequency
<p>Sewer Line Cleaning <i>OCSD uses combination cleaning trucks capable of hydraulically washing the pipe wall followed by vacuum removal of the sewer debris at the next downstream manhole.</i></p>	<p>12-18 month depending on the zone (High risk areas on 12-month cleaning schedule, while lower risk areas are on an 18-month schedule)</p> <p>Certain enhanced maintenance areas are cleaned weekly, monthly, quarterly, or in six or nine month periods, as necessary, to prevent blockages.</p>
<p>Sewer Line Inspection <i>Closed Circuit Television inspection of Pipe - Conducted in accordance with National Association of Sewer Service Companies (NASSCO) standards</i></p>	<p>According to OCSD staff, on a 5-year schedule, OCSD’s current target for Service Area 7 local sewers is to budget for and inspect 20 percent of the system each year. The District’s SSMP provides a 7-year frequency.</p>
<p>Fats, Oils, and Grease (FOG) Control Program <i>The District’s program helps to prevent blockages of the sanitary sewer lines that can cause SSOs by establishing control</i></p>	<p>FOG Wastewater Discharge Permit required for all food service establishments that discharge FOG into sewer.</p> <p>Food service establishments required to</p>

OCSD O&M Activity	Frequency
<i>mechanisms that will establish regulations and policies for the disposal of FOG from Food Service Establishments (FSEs).</i>	implement Best Management Practices into operations to minimize discharge of FOG into sewer. Food service establishments required to pretreat their wastewater using grease interceptors to remove FOG prior to discharge to the sewer system. Cleaning of the grease interceptors required every 6-months. District performs routine inspections of FSEs.
Manhole Inspection Program	5-year schedule according to Preventative Maintenance program in SSMP
SSO Response and clean-up	One hour response (5-hour cleanup)
Audit of SSMP	2-year interval
Engineering Condition Assessment Services	5-year interval
Financial consulting service for rate setting	5-year interval
Pipe and Manhole Rehabilitation	As needed
Root foaming and manhole pesticide treatments	As needed (typically annual or quarterly if necessary)
Manhole Frame and Cover Replacements	As Needed
Sewer pipe replacements	As needed
Dig Alert (Underground Location Services)	As needed

Closed circuit television (CCTV) inspection is conducted for all of the pipes within OCSD Service Area 7 every-five years. Repairs are ongoing, and completed as problems are identified, and there is no current backlog of repairs needed or any planned major construction projects. The construction and rehabilitation data for all of the pipeline segments and sewer manholes have been digitized into geographic information system (GIS) data and is continually updated with new data by OCSD technical staff.

Current Service Delivery Methods and Financing

Over the past five years, the O&M expenditures have averaged \$1.02 million per year. However, discussions with OCSD staff indicate that the actual O&M expenditures may exceed the average. OCSD staff noted that “miscodings” have been identified in several prior fiscal years due to new staff improperly coding invoices to the regional system and that these costs for Service Area 7 have been understated. At this time, the exact annual O&M costs for Service Area 7 are not known.

Staffing

The District has approximately 626 full-time employee equivalent staff that support regional wastewater collection, treatment and disposal and local sewer operations. Sewer line cleaning and condition assessment services are contracted to a professional company. Sewer line

cleaning services are currently provided by Performance Pipeline. Condition assessment services are currently provided by ProPipe which conducts assessments of sewer line cleaning, random spot checking of the system as directed by OCSD staff, CCTV of 20 percent of the system each year as determined by OCSD staff, and condition assessment of sewer line segments after a sanitary system overflow (SSO). According to OCSD staff, the District does not have any full-time staff exclusively dedicated to Service Area 7. Staff from several departments administer contracts for professional services, administration of the District's FOG program, and emergency response to the area.

Equipment

The District's fleet vehicles currently include two trucks dedicated for emergency response to OCSD Service Area 7: (1) a 2000 Sterling Vactor truck used during emergency response to collect wastewater and (2) a 1995 Volvo Hydroflusher truck used to flush out the affected sewer line during routine operations or emergency response to an SSO. The trucks are included in the sewer transfer agreement between OCSD and EOCWD. According to OCSD staff, the vehicles have exceeded their useful life of 10 years or 100,000 miles and would be replaced under the District's policy. The vehicles have not been replaced due to the current effort to transfer sewer service responsibility in the area.

Emergency Response

One primary measure of the effectiveness of OCSD's operations and maintenance program is the District's response to SSOs and demonstrated improvements over time. The District's procedures for responding to sanitary sewer overflow emergencies are described in the OCSD's Sewer System Management Plan. Between 2009 and 2013, the District sustained an "above average" SSO response rate Districtwide. The SSO frequency in Service Area 7 improved (reduced by 50 percent) during the same period to an SSO rate operating between one to two SSOs per 100 miles of pipeline in 2011 and 2012. The significant improvement in SSO performance in the local system was accomplished through a combination of an aggressive cleaning schedule, focused hotspot cleaning, and CCTV inspection in the local sewer system for condition assessment and quality control of contractor cleaning activities.

Financing Local Sewer Service

The assumptions and methodologies used by OCSD consultants and staff to calculate capital rehabilitation and replacement of the OCSD Service Area 7 system have evolved over the past eight years through several condition assessments and rate studies. The determination of the current and future needs of the system drive the local sewer rates paid by Service Area 7 customers now and in the future. In response to OC LAFCO's request for data from OCSD regarding the analysis of the District as an alternative "status-quo" service provider, the District stated that the current asset management program for capital rehabilitation and replacement studies and validations would continue, and that ongoing CCTV and manhole inspections would guide future rehabilitation and replacement planning.

It is important to note that OCSD emphasized that the District's engineering consultants are utilized to provide long-range lifecycle forecasts, but the District's ongoing inspection efforts provide the near-term data needed to determine exactly when a replacement of a pipe or manhole may actually be needed since the forecasts are just estimates. The estimates produced by the consultant's models are used by staff to establish the actual asset replacement program. Actual replacements are determined by field inspections or incidents.

OCSD uses a sinking-fund approach to pay for long-term capital rehabilitation and replacement of the District's capital assets in OCSD Service Area 7. A sinking-fund allows the agency to build sufficient reserves over time to finance large capital outlays in the future without relying on bond issuance or other debt related financing. A portion of the service fees collected from each residential and commercial sewer user is reserved to build sufficient capital to fund future rehabilitation and replacement of infrastructure on a cash basis.

“OCSD's financial goal for the sinking fund level is to reach the benchmarks established as part of the January 2013 Wastewater Revenue and Rate Study prepared by Carollo Engineers in conjunction with the 2007 GHD study and the April 2010 letter from Chuck Winsor regarding infrastructure condition and estimate long-term rehabilitation/replacement.” (OCSD response to OC LAFCO 2/4/2015)

As previously described, should OCSD remain the local sewer provider in Service Area 7, the District anticipates no change in service levels or the approach to financing O&M, long-term capital rehabilitation and replacement, or emergency response. **Exhibit 23** presents a financial summary of Service Area 7 based on the current assessments and policy direction conducted by the OCSD Board. The sewer fee revenues are based on the 2008 Carollo Fee Study and became effective through adoption of OCSD Ordinance No. OCSD-38 in May 2008. The ordinance set the five-year rate schedule for the period between FY 2008-2009 and 2012-13. The initial sewer fee for a single-family residential unit began at \$199 and increased annually to the current rate of \$216. As depicted in **Exhibit 22** below, the sinking fund balance at the end of fiscal year 2013-14 is estimated to be approximately \$29.6 million.

EXHIBIT 23: OCSD SERVICE AREA 7 - FINANCIAL SUMMARY

	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14
<i>Sewer Service Fees</i>	\$5,605,973	\$5,642,065	\$5,672,384	\$5,751,502	\$5,827,497	\$5,789,531
<i>Property Tax Revenue</i>	\$235,748	\$244,205	\$235,946	\$239,933	\$287,576	\$259,531
<i>Total Revenue</i>	\$5,841,721	\$5,886,270	\$5,908,330	\$5,991,435	\$6,115,073	\$6,049,062
<i>Expenses</i>	(\$932,658)	(\$1,039,966)	(\$1,368,691)	(\$659,865)	(\$1,184,869)	(\$990,373)
<i>Net</i>	\$4,909,062	\$4,846,303	\$4,539,639	\$5,331,570	\$4,930,203	\$5,058,689
<i>Reserve Balance</i>	\$4,909,062	\$9,755,365	\$14,295,004	\$19,626,574	\$24,556,777	\$29,615,466

Prior to fiscal year 2008-2009, OCSD did not have a reserve account dedicated to Service Area 7. The local rate adopted in 2008 was able to fund annual O&M and to quickly build reserves for future capital rehabilitation and replacement. Between July 2008 and June 2014, the District accrued \$24.5 million in reserves. As explained in more detail below, the local sewer rates that were adopted in 2008 were intended to cover the annual costs of O&M, which are approximately \$1.02 million, and establish a sinking fund to provide for future capital project outlays, long-term rehabilitation and replacement of the infrastructure, and response to emergency needs within the service area.

OCSD implemented a local sewer service fee for approximately 17,378 parcels located in OCSD Service Area 7 beginning in FY 2008-2009. Based on the 2008 Carollo Study, the fee was established at \$216 per parcel for FY 2012-2013. The District’s two-year budget (FY 2014-2015 & 2015-2016) states that the fee is still considered to be at the appropriate level through FY 2015-2016. Between 2007 and 2013, a number of studies were conducted to assess the condition of OCSD’s regional and local infrastructure. These studies provided the foundation for the subsequent sewer user fee analyses and fees for both regional and local sewer service. Summaries of each study and key conclusions are provided below.

2007 Local Sewer Service Study: Cost Projection of Rehabilitation and Replacement, GHD Management, Engineering, and Environmental Consultants

<i>Overview</i>	<ul style="list-style-type: none"> o GHD hired to conduct a condition assessments study of the local sewers in OCSD Service Area 7 in advance of a future rate study for OCSD Service Area 7. o Methodology used to calculate asset replacement costs of sewer pipelines and manholes were based on several factors, including unit costs and pipeline lengths and diameters.
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2007 Local Sewer Service Study: Cost Projection of Rehabilitation and Replacement, GHD Management, Engineering, and Environmental Consultants

<i>Conclusions</i>	<ul style="list-style-type: none"> ○ GHD study projected rehabilitation and replacement costs over the 100-year period from 2009 to 2107 for OCSD Service Area 7 to be slightly less than \$350 million. ○ The model is reflective of a 50-year replacement cycle for the infrastructure and was based on the expected useful life of the local sewer system’s assets.
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**2008 Orange County Sanitation District Local Sewer Fee Analysis
Carollo Engineering, Inc.**

<i>Overview</i>	<ul style="list-style-type: none"> ○ Carollo Engineering, Inc. hired by OCSD to complete a five-year rate study to determine a fair and equitable local sewer service fee to support the cost of operating, maintaining, and replacing the local sewer in OCSD Service Area 7.
<i>Conclusions</i>	<ul style="list-style-type: none"> ○ The 2008 Carollo Study recommended that OCSD implement a sinking fund type capital replacement approach to proactively plan for future capital projects and avoid undue spikes in user fees. ○ The rate structure ultimately approved by the OCSD Board was designed to establish a sinking fund that would allow for a roughly \$5 million annual transfer to the capital replacement funds by FY 2012-2013 at the current annual fee of \$216 per single-family dwelling unit.

**2010 OCSD Internal Memorandum
OCSD Engineering Staff**

<i>Overview</i>	<ul style="list-style-type: none"> ○ In 2010, OCSD engineering staff prepared a memorandum reviewing prior system assessments and the projected costs of Service Area 7 rehabilitation and replacement. ○ The OCSD memo, included as Appendix H, agrees with the asset inventory (i.e. pipes and manholes) as well as the formulas used to calculate asset replacement costs cited in earlier studies. ○ However, OCSD engineering staff questioned an underlying assumption of the GHD study which focused more on replacement than rehabilitation of the infrastructure.
<i>Conclusion</i>	<ul style="list-style-type: none"> ○ OCSD engineering staff concluded that current technology allows for in-ground rehabilitation of the pipes to extend the useful life of pipes and recommended a “cured-in-place” pipe (CIPP) rehabilitation method to prolong the useful life of the pipes. ○ The OCSD memo indicated that use of CIPP or similar method would not require complete replacement of the pipe and would require only one cycle of rehabilitation

**2010 OCSD Internal Memorandum
OCSD Engineering Staff**

- within 100 years.
- o Further, OCSD engineering staff calculated an overall system rehabilitation and replacement cost of \$106.58 million (down from GHD’s estimate of \$350 million) by not assuming a complete replacement within 61 years of the initial rehabilitation, noting that \$150 million was a reasonable conservative estimate.
- o Based on the 2010 OCSD memorandum, OCSD has instituted CIPP rehabilitation methodology for Service Area 7.

CURED-IN-PLACE PIPE (CIPP)



Cured-in-place pipe is a rehabilitation method used to repair and extend the useful life of pipes. The trenchless process is more cost-effective and less disruptive than traditional rehabilitation methods. CIPP involves insertion of a plastic tube into an existing pipe. Different liners are used depending on the extent of the structural damage to the pipe. In 2013, OCSD rehabilitated 48 pipe line segments totaling 4,079 feet using Cured-In-Place-Pipe (CIPP) methodology to extend the useful life of the pipes.

**2012 Report for Future Renewal Funding Analysis
GHD Management, Engineering, and Environmental Consultants**

- | | |
|-------------------|--|
| Overview | <ul style="list-style-type: none"> o In 2012, OCSD contracted with GHD to prepare future funding projections of OCSD assets. o The 2012 GHD Study incorporated several new components to improve the future funding projections, including: an Asset Management Study by Brown and Caldwell, staff interviews, and more detailed categorization of asset types. |
| Conclusion | <ul style="list-style-type: none"> o The Asset Management Study performed by Brown and Caldwell significantly changed the assumptions used in the subsequent Rate Study performed by Carollo in 2013 (discussed below). o The general recommendations of the 2012 GHD Study identified ways in which OCSD staff could improve future model results and the District’s asset management program. o The 2012 GHD Study recommendations included: increasing integration of OCSD’s GIS data and CCTV data into the GHD model; updating asset lifecycle |

2012 Report for Future Renewal Funding Analysis
GHD Management, Engineering, and Environmental Consultants

assumptions with information from CCTV footage and visual inspections by staff; grouping assets to identified CIP projects; and, improving technical feedback loops related to data errors identified during the modeling effort.

2013 Wastewater Revenue and Rate Study
Carollo Engineering, Inc.

<i>Overview</i>	<ul style="list-style-type: none"> ○ The Study (included as Appendix I) examined all local sewer service by OCSD, which included approximately 18,000 equivalent dwelling units (EDUs) located in Service Area 7 and 9,000 EDUs that received local sewer service from OCSD elsewhere in the County. ○ Since 2008, the District has continued to refine the identified needs, timing, and costs for local service in OCSD Service Area 7. ○ A change in the replacement assumption for all pipes eight inches or less, based on the Brown and Caldwell Asset Management Study conducted in 2012, increased the original estimation of rehabilitation and replacement costs of the OCSD Service Area 7 system and compressed the projected timing of the projects resulting in a significant increase in funding.
<i>Conclusion</i>	<ul style="list-style-type: none"> ○ Given the change in the funding requirements, the District would be required to collect nearly \$12.8 million annually in order to fully fund the identified projects. ○ The 2013 Carollo Study recommended an increase local sewer service fees by 4.8 percent in FY 2013-14 and by 2.4 percent thereafter through FY 2020-21, commensurate to the regional user-fee increases. ○ Total recommended funding of the capital reserve program was \$390 million in 2014 dollars.

The 2013 Carollo study provides an important reference for the financing of ongoing operations in Service Area 7 and long-term maintenance responsibility. In contrast to the OCSD Memo, the 2013 Carollo Study reported the need for a dramatic increase in funding of the capital reserve fund. The recommendation was based on changes in assumptions used for the replacement of pipes eight inches or less in diameter.

According to the 2012 Brown and Caldwell Asset Management Study that provided the basis for several assumptions used by Carollo, all six-inch and eight-inch vitrified clay pipelines should be replaced and not rehabilitated because the resulting reduction in diameter caused by rehabilitation could decrease flows through the pipes and increase the risk to potential sanitary sewer overflows.

Since over 90 percent of the local sewer pipelines in OCSD Service Area 7 are eight-inches or less in diameter, as depicted in *Exhibit 24*, the change in the assumptions increased the projected costs of rehabilitation and replacement as well as compressed the timing of the anticipated projects. Accordingly, the 2013 Carollo Study projected a significant increase in funding was necessary to rehabilitate and replace sewers in Service Area 7 over the next 50 years.

However, OCSD has continued to favor rehabilitation over replacement of all pipelines in line with the 2010 OCSD Internal Memo. According to OCSD staff, CIPP rehabilitation of pipeline would not result in a significant reduction in the diameter of the pipelines. The projections used by Carollo in 2013 were derived from the 2012 GHD study for the period of 2014 through 2063 and included significant capital rehabilitation improvement projects beginning in 2035. The five year period of between 2035 and 2040 results in 70 percent of total projected expenditures over the 50 years rehabilitation and replacement projection period. *Exhibit 25*, below, shows the extensive focus on rehabilitation and reliance on new technologies, such as CIPP, as suggested by the 2010 OCSD Internal Memo.

Pipeline Diameter	Length (Ft.)	% of total
4	155	0.02%
6	4,913	0.55%
8	824,880	91.70%
10	28,006	3.11%
12	12,718	1.41%
15	4,522	0.50%
18	12,940	1.44%
21	3,616	0.40%
24	6,885	0.77%
27	913	0.10%
Total length of all pipelines	899,548	100

EXHIBIT 24: SERVICE AREA 7 PIPELINE SUMMARY

EXHIBIT 25: SERVICE AREA 7 - REHAB & REPLACEMENT PROJECTIONS (CAROLLO 2013)

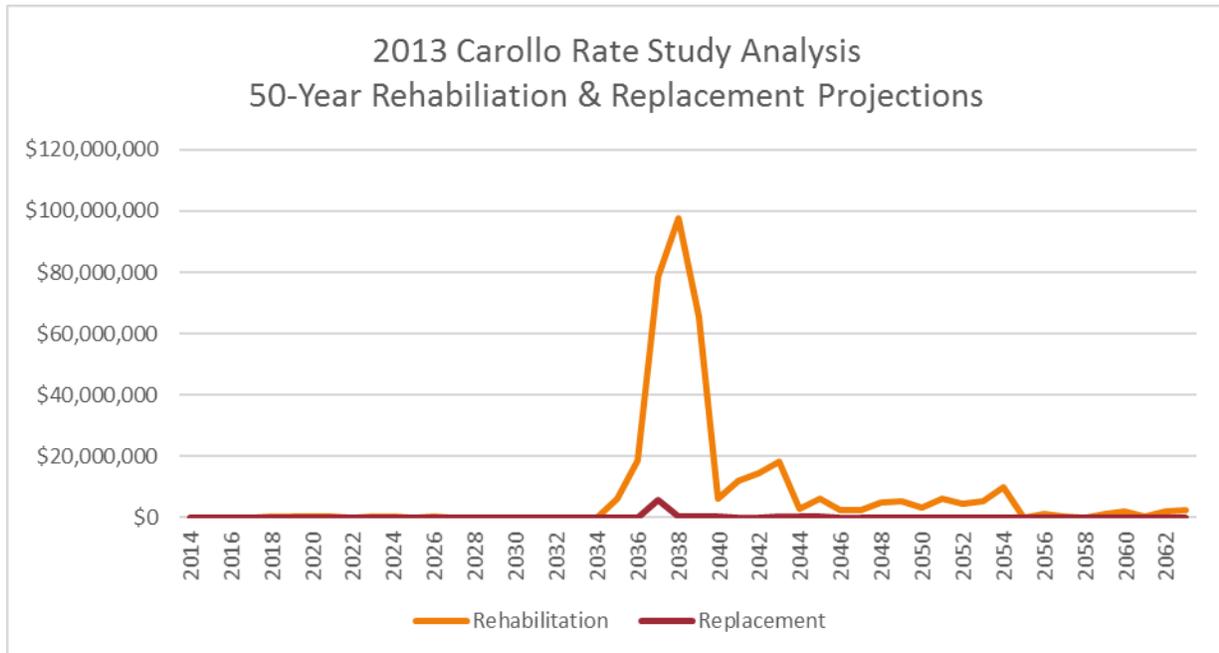
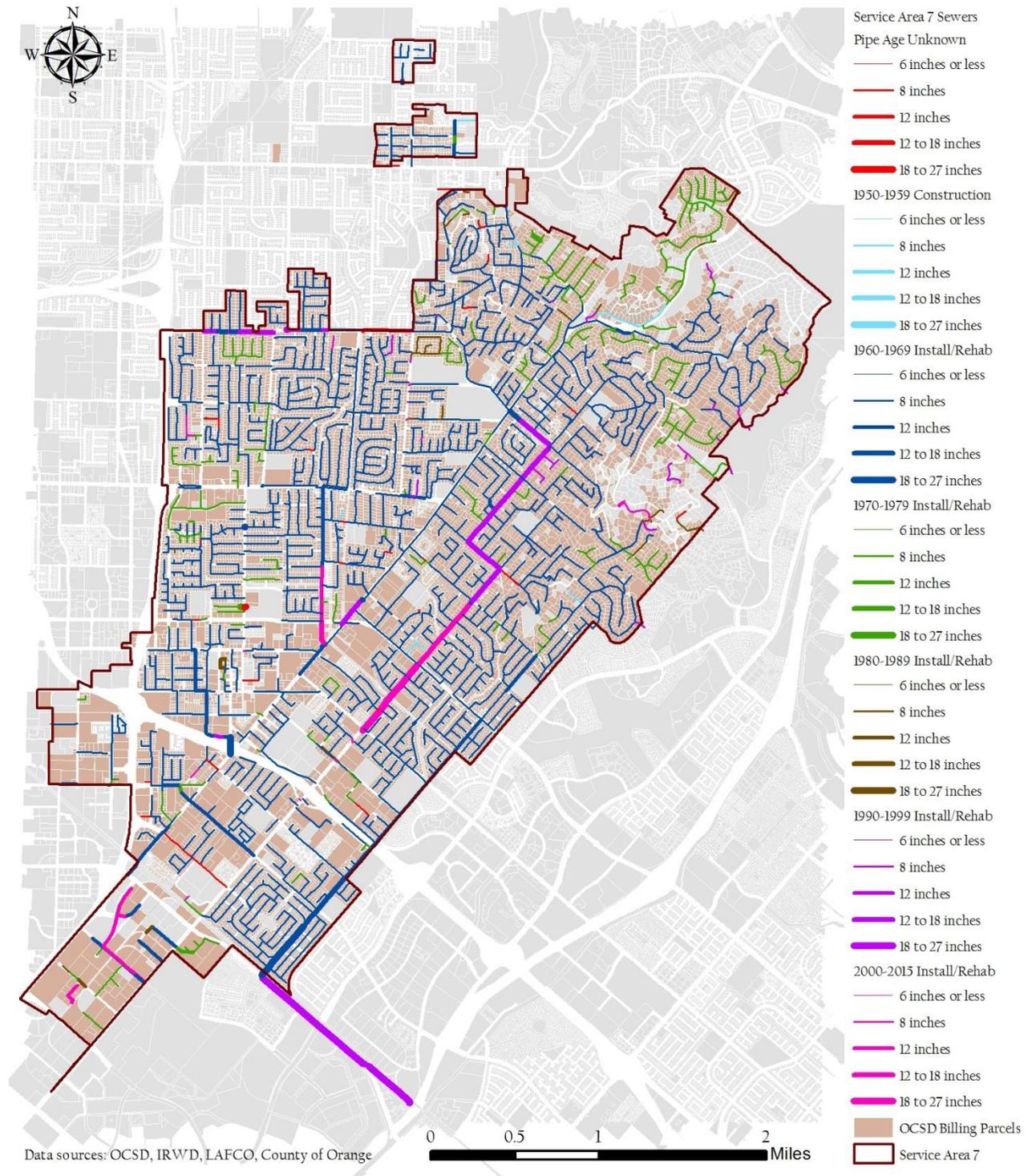


Exhibit 25 was based on a spreadsheet prepared for the 2013 Carollo Study. As noted, the OCSD Board did not approve the local sewer rates recommended by the 2013 Carollo Study and continues to rehabilitate and replace pipes as needed and is continuing to fund the capital reserve fund with revenues generated in the service area. The District accounts for revenues and expenditures within OCSD Service Area 7 separately from other financial activity within its Financial Information System. OCSD Service Area 7 Capital Replacement Reserve is tracked through spreadsheets and adjusted annually from the District’s current year’s surplus or deficit.

OCSD staff maintains detailed data on the sewer pipelines in OCSD Service Area 7. The database is updated as the infrastructure is replaced or rehabilitated. **Exhibit 26**, below, depicts the infrastructure in Service Area 7 by the decade of installation or rehabilitation and by size of the pipe. The vast majority of the sewers is depicted in dark blue and represent sewer lines that are 8-inches or less and were installed in the 1960s, coinciding with the residential development in the area. The data on the pipe diameters and dates for installation and rehabilitation completed was provided by OCSD. The data depicted in the map represents the most current data on Service Area 7 available.

EXHIBIT 26: SERVICE AREA 7 SEWER INVENTORY



During the review of OCSD's infrastructure assets by EOCWD in 2013, the Browning Avenue Sub-trunk was identified as potentially in need of upgrade in the event of a major wet weather event. The Browning Avenue Sub-trunk is a local sewer asset that is located along the eastern border of OCSD Service Area 7. OCSD is completing a study of the Browning Sub-trunk in an effort to determine the necessity and scope of a future project to increase capacity; however, the preliminary study results are inconclusive and indicate that additional data is necessary to make an informed decision regarding whether or not this facility needs to be upsized. OCSD plans to conduct a system-wide capacity study that will include collecting the data necessary to determine the future modifications, if needed, to the Browning Sub-trunk in the next three years.

In the interim, OCSD has delayed the capital improvement project until 2022. This project was identified during a master planning effort completed in 2006 in which OCSD directed the consultant to utilize conservative guidelines to identify potential capacity issues. Since 2006, OCSD has conducted further study on numerous projects initially identified in the master planning effort and the more detailed analysis have indicated that the original projects were not necessary to meet OCSD service standards.

Financing Emergency Response

The District finances its emergency response, minor spills and major spills, through its operating budget. If there was a major system failure, OCSD would finance the repairs from its Service Area 7 local sewer reserve account.

Sewer Service Fees

The property taxes received by OCSD for local sewer service in Service Area 7 are insufficient to fund annual operations and maintenance in the area. Accordingly, from 1985 to 2008 (when the District adopted the local sewer fee), the local sewer service to Service Area 7 customers was subsidized by the regional rate payers. The District had not established a reserve account specific to the rehabilitation and replacement of the local sewer infrastructure. In 2008, the OCSD Board of Directors adopted Ordinance No. OCSD-38 (***Appendix J***) establishing local sanitary sewer service charges for residential and commercial customers receiving local sanitary sewer service in former Revenue Area 7 (OCSD Service Area 7). The ordinance established the fee for FY 2008-2009 with an increase for each of the following four years (***Exhibit 27***). Appendix J also includes the service fees for commercial customers. The Plans for Service submitted by EOCWD and IRWD focused on residential customers which is also the focus of this MSR. However, it should be noted that the projected sewer service fee revenues submitted by EOCWD and IRWD were based on 10 percent and 50 percent reductions respectively for all local sewer service fees (i.e., single family, multi-family, and commercial). According to billing data provided by OCSD, while the commercial connections account for only 8 percent of the local sewer billing accounts, they make up approximately 41 percent (\$2.5 million in FY 2014-15) of the revenues generated from local sewer service fees.

EXHIBIT 27: OCS D LOCAL SEWER SERVICE FEES (ADOPTED 2008)

	FY 2008-09	FY 2009-10	FY 2010-11	FY 2011-12	FY 2012-13
<i>Single-Family Residential</i>	\$199	\$204	\$208	\$212	\$216
<i>Multi-family Residential</i>	\$139	\$142	\$145	\$148	\$151

The current cost of local sewer service to Service Area 7 single-family residential units is \$216 per year. The annual fee for OCS D regional collection and treatment is \$316. The fees are collected through the annual property tax bill. On a five-year cycle, OCS D reviews the condition of local and regional infrastructure as well as local and regional sewer service rates to ensure adequate long-term financing of both O&M and capital rehabilitation and replacement of the entire system.

While the 2013 Carollo study noted that OCS D’s local sewer services fees were among the highest in Orange County, it was largely attributed to the District’s use of the capital “sinking” fund and cash (pay-as-you-go) approach to long-term capital financing rather than debt-fund replacement needs. Carollo recommended that the District increase local sewer service fees by 4.8 percent in FY 2013-14 (to \$226.50) and by 2.4 percent thereafter through FY 2020-21, commensurate to the regional user-fee increases. The 2013 Carollo Study noted, “During the next rate adjustment cycle beginning in FY 2012/22, it will be critical for the District to reexamine the funding requirements based on better-known information at that time.”

In February, 2013 the OCS D Board approved the rate increase for the regional sewers, but did not adopt the rate increase for the local sewers as recommended in the Carollo study. However, the Board did subsequently approve the continuation of the FY 2013-14 single-family rate of \$216. Carollo acknowledged that the District would be able to continue with the current rate structure and utilize debt financing for future capital replacements.

EAST ORANGE COUNTY WATER DISTRICT

The East Orange County Water District (EOCWD) was established in 1961 to furnish imported water to the area. The District assumed retail water service within a small portion of its service territory in 1985, but has not provided sewer service. Since the District is not authorized to provide sewer service, the proposal to assume local sewer service responsibility for Service Area 7 requires the activation of the District’s latent power to provide sewer service. The EOCWD proposal also includes annexation of additional territory not currently within the District’s boundary and amendment to the District’s sphere of influence. OC LAFCO’s review of the Plan for Service for the activation of latent powers is critical because OC LAFCO is statutorily

prohibited from approving the activation of a latent power unless the Commission determines that the special district will have sufficient revenues to carry out the new service.

Prior to the submittal of its application and Plan for Service to LAFCO, EOCWD and OCSD approved a Transfer Agreement on February 27, 2014 that memorialized the agreement the two agencies had negotiated for the transfer of the sewers to EOCWD. The District’s proposed Plan for Service proposes a ten percent reduction in the current annual local sewer fees that would remain unchanged over a 20-year period. The Plan for Service also provides that the current service levels provided by OCSD staff and contractors will be maintained by EOCWD. The EOCWD Plan for Service includes annual transfers from the District’s operating account to its reserve account for infrastructure rehabilitation and replacement, which is similar to the process used by OCSD involving the sinking fund.

Current Financial Condition of EOCWD

The District’s Total Net Position (formerly Fund Balance) stands at \$18,620,924 as of June 30, 2014. Of that total, \$10,347,952 are Net Investment in Capital Assets and \$8,272,972 are Unrestricted Funds (formerly Unrestricted Fund Balance). Of the Unrestricted Funds, the \$6,314,225 belong to the Wholesale Zone Fund and \$1,958,747 belong to the Retail Zone Fund. These funds are the source of the District’s various Reserve Funds.

The District currently carries no debt for either past or current capital improvement projects, therefore no funds for debt repayment or for Restricted Reserve Funds are necessary at this time. The District prefers to use pay-as-you-go financing for replacement and capital improvement, restricting debt uses for circumstances where multi-generational benefits are obtained.

Pursuant to Resolution 732 Reserve Fund Policy, the District maintains within each of the enterprise funds (Wholesale Zone and Retail Zone) an Operating Reserve Fund (OR), an Emergency/Contingency Reserve Fund (EC), and a Replacements and Capital Improvements (RCI) Reserve Fund. The Wholesale and Retail Reserve Funds presented in Exhibit 28, below, are based on EOCWD’s Reserve Policy.

EXHIBIT 28: EOCWD RESERVE FUNDS

Reserve Fund	Balance at 6/30/14
Wholesale Zone Operating	\$1,200,000
Wholesale Zone Emergency/Contingency	\$314,225
Wholesale Zone Replacement & Capital Improvement	\$4,800,000

Reserve Fund	Balance at 6/30/14
Subtotal Wholesale Zone Reserves	\$6,314,225
Retail Zone Operating	\$320,000
Retail Zone Emergency/Contingency	\$138,747
Retail Zone Replacement & Capital Improvement	\$1,500,000
Subtotal Retail Zone Reserves	\$1,958,747
Total Wholesale & Retail Reserves	<u>\$8,272,972</u>

The District recently updated the Master Plans for both the Wholesale Zone and the Retail Zone. A 25-Year Capital Improvement Plan was identified. For FY 2015/16, the CIP for the Wholesale Zone totals \$2,680,000 and the CIP for the Retail Zone totals \$1,774,000. The District anticipates using Replacement & Capital Improvement Reserve Funds to fund all of the Wholesale Zone CIP. Retail Capital Improvement funds will also fund \$500,000 of the Retail Zone CIP, with the balance of the Retail Zone CIP (\$1,274,000), along with some future years' (FYs 2016/17 and 2017/18) capital improvements (\$3,000,000), will be funded using either the California Infrastructure Bank or the California Special Districts Association Finance Corporation. The District is choosing to use debt for the primary purpose of replacing one of its groundwater wells; the new well would have a service life of over 80 years (consistent with the current wells). The District has also informed OC LAFCO staff of a proposed water rate increase to address the potential fiscal impacts of the drought and a Feasibility Study scheduled for completion by September 2015 that would evaluate options for reconstruction of its water treatment plant. At this time, it is not clear the extent to which these actions may potentially impact the District's financial ability to provide local sewer service to OCSD Service Area 7.

Proposed Level of Service

The procedures and standards of care for the day-to-day operations and maintenance for a sewer collection system are documented in the agency's Sewer System Management Plan (SSMP). In preparation of the potential assumption of local sewer service for Service Area 7, EOCWD prepared a draft SSMP. The draft plan is based on OCSD's current SSMP and is included as **Appendix K** to this report.

EOCWD's SSMP generally proposes the same service levels as currently provided by OCSD in accordance with OCSD's Sanitary Sewer Management Plan (SSMP). However, the District has indicated it has the ability to respond faster to sewer spills and complaints than OCSD due to the proximity of EOCWD's headquarters and key technical staff. OCSD staff is currently dispatched from the District's headquarters located in Fountain Valley. In contrast, EOCWD staff would be

dispatched out of EOCWD’s headquarters located near OCSD Service Area 7 in the City of Orange. EOCWD staff is also exploring leasing or purchasing property adjacent to the District’s headquarters to locate sewer systems operations. The associated costs for leasing or purchasing additional facilities and land, and any related budgetary impacts are included in the District’s proposed operating budget within the Plan for Service.

In addition to the continuation of OCSD’s contractual arrangement for standard operation and maintenance of the system, EOCWD is proposing additional staff to support the new operations. EOCWD staff would provide “hot spot” cleaning and other routine maintenance of the system, maintenance of easements and rights-of-way, customer service and rapid spill response. In addition to the items listed, the additional staff would also provide assistance to the Superintendent in oversight of the contract cleaning firm. Proposed O&M activity for OCSD Service Area 7 by EOCWD is depicted in **Exhibit 29**, below.

EXHIBIT 29: EOCWD PROPOSED O&M ACTIVITY

EOCWD Proposed Activity	O&M Frequency	Benchmark Comparison (OCSD Service Levels)
<p>Sewer Line Cleaning <i>EOCWD proposes to continue the OCSD approach of a combination cleaning trucks capable of hydraulically washing the pipe wall followed by vacuum removal of the sewer debris at the next downstream manhole.</i></p> <p><i>EOCWD’s plan for service proposes the continuation of OCSD’s existing service contract with Performance Pipelines Technology.</i></p>	<p>12-18 month depending on the zone (High risk areas on 12-month cleaning schedule, while lower risk areas are on an 18-month schedule)</p> <p>Certain enhanced maintenance areas are cleaned weekly, monthly, quarterly, or in six or nine month periods, as necessary, to prevent blockages.</p>	<p>No change</p>
<p>Sewer Line Inspection <i>Closed Circuit Television inspection of Pipe (CCTV) conducted in accordance with National Association of Sewer Service Companies (NASSCO) standards. EOCWD’s Plan for Service proposes continuation of OCSD’s existing service contract with ProPipe.</i></p>	<p>According to OCSD staff, on a 5-year schedule, OCSD’s current target for Service Area 7 local sewers is to budget for and inspect 20 percent of the system each year.</p>	<p>No proposed change in frequency. EOCWD proposes to incorporate electromagnetic scanning of pipes to improve condition assessment.</p>

EOCWD Activity	Proposed O&M Frequency	Benchmark Comparison (OCSD Service Levels)
Emergency Response	Proposed 20-minute response.	Improved response time by 67 percent. (EOCWD sewer technicians would perform this activity and would be required to live in the District’s boundary)
Fats, Oils, and Grease (FOG) Control Program <i>Draft FOG program specifies permits for Food Service Establishments (FSEs) discharging into sewers.</i>	Cleaning of the grease interceptors required every 6 months. District to perform routine inspections of FSEs.	No change. EOCWD plans to contract with retired OCSD Engineer for specialized regulatory services and would use existing staff to administer program.
Manhole Inspection Program	5-year schedule according to EOCWD draft Preventative Maintenance program in SSMP	No change
Audit of SSMP	2-year interval	No change
Engineering Condition Assessment Services	5-year interval	No change
Financial consulting service for rate setting	5-year interval	No change
Pipe and Manhole Rehabilitation	As needed	No change
Root foaming and manhole pesticide treatments	An needed	No change
Manhole Frame and Cover Replacements	As Needed	No change
Sewer pipe replacements	As needed	No change
Dig Alert (Underground Location Services)	As needed	No change

Proposed Service Delivery Methods and Financing

While certain O&M services will continue to be outsourced (i.e., sewer line cleaning and CCTV), existing and new EOCWD staff will be used to perform certain activities and will be responsible for responding to SSOs and customer complaints and questions. The District has already begun required training for certain existing staff and anticipates hiring new staff. Based on the District’s analysis, **Exhibit 30**, below, summaries the staffing and equipment for each of the major operations and maintenance functions required to serve Service Area 7.

EXHIBIT 30: EOCWD PROPOSED STAFF AND EQUIPMENT REQUIREMENTS

Function	Service Area 7 Staffing Requirements	New Equipment
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Hot Spot Cleaning & Routine Maintenance	\$142,000/yr.	2 New Staff	OCSD to transfer a Sterling Vactor and Volvo Hydroflusher truck
Sewer Line Cleaning	\$380,000/yr.	Contractor	-
CCTV Inspection	\$70,000/yr.	Contractor	-
FOG Control Program	\$12,000/yr.	Staff/Contractor	-
Root Control	\$10,000/yr.	Staff/Contractor	-
Odor Control	As needed		-
Vector Control	As needed		-

Staffing

The District is currently staffed with six full time employees and a part-time Office Assistant. Existing positions include General Manager, Superintendent, Management Assistant, Water Distribution Operator III, Water Distribution Operator II, and Administrative Assistant. The District’s General Manager, Lisa Ohlund, has 33 years of experience with the collection and treatment of wastewater divided between public (19 years) and private (14 years) sector agencies. The District contracts out for several services, including: Board Secretary, District Engineer, Project Engineer, Legal Counsel, Financial Director, Treasurer, and Accounting and Bookkeeping services.

The District proposes to add two new full-time positions and contract for specialized regulatory and field engineering services to provide additional support to existing management, field, administrative and financial services if local sewer service is assumed for Service Area 7. The two new positions include Wastewater Supervisor and Wastewater Collections Operator. Additionally, the District’s current Superintendent and two Level II Water Distribution Operators have obtained California Water Environment Federation (CCWEA) Grade I Wastewater Collections System certification. A list of training completed for sewer operations is included as **Appendix L**. The District has also identified a retired engineer with experience in Service Area 7 who is willing to provide contract assistance during a transition of local sewer service responsibility from OCSD to EOCWD. The District would also expand, as necessary, existing contracted services, such as legal and financial services.

Equipment

To perform the necessary O&M activities, the District would use existing EOCWD equipment - two large sewer maintenance vehicles (a Sterling Vactor and a Volvo Hydroflusher truck) currently owned by OCSD and included in the Local Sewer Facilities Transfer Agreement approved by EOCWD and OCSD in February 2014. The vehicles come equipped with on-board large tools and a supply of small tools. However, according to OCSD, the replacement of trucks may be required in the short-term. Additionally, the EOCWD Plan for Services provides a list of the District’s assets (**Appendix L**) currently used to maintain the wholesale and retail water systems (e.g., backhoes, jackhammers, and portable generators) that would also be used to

support sewer operations. No other equipment purchases, for routine maintenance or emergency response which may require multiple specialty vehicles and by-pass equipment, are specifically referenced in the Plan for Services or are accounted for in the District's proposed operating budget.

Facilities

The District has also informed LAFCO that it is looking into leasing land adjacent to the District's headquarters and purchasing a construction trailer to house sewer operations. The associated costs for the additional facility, equipment, utilities and communications are included in the District's proposed O&M budget.

Emergency Response

Based on discussions the District had with OCSO staff, EOCWD determined that two full-time personnel would be hired within three months of assuming sewer service. The new personnel, which include one wastewater supervisor and one wastewater distribution operator, would provide several routine services (i.e. "hot spot" cleaning, inspection and maintenance of easements) as well as customer service and rapid spill response. The District has noted that the new personnel would be required to have 5-10 years of experience and live within the District's service boundary to be able to respond to emergencies within the 20-minute response time.

EOCWD submitted a draft SSMP as part of the District's application to assume local sewer service which included a draft Emergency Response Plan. Recognizing that this is an important issue, EOCWD also provided the following information about how the District would respond to minor, major, and catastrophic sewer system emergencies:

Equipment to assist in the containment, control, elimination and cleanup will be readily available on sewer vehicles and associated equipment as well as being stocked in the District's sewer yard. The emergency procedures and equipment for a minor spill would typically include: the first responder (standby person) setting containment, assessing/surveying the situation, determining whether the spill reached a drainage structure or surface body of water, and documenting information using the District's computerized maintenance management system. Further assessment includes evaluating the situation (determining the source and responsibility of the spill), troubleshooting the source (typically a blockage), calling for the District's Vactor crew, making required immediate notifications to regulatory agencies as well as District management staff, and assisting the Vactor crew with traffic control so that they could set up at the first (non-spilling) manhole downstream and run the nozzle to clear the blockage, vacuum debris and wash-down and vacuum the spill area. Containment materials would then be removed and discharged into the regional system. Subsequently, the condition of the pipe segment would be assessed by CCTV.

During the post spill event, the "Legally Responsible Official" (District Engineer) would prepare and submit the report package (field report, sketches, photos, maps, spill

calculations and pertinent email) for a Category 2 or 3 spill through the California Integrated Water Quality System Project (CIWQS) within the required time period. District staff would then review the response and determine post-spill actions. If the cause is a blockage, staff will ascertain whether it was a one-time event (e.g., construction debris/vandalism) or a recurring event (e.g., roots or grease). If recurring, the spot would be added to the “hot spots” listing and additional measures, such as investigating if a commercial discharger were the cause of the SSO. If non-recurring, an investigation would ensue to attempt to determine the cause.

For a major spill, the same standard and emergency response procedures used for a minor spill would be employed, however, upon arrival, the first responder may determine that assistance beyond the available District forces may be necessary. Through the use of an on-call agreement with the private contractor that provides routine cleaning services and/or mutual aid from the City of Orange or Yorba Linda Water District, or a construction contractor if necessary, the first responder would be authorized to mobilize any of these resources. The tablet computers and smartphones used by District personnel contain the “In Case of Emergency” computer application that contains the Emergency Plans and contact information for Water Emergency Response Organization of Orange County (WEROC) and California Water/Wastewater Agency Response Network (CalWARN). WEROC coordinates and supports emergency response to a major disaster on behalf of all Orange County water and wastewater agencies. The mission of CalWARN is to support and promote statewide emergency preparedness, disaster response, and mutual assistance processes for public and private water and wastewater utilities. In the event of a power outage, each vehicle would contain paper copies of the standard and emergency spill response procedures.

A major spill would require that specific notification be immediately made to local and state regulatory agencies. Regulators would be informed of the agency reporting the spill, contact information for the spill reporter, the start and stop time for the spill, containment information, volume of spill (contained and lost), cause of spill, final destination of sewage and the notifications that are being made. Staff would obtain samples from the receiving waters and take the samples for analysis to the District’s contract laboratory. If the spill occurs after hours, District staff would employ preservative methods until the contract laboratory was available. The District’s contract media representative would be notified to address media inquiries and/or prepare briefings.

District staff would prepare and submit the Category 1 spill report package in a draft form into the California Integrated Water Quality System (CIWQS) within three days of the spill event. In the event this system is not functional, it must be faxed into the Santa Ana Regional Board’s office according to the time schedule and then entered into CIWQS when the system is functional again.

The same after-spill review procedures by the District would occur as with the minor spill, however, outside responding agencies and contractors would be requested to send personnel for the debriefing. This information would be recorded and added to the record to: 1) learn from the event; 2) substantiate any requests for information from regulatory agencies and, 3) potentially mitigate any regulatory enforcement actions that may be taken.

In the event of a major system failure, as noted previously, after securing our administrative facilities and ensuring safe and sanitary conditions during the first hours after the event, the District would implement its Disaster Emergency Plan (including its Business Continuity Plan that has provisions in the event the banking system is down). District staff would be employed to survey the system and assess its ability to functionally operate. In the event the system is damaged to the extent it will be down for weeks or months, resources will be employed to locate and place portable sanitation facilities in strategic locations and/or assist residents with employing methods for the safe disposal of wastes on their property/collection sites.

Financing Operations and Maintenance

OC LAFCO is required to review the financial ability of agencies to provide services. In this case, the review is framed in state and federal requirements that were established to ensure that sanitary sewer system operators have established fee levels to ensure for the financial sustainability of daily O&M and long-term capital rehabilitation and replacement and emergency response. Many of the O&M service responsibilities in Service Area 7 are contracted to private companies. The primary driver of long-term costs is based on the assessment of Service Area 7 long-term rehabilitation and replacement of the system. For EOCWD, rehabilitation will include using techniques and/or materials that: (1) stop the deterioration of an asset, (2) restore structural integrity if needed, and (3) generally extend the useful life of an asset without replacing the actual asset, at the lowest life-cycle cost and acceptable risk level.

EOCWD has stated that it will conduct a condition assessment and Master Plan Update during the first year of operation consistent with the principles of “Effective Utility Management” (EUM) and the “Core Attributes of Effectively Managed Wastewater Collection Systems.” Based upon the outcome of that study, a 25-year Capital Improvement Plan will be developed. EUM principles provide that the maintenance and enhancement of all assets over the long-term should be done at the lowest possible life-cycle cost and acceptable risk consistent with customer, community and regulator-supported service levels, growth and system reliability goals. To the extent that it is consistent with these principles, EOCWD will pursue rehabilitation, using cured-in-place-pipe and other similar, tested technologies, to rehabilitate and extend the useful life of system assets. In those instances where replacement of assets is necessary, EOCWD plans to do so through the most non-disruptive methods, employing pipe-bursting, tunneling or any other appropriate methods, to mitigate disruptions to traffic and avoid cutting into streets.

According to the data provided by EOCWD, the District’s annual O&M will be approximately \$750,000. Over the past six years OCSD operating expenses have averaged \$1.02 million. As previously noted, the actual operating expenses are likely to be higher than that six year average due to “miscoding” of expenses to the regional system. It is also important to note that OCSD’s annual O&M expenses include rehabilitation activities which are accounted for as capital reserve expenses by EOCWD and IRWD. For example, EOCWD has projected approximately \$380,000 in expenditures for FY 2016-17 in the District’s proposed Sewer Capital Improvement and Reserve Fund for a total projected expenditure of \$1.13 million in O&M and Capital during FY 2016-17. The District’s proposed Operating Budget for FY 2015-16 through FY 2019-2020 is presented in **Exhibit 31**, below.

EXHIBIT 31: EOCWD PROPOSED OPERATING BUDGET

EOCWD PROPOSED OPERATING BUDGET 2016 (PARTIAL) THROUGH 2020						
		2016*	2017	2018	2019	2020
REVENUE						
SEWER SERVICE FEES		\$ 3,933,560	\$ 5,244,747	\$ 5,244,747	\$ 5,244,747	\$ 5,244,747
PROPERTY TAX REVENUE		\$ 176,250	\$ 235,000	\$ 235,000	\$ 235,000	\$ 235,000
TOTAL REVENUES		\$ 4,109,810	\$ 5,481,764	\$ 5,481,765	\$ 5,481,766	\$ 5,481,767
EXPENSES						
SALARIES & BENEFITS		\$ 90,075	\$ 142,500	\$ 149,625	\$ 157,106	\$ 164,962
GENERAL ADMIN & OVERHEAD		\$ 64,494	\$ 75,875	\$ 79,669	\$ 83,652	\$ 87,835
PROFESSIONAL SERVICES		\$ 26,010	\$ 30,600	\$ 32,130	\$ 33,737	\$ 35,423
CONTRACT CLEANING SERVICES		\$ 285,000	\$ 380,000	\$ 390,640	\$ 401,578	\$ 412,822
CCTV INSPECTION		\$ 50,000	\$ 70,000	\$ 71,960	\$ 73,975	\$ 76,046
REPAIR/MAINTENANCE		\$ 35,000	\$ 50,000	\$ 51,400	\$ 52,839	\$ 54,319
TRANSITION SERVICES		\$ 55,000				
SUBTOTAL EXPENSES		\$ 605,579	\$ 748,975	\$ 775,424	\$ 802,887	\$ 831,407
TRANSFER TO RESERVES		\$ 3,504,232	\$ 4,732,789	\$ 4,706,341	\$ 4,678,879	\$ 4,650,360
TOTAL EXPENSES		\$ 4,109,810	\$ 5,481,764	\$ 5,481,765	\$ 5,481,766	\$ 5,481,767
*2016 TRANSITIONAL YEAR AND ONLY INCLUDES PARTIAL DATA						

Actual detailed operating budgets would be developed during the transition year and future years. The proposed budget information, presented in **Exhibit 31**, is based on the assessment of EOCWD staff and their review of OCSD records and service levels. The salaries and benefits listed in the operating budget include two new positions (Wastewater Maintenance Supervisor and Wastewater maintenance Operator II) that would be hired by the District to operate the sewer system.

General administration and overhead costs account for other salaried employees that would provide services across the retail, wholesale, and sewer operations as well as miscellaneous costs (i.e., electricity, phones, etc.). Professional services include the costs associated with expansion of various ongoing contracted services (i.e., legal, engineering, accounting) to include sewer service operations. The sewer cleaning and CCTV services are currently contracted to a single operator, and the proposed FY 2016-2017 budget amount for these services is the same as the OCSD's current contract for these services. The repair and maintenance expense covers various equipment and tools as well as any needed pest control and root foaming services.

EOCWD proposes to reduce expenditures and provide increased service for Service Area #7 through a combination of reduced overhead and labor costs as well as performing certain contracted services in-house. The District provided the following information to describe how expenditures would be reduced.

EOCWD has noted that the costs that OCSD charges to the local sewers have varied significantly over the years. For purposes of this discussion, EOCWD compared the District's proposed full year cost of service (\$748,975) to OCSD's 2009/2010 actual expenditures of \$1,039,967 – a difference of \$290,992.

OCSD uses a combination of administrative and field personnel, as well as contract services, to operate Service Area 7. While EOCWD proposes to continue to contract with Performance Pipeline Technologies to provide regular cleaning to the 170 miles of sewer pipe; the District does not propose to continue to use them to perform hot spots cleaning (at an estimated savings of \$150,000). Additionally, OCSD contracts for traffic control with California Barricade, and EOCWD would provide those services in-house (estimated savings of \$50,000). EOCWD also estimates that there are approximately \$75,000 of manhole frame and cover replacements that have been completed and are no longer necessary. The District has budgeted \$5,000 for manhole frame and cover replacement. Finally, EOCWD proposes to provide two full-time field employees as well as overhead and professional services at an estimated annual savings of \$21,806.

As shown in the summary below, EOCWD estimated a savings of approximately \$286,806 per year.

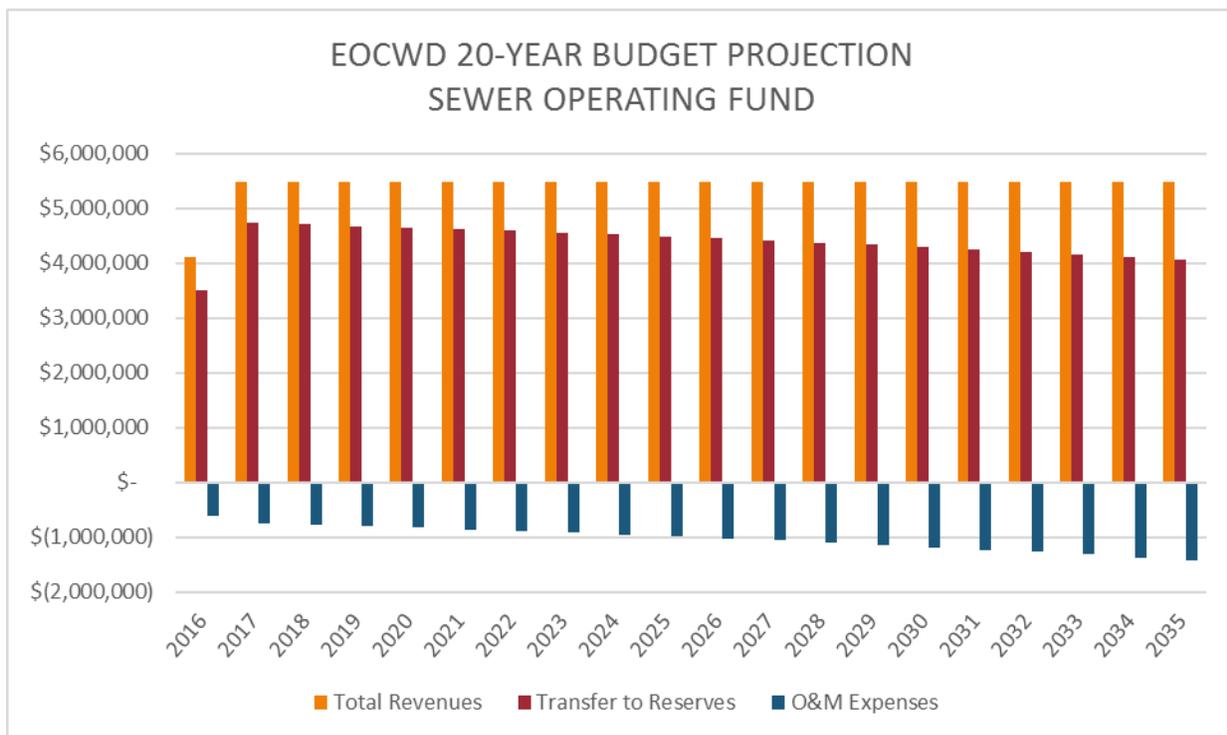
OCSD Labor/Services Costs	Cost	EOCWD Labor/Services Costs	Cost
OCSD Wages & Benefits (Part-time services including emergency response plus overhead & professional services)	\$270,781	EOCWD Proposed Wages & Benefits (Full Time Field plus overhead & professional services)	\$248,975
Hot Spots Cleaning (Estimated)	150,000	Hot Spots Cleaning & Emergency Response (Included in regular services)	0
Traffic Control	50,000	Traffic Control (Included)	0
Manhole Frame/Covers	<u>70,000</u>	Manhole Frames & Covers	<u>5,000</u>
Total	<u>\$540,781</u>		<u>\$253,975</u>
Net Savings			<u>\$286,806</u>

The anticipated reduction of O&M expenses proposed by EOCWD would result in a transfer of approximately \$4.7 million to reserves beginning in 2017. To determine the adequacy of the current rates to cover inflationary increases in the costs of goods and services, the District included the following assumptions in its projections for the Sewer Operating Fund:

- Sewer service charge revenue (inclusive of the 10 percent reduction) remains unchanged for 20 years
- Property tax revenue is unchanged over the 20 year period
- Personnel/contract service costs increase at an annual rate of five percent per year
- Materials and other goods and service escalate at a rate of 2.8 percent each year
- No regulatory changes or other compulsory changes

Exhibit 32 includes data from the District’s proposed Operating Budget (*Exhibit 30*) and represents the total projected revenue over the 20-year period along with anticipated annual expenditure and reserve transfer amounts. The District’s proposed 20-year budget projections included 2016 as a transitional year with EOCWD providing service three-quarters of the year. Total revenues (depicted in orange) are projected to remain static over the 20-year period. The annual transfer to reserves (depicted in red) reduces each year as the costs for O&M services (depicted in blue) increase slightly due to assumed annual increases in contracted services and materials costs.

EXHIBIT 32: EOCWD 20-YEAR BUDGET PROJECTION - SEWER OPERATING FUND



The projected transfer to reserves is approximately \$200,000 less than the six-year average of reserve transfers by OCSD from 2008 to 2014. As previously stated, OCSD has acknowledged “miscodings” that may underestimate the actual local sewer service expenditures making it challenging to accurately predict the impact of EOCWD’s proposed O&M budget on the accumulation of reserves.

Financing Capital Rehabilitation and Replacement

EOCWD's analyzed prior studies completed by OCSD to assess the condition of the OCSD Service Area 7 sewer system. The District noted the inconsistencies in reporting and the actions taken by OCSD Board and staff regarding the increased funding of reserves recommended in the 2013 Carollo Study and ongoing rehabilitation and replacement of the system. EOCWD proposes to finance ongoing rehabilitation through its capital reserve fund as well as accelerated funding of the reserves to finance future capital outlay for system replacement.

Additionally, EOCWD hired Richard Brady & Associates (Brady), an engineering consulting firm, to perform an independent assessment of the condition of the Service Area 7 prior to submitting the application to OC LAFCO. Brady reviewed information provided by EOCWD and OCSD staff and, while noting one trouble spot for further investigation, determined that the system was well constructed and maintained and that there are no capital repairs/replacements or rehabilitations in excess of \$500,000 required within the next few years. However, the firm recommended continuation of the ongoing cured-in-place-pipe (CIPP) lining and manhole rehabilitation projects (*Appendix M*).

EOCWD acknowledged the broad discrepancy between the 2007 GHD estimate of \$350 million and OCSD’s internal estimate of \$150 million. The District indicated its intent to complete a master plan and condition assessment of the sewer system, similar to the assessment currently underway for the District’s wholesale and retail water systems. The information developed in the condition assessment would be incorporated into the District’s future budget and rate setting process and would include either a Proposition 218 process (required for a rate increase for Service Area 7 ratepayers), or if reducing rates, an update to the costs of service analysis.

To finance the long-term capital rehabilitation and replacement, the District proposes to establish a new Sewer Zone. Similar to OCSD’s current approach to long-term capital rehabilitation and replacement, EOCWD’s Plan for Service includes an annual transfer from the Operating Budget to the Sewer Capital Improvement & Reserve Fund. The transfer will enable the District to support ongoing operations and maintenance while establishing the reserves necessary for long-term capital outlays. *Exhibit 31*, below, depicts EOCWD’s Sewer Capital Improvement and Reserve Fund for the first five years of operations.

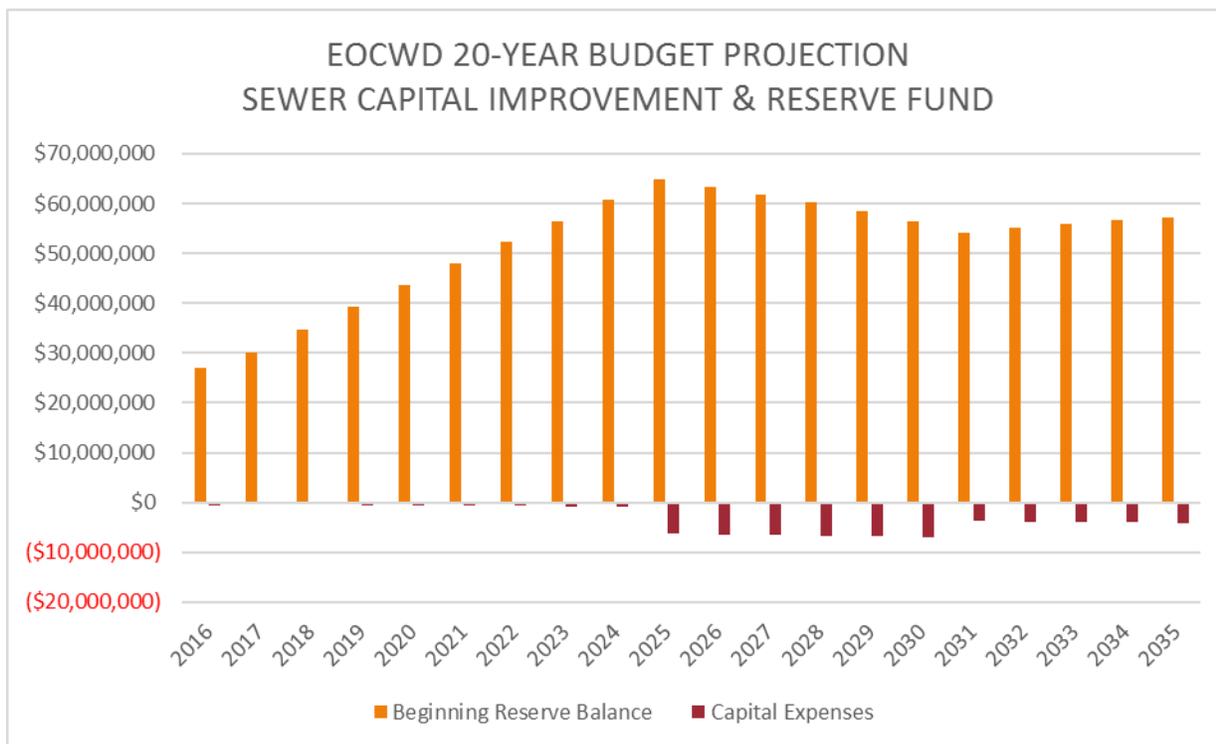
EXHIBIT 33: EOCWD PROPOSED CAPITAL IMPROVEMENT & RESERVE FUND

EOCWD PROPOSED SEWER CAPITAL IMPROVEMENT & RESERVE FUND					
2016* (PARTIAL) THROUGH 2020					
	2016*	2017	2018	2019	2020
REVENUE					
BEGINNING RESERVE BALANCE	\$27,085,745	\$30,203,162	\$34,761,577	\$39,268,511	\$43,646,963
TRANSFER FROM OPERATING FUND	\$3,504,232	\$4,732,789	\$4,706,341	\$4,678,879	\$4,650,360
INTEREST	\$180,686	\$205,625	\$242,093	\$278,148	\$313,176
TOTAL REVENUES	\$30,770,662	\$35,141,577	\$39,710,011	\$44,225,538	\$48,610,499
EXPENSES					
CIPP & MANHOLE REHABILITATION	\$62,500	\$150,000	\$200,000	\$250,000	\$250,000
SEWER REPLACEMENT					
GENERAL	\$15,000	\$15,000	\$15,750	\$16,538	\$17,364
ADMINISTRATIVE & OVERHEAD					
SALARIES & BENEFITS	\$40,000	\$40,000	\$42,000	\$44,100	\$46,305
PROFESSIONAL SERVICES	\$450,000	\$175,000	\$183,750	\$267,938	\$281,334
TOTAL EXPENSES	\$567,500	\$380,000	\$441,500	\$578,575	\$595,004
NET RESERVES	\$30,203,162	\$34,761,577	\$39,268,511	\$43,646,963	\$48,015,495
*2016 TRANSITIONAL YEAR AND ONLY INCLUDES PARTIAL DATA					

Based on historical numbers, the reserve account for OCSD Service Area 7 is estimated to be approximately \$34 million at the end FY 2014-2015. EOCWD's proposed Sewer Capital Improvement & Reserve Fund includes a beginning reserve balance of \$27,085,745 million. It is important to note that EOCWD's proposed Sewer Capital Improvement & Reserve Fund reflects the total transfer of OCSD Service Area 7 reserves minus approximately \$7 million. The \$7 million reduction in the reserves was made to account for a potential \$5 million capital improvement project that is currently being studied by OCSD and \$2 million that may be used by OCSD to account for the staff costs associated with the transfer and potentially for costs that were incurred by OCSD, but not charged to OCSD Service Area #7 due to accounting errors in prior fiscal years. LAFCO has requested that the District's accounting for this area be updated to more accurately reflect the transfer of reserves as part of the District' Plan for Service. The Sewer Facilities Transfer Agreement (**Appendix N**) executed by EOCWD and OCSD indicates that the entire reserve account for the OCSD Service Area 7 would transfer to EOCWD upon the effective date of the proposed reorganization.

The annual transfer from the O&M fund to the Sewer Capital Improvement & Reserve Fund begins at approximately \$4.7 million in FY 2017 and decreases by an annual growth factor of 2.8 percent each year over the 20-year period to approximately \$4 million by 2035. The reduction in the transfer to reserves is due to the assumed annual increases in staff salaries (five percent) and contract services (2.8 percent). According to the projections, the reserve amount will achieve a balance of \$64.7 million in 2024. In 2025, the District's proposed capital budget begins to allocate \$5 million a year on sewer replacement for six years and then projected sewer replacement expenditures are reduced to \$2.5 million for the following five years. While this pattern is representative of a typical sinking fund, the District's Plan for Service did not provide the analytical basis for the determination of sewer replacement program. The EOCWD 20-Year budget projection for the Sewer Capital Improvement and Reserve Fund is depicted in **Exhibit 32**, below.

EXHIBIT 32: EOCWD 20-YEAR BUDGET PROJECTION - SEWER CAPITAL IMPROVEMENT & RESERVE FUND



The 20-Year budget projections for EOCWD’s Sewer Capital Improvement & Reserve Fund provided to OC LAFCO as part of the District’s Plan for Service include long-term capital rehabilitation and replacement expenses as well as emergency repair and spill response. Capital rehabilitation and replacement expenditure categories include: (1) CIPP & Manhole Rehabilitation, (2) CCTV Inspection, (3) Sewer Replacement, (4) General Administrative and Overhead, (5) Salaries & Benefits, and (6) SSMP Audit. Major sewer replacement expenditures begin in 2025 with \$5 million per year for five years before declining to \$2.5 million for the last five years of the projections. EOCWD’s budget projections include a total of \$42 million for capital replacement over an 11-year period from 2025 to 2035. By the end of the 20-year period, the District’s Sewer Capital Improvement & Reserve Fund is projected to have a balance of approximately \$57.5 million in reserves.

EOCWD uses the enterprise fund-type of governmental fund accounting for its water operations. An enterprise fund establishes a separate accounting and financial reporting mechanism for municipal services for which a fee is charged in exchange for goods or services. Under the District’s enterprise accounting, the revenues and expenditures for the Wholesale Zone and Retail Zone are separated into distinct enterprise funds with their own chart-of-accounts and financial statements, rather than commingled with the revenues and expenses of both Zones.

As noted previously, financial transactions are reported using standards similar to private sector accounting. Revenues are recognized when earned, and expenses are recognized when incurred, under a full actual basis of accounting.

Enterprise accounting allows the District to demonstrate to the public the portions of total costs of a service that is recovered through user charges and the portion, if any, that is subsidized by tax levy or other available funds. At year-end, the performance of each enterprise fund is measured in terms of positive and negative operations.

An operating surplus is a result of revenues collected in excess of estimates and appropriation turn backs, and translates into retained earnings, or budget surpluses that are maintained in the fund rather than transferring to the general fund. The budget surpluses of each enterprise fund are certified as available funds after the completion of the annual audit. Once audited, the budget surpluses may be only used for expenditures relating to their respective fund. The enterprise fund method of accounting has served the Wholesale Zone and Retail Zone well. The enterprise enabling statute provides that the enterprise remedies may only be used for enterprise-related expenses, and the District has consistently observed this statute.

The District proposes to create a Sewer Zone Fund, and operate it in the same manner it operates the Wholesale Zone and Retail Zone Funds. Overhead costs (administrative, utilities, etc.) are allocated to each fund based upon the amount of direct labor costs that are charged to each fund; direct labor costs are allocated based upon timesheets kept by each employee.

The District's Plan for Service indicates that for ease of administration, the District would continue to maintain one checking account for the disbursement of all funds as they do now for the Wholesale Zone and Retail Zone. The new sewer replacement and capital improvement fund would operate in accordance with the District's reserve policy. The District's current policy was last updated in February 2014. The District's Reserve Policy states: "It is the practice of the District, in regards to capital expenditures, to follow a 'pay as you go' philosophy. That is, capital expenditures are funded out of the current year collections of the Capital Reserve Fund Charge and/or Capital Projects Fee for all funds. To the extent that the current year's Capital Replacement/Reserve Fees plus capital reserves are insufficient to cover the District's Five-Year Capital Improvement Program, then the District will investigate alternative funding or rate adjustments." (*Appendix O*).

The District's current policy allows for advances to be made from "any enterprise funds Capital Reserves" to meet the expenses in another enterprise fund upon the determination of the Board. In its current form, the policy leaves open the possibility of transferring to or from a new Local Sewer Service Capital Reserve Fund in the event that either of the other two water enterprise funds is insufficient to cover short-term capital needs. To ensure that funds collected for Service Area 7 are only spent for Service Area 7 expenses, the District proposes to utilize the same methods utilized for allocating revenues and expenses for the Wholesale and Retail Zones, with the exception that the District will initially establish a separate bank account for sewer

revenues and expenses. This separation of cash will ensure accuracy during the transfer of funds from OCSD to EOCWD, and will continue through the first full year of operation (potentially, two fiscal years) and associated audit. After conferring with the auditor, the District will assess the costs and benefits of maintaining separate bank accounts.

Financing Emergency Response

The primary costs involved with financing a minor or a major spill are built into the sewer operating and capital budgets. While preventative maintenance and a capital improvement plan reduce the risk of sanitary sewer overflows, spills are an expected, non-routine event. The Sewer Service Fee is the revenue for both operating and reserve funds and, barring a disaster, the District anticipates creating reserve funds to fund large scale emergency response rather than using long-term debt. Recognizing that this is an important issues, EOCWD was asked to provide the following information about how the District would finance minor, major, and catastrophic sewer system emergencies:

For a minor spill (less than 1,000 gallons and not reaching a drainage channel or surface water body), the costs involved include: staff time, training and equipment required for the response that have already been funded through current operating and capital budgets and would continue through future budgets.

For a major spill (any spill reaching a drainage channel or surface body of water regardless of size), District staff would follow the emergency response procedures for a major event. The costs for a major spill event would be similar those of a minor spill event and may also include the addition of an on-call contractor's staff to assist District staff. The costs may also include reimbursement to mutual aid personnel from the City of Orange or Yorba Linda Water District. The District would record the resources used in the computerized management system. Depending on the magnitude and duration of the spill, these costs can amount to several thousands to tens of thousands of additional dollars. The source of these funds would come from the Sewer Emergency/Contingency Reserve Fund.

Because these sewers are not pressurized, nor are there any pump stations, the cause of a major spill would most likely be debris blockage accompanied with excessive inflow and infiltration or the undermining of a sewage line due to a waterline brake. Spills in excess of 5,000 gallons (as well as reaching a surface water), are a priority violation to the State Water Resources Control Board and Santa Ana Regional Water Quality Control Board and could lead to enforcement action, including a Mandatory Minimum Penalty of \$3,000, plus \$10,000 per day of violation plus \$10 per gallon for every gallon over 1,000 gallons that reached a surface water. For a 5,000 gallon spill, this could amount to at least \$53,000.

These funds would come from Sewer Emergency/Contingency Reserve Fund, as would the funds used to investigate the cause of the spill (if not readily apparent). If the cause was structural, the source of funds for the long-term corrective action would be the Sewer Replacement and Capital Improvement Reserve Fund. It should be noted that in the event of a major spill, damage to structures or other property would be covered by the District's property and liability insurance. The District is a member of a pooled insurance authority (Association of California Water Agencies Joint Powers Insurance Authority); the property insurance deductible is \$1,000 and the liability deductible is \$10,000. Through the JPIA, the District maintains \$60 million per occurrence of property and liability coverage.

To address the financing of a major system failure, the District assumed a major system failure included two or more major spills occurring at one time, and that this occurrence would be due to causes outside the District's control (e.g., a major flood or a large earthquake). In the event of either of these events, the District assumed that it would not be the only area affected and that resources would be limited for some period of time. In this instance, the District would immediately implement its Disaster Emergency Plan.

Among the first elements of the Plan is to implement the "first-rights" agreements that it maintains with our major vendors (fuel, chemicals, pipelines and sand/gravel) that require the vendors to give us first rights to equipment and materials on hand. These agreements contain a clause that we may pay up to a 10% surcharge on materials purchased during the exercise of this clause. That additional cost would be paid from the Operating Budget or Operating Reserve Fund if relatively small, or the Sewer Emergency/Contingency Reserve Fund if larger.

The District is part of the Water Emergency Response Organization of Orange County (WEROC) and will be executing the California Water/Wastewater Agency Response Network (CalWARN) agreement in August. These resources, as well as private contractor services will be employed to assist District staff to the extent possible. Ultimately, costs for reimbursing mutual aid under these agreements and the private contractor costs would come from the Replacement and Capital Improvement Fund Reserves.

Depending upon the scale of the disaster, the District would access Replacement and Capital Improvement Reserve Funds to: (1) rapidly implement a sanitation solution that would locate and provide temporary sanitation facilities to the area, and, (2) begin the rebuilding process. The District has noted that the establishment of healthy reserve funds is important for both planned capital improvements and unplanned emergencies. Additionally, because of prior disasters, the District has developed accounting, documentation and emergency procurement and personnel policies for use during a disaster. EOCWD maintains pre-disaster maintenance records and inventories of facility

contents to support requests for reimbursement to facilitate reimbursements from federal and state sources (i.e. the Stafford Act (Federal Emergency Management Agency) or the California Disaster Assistance Act (Office of Emergency Services)). In the unlikely event that the costs of the disaster exceed the District's ability to fund repairs through the Replacement and Capital Improvement Fund and/or FEMA/OES reimbursement, the District would acquire the capital through accessing long-term debt, performing the necessary Cost of Service study to develop a financial plan, and adjusting rates through Proposition 218.

Proposed Sewer Service Fees

OC LAFCO is required to review the cost of service to the customers under Government Code Sections 56430(a)(6) and 56824.12(a)(2), which in essence ask, "How does the agency's anticipated cost of service translate into costs to the customers?" EOCWD's Plan for Service proposes to reduce the current annual single-family residential (SFR) user rate by ten percent to \$196.35/year for single family residential (from current rate of \$216) and a rate of \$137.40/year for multi-family residential (from current rate of \$151) for 20 years. EOCWD has provided proposed 20-year budgetary projections for sewer O&M and Capital Reserves based on the information provided by OCSD. However, the District's Plan for Service also includes a sewer system condition assessment to be conducted in 2016 which will provide the necessary information for the District to determine the long-term adequacy of the rates to fund O&M and the appropriate Capital Reserves funding level. OC LAFCO notes that the 2016 condition assessment and future rate setting study to be conducted by EOCWD may result in changes to the proposed rates for customers indicated in the EOCWD's plan for service.

IRVINE RANCH WATER DISTRICT

On December 9, 2014, OC LAFCO requested data from IRWD as a potential alternative service provider to the proposed EOCWD Reorganization. On March 10, 2015, the District provided a detailed response with information about the District's approach, scope and levels of service as a potential alternative. Subsequently, on March 23, 2015, the District submitted an application to OC LAFCO requesting a sphere of influence update and annexation of OCSD Service Area 7.

IRWD and Service Area 7 share a common border, and sewage from a portion of Service Area 7 flows by gravity towards IRWD. For many years, approximately 1.4 million gallons per day (MGD) of sewage has flowed from Service Area 7 into IRWD's sewer system through multiple interconnections, and then to the Michelson Plant where the sewage is treated and used for water recycling. IRWD and OCSD account for these flows according to the terms of an existing flow accommodation agreement between the two agencies. IRWD's Plan for Service for Area 7 would continue the existing flow accommodation agreement between the two agencies and assumes no changes to any current treatment arrangements or responsibilities.

Current Financial Condition of IRWD

As of May 31, 2015, IRWD's overall cash and short-term fixed income investments totaled \$270 million, of which \$265 million was unrestricted and available for various uses including emergency repairs. The District maintains sufficient cash and reserves to handle all of its financial commitments. Capital funding is generated primarily from user rates, property taxes, and developer fees.

IRWD typically finances its larger capital projects using bond fund proceeds often at low interest rates. For example, the District's overall interest rate averages 3.4% due to IRWD's credit ratings, which are AAA for Standard and Poors (S&P) and Fitch and Aa1 for Moody's. The District has strong debt service coverage projections, estimated to range from 4.0 times up to 6.5 times coverage for the next five years. (Coverage is defined as the net annual revenue divided by annual debt payments.)

Significant current capital projects include IRWD's Biosolids and Energy Recovery Project with an estimated cost of approximately \$200 million and the Baker Water Treatment Plant (a multi-agency project owned and constructed by IRWD) with IRWD's share of the expected costs estimated at \$22 million. Both projects are approximately 50% complete, and are being financed through a combination of cash, connection fees, and future debt financing. Smaller capital improvement projects are paid for by a combination of cash, connection fees, and property taxes. IRWD uses a sophisticated financial planning model, updated annually, to ensure it has sufficient funds available to pay for future capital projects.

Proposed Service Levels

The Irvine Ranch Water District has stated that the District will provide operation and maintenance for Service Area 7 in accordance with the requirements stipulated in IRWD's Sewer System Management Plan (SSMP) and as currently provided to customers throughout the District. The SSMP was prepared in compliance with the requirements of SWRCB Order 2006-0003 as previously described. The frequency of O&M activity reported in IRWD's SSMP is included as *Exhibit 33*, below.

The frequency of O&M activities are increased in areas with known problems and areas previously identified as problematic. IRWD will also incorporate all required food service establishments into its Fats, Oils and Grease control program as required by the SSMP.

EXHIBIT 33: IRWD O&M ACTIVITY

IRWD O&M Activity	Frequency	Benchmark Comparison (OCSD Service Levels)
<p>Sewer Line Cleaning <i>IRWD uses 5 in-house cleaning crews with combination cleaning trucks capable of hydraulically washing the pipe wall followed by vacuum removal of the sewer debris at the next downstream manhole.</i></p>	<p>12 – 24 month cycle depending on the zone. High risk areas are on monthly, quarterly, or semi-annual cleaning schedule depending on condition assessment to prevent blockages.</p>	<p>OCSD has 12 – 18 month cycle depending on the zone. IRWD’s Plan for Service proposes an increased interval for routine sewer line cleaning. IRWD staff would perform the activity.</p>
<p>Sewer Line Inspection <i>IRWD operates two full-time in-house CCTV inspection unit crews with certified technicians and has two additional sewer maintenance workers with full NASSCO certification to perform sewer pipe inspection and condition assessment. All pipes are assigned a NASSCO pipe rating.</i></p>	<p>Ten-year interval (minimum) Trouble areas are inspected with a greater frequency.</p>	<p>According to OCSD staff, on a 5-year schedule, OCSD’s current target for Service Area 7 local sewers is to budget for and inspect 20 percent of the system each year. The contract for sewer line inspection is with Performance Pipeline Technologies. IRWD’s Plan for Service proposes an increased interval for sewer line inspection. This activity is performed by IRWD staff and the District’s FY 2015-16 budget includes expanding number of CCTV inspection units from two to three.</p>
<p>Emergency Response</p>	<p>30-minute response, cleaning time is dependent on severity of spill. IRWD priority is to protect migration of spill to storm facilities, habitat areas, and protect public safety.</p>	<p>Response time improved by 50 percent.</p>
<p>Fats, Oils, and Grease (FOG) Control Program FOG program includes permits for Food Service Establishments (FSEs) discharging into sewers.</p>	<p>Cleaning of the grease interceptors required every 3-6 months. District inspection FSEs on a two-year schedule.</p>	<p>OCSD performs routine inspections of FSEs. IRWD completes inspection of FSEs on a two-year schedule.</p>
<p>Manhole Inspection Program</p>	<p>5-year schedule according to Preventative Maintenance program in SSMP</p>	<p>No change</p>
<p>Audit of SSMP</p>	<p>2-year interval</p>	<p>No change</p>

IRWD O&M Activity	Frequency	Benchmark Comparison (OCSD Service Levels)
Engineering Condition Assessment Services	5-year interval	Increased condition assessment for first five years.
Financial consulting service for rate setting	5-year interval	No change
Pipe and Manhole Rehabilitation	As needed	IRWD’s Plan proposes an aggressive program for the first five-years targeting 30,000 lineal feet of pipes.
Root foaming and manhole pesticide treatments	Ongoing program (maintenance provided as needed based on CCTV and staff inspection of sewer pipe segments.	No change
Manhole Frame and Cover Replacements	Ongoing program (maintenance provided as needed based on cleaning crew and CCTV staff inspection of sewer pipe segments.	No change
Sewer pipe replacements	As needed	Development of long-term CIP Program for Service Area 7
Dig Alert (Underground Location Services)	As needed, IRWD currently has two full time staff dedicated to Dig Alert response.	No change

The IRWD SSMP documents procedures for preventing and responding to sewer spills. However, sewer blockages and spills can and do occur due to reasons beyond the District’s control. During normal business operations, IRWD has multiple sewer maintenance, construction, and other crews and technical staff working throughout the District that can be deployed to quickly respond to emergency calls. During non-working hours, IRWD has stand-by crews for both sewer operation and construction service available 24 hours a day, seven days a week.

IRWD’s stated objective is to have a primary stand-by responder on site within 30 minutes of any emergency call. Secondary standby crews can then be dispatched to deliver necessary material and equipment to the site as needed. The District also participates in a mutual aid program with other sewer agencies throughout the County to further expedite response time to any large sewer spills.

Proposed Service Delivery Methods and Financing

Cost of service is comprised of the cost to provide ongoing operations and general maintenance of the system as well as long-term rehabilitation and reconstruction of the Service Area 7 capital assets. IRWD has indicated that the entire service area will be incorporated into IRWD’s existing Sewer System Management Plan, Sewer Collection System Master Plan, Geographic Information Systems (GIS), Computerized Maintenance Management System (CMMS), and Replacement

Planning Model to provide the foundation for planning of day-to-day O&M as well as long-term rehabilitation and replacement. Based on the District’s analysis, *Exhibit 34* below summarizes the staffing and equipment for each of the major operations and maintenance functions required to serve Service Area 7.

EXHIBIT 34: IRWD PROPOSED STAFF AND EQUIPMENT REQUIREMENTS

Function	Service Area 7 Requirements	New Staff	New Equipment
Sewer Line Cleaning	80% of 1 crew	2 new staff to support sewer services.	1 hydro/vac truck (included in operating budget projections)
CCTV Inspection	35% of 1 crew	-	-
FOG Control Program	\$30,000/yr.	-	-
Root Control	\$15,000/yr.	-	-
Odor Control	As-needed	-	-
Vector Control	\$5,000/yr.	-	-

Staffing

IRWD has determined the addition of the 170 miles of sewer infrastructure in Service Area 7 would increase the District’s sewer cleaning workload by approximately 15 percent and would require the addition of two new certified sewer maintenance technician positions. The District’s FOG control and vector control programs are administered by IRWD staff but contracted to independent professional contractors. Root control and odor control are performed by IRWD cleaning crews and staff time has been accounted for in the projected costs for the sewer line cleaning service. The cost for additional chemicals and equipment was also included in the District’s proposed budget.

IRWD currently has 16 employees to implement its Sewer System Management Plan, which includes requirements for specific sewer system management certifications as well as specific requirements for staff education, experience and training. All sewer system O&M employees have earned a California Water Environment Association (CWEA) Collection System Maintenance certification required for their position. To accommodate the new service territory, the District proposes to hire two new full time staff to support sewer service.

Sewer system operations are also supported by many other departments within IRWD. In addition to the CWEA certifications listed above, IRWD staff includes 14 employees who possess State Water Resources Control Board (SWRCB) Water Treatment Plant Operator Certifications and 38 employees with SWRCB Water Distribution Operator Certifications. IRWD also employs 21 professional engineers and eight engineering technicians to oversee the design and construction of capital replacement and rehabilitation projects. Departments that support the O&M of the District’s sewer system include Engineering, Planning Water Quality, Fleet

Maintenance, Construction and Repair Services, Electrical and Mechanical Maintenance, Customer Service, Finance, Purchasing, Information Systems, Public Affairs, Human Resources and Safety Departments.

Equipment

IRWD has a fleet of service vehicles for O&M service activities and maintains a repair shop at the District's Operations Headquarters where vehicles are serviced by trained IRWD staff. To accommodate a sewer line cleaning schedule with the increased sewer lines in OCSD Service Area 7, IRWD has proposed purchase of one combination sewer cleaning utility truck capable of vacuuming sanitary sewer overflows and also flushing out obstructed pipelines.

The District maintains its own warehouse with \$2.4 million in inventory and over 1,800 unique parts to support operations and construction crews in normal operations and emergencies. Items in the inventory include manhole and vault parts, sewer pipes, couplings, concrete, aggregate, and other materials required for spill control and sewer repairs. The District also has a state-of-the-art water quality laboratory. The primary role of the laboratory is to perform testing for normal water and sewer system operations and for testing sewage for recycling plant operations. The lab also supports emergency spill response by performing bacteriological testing to ensure protection of the public and the environment.

Emergency Response

The District has amassed emergency response equipment to help the District handle sewer blockages and spills. In addition to the normal operating and construction equipment, the District has invested in both emergency sewer bypass equipment and extensive training in the use of the equipment. IRWD has made this equipment and IRWD staff available to other sewer agencies throughout Orange County during emergency spill incidents. A list of emergency response equipment owned and operated by IRWD and available for immediate response to sewer emergencies is included as Appendix P.

The District has over 50 years of experience responding to sewer overflow emergencies. IRWD has substantial resources to respond to spills swiftly and with all of the required staff and equipment. To be fully prepared for an emergency, IRWD has a Sewer Spill Response Plan (*Appendix Q*) and conducts training and emergency response drills throughout the year.

Recognizing that this is an important issues, IRWD was asked to provide additional details about how the District would respond to minor, major, and catastrophic sewer system emergencies. The following information was provided by the District: In the event of a sewer spill, IRWD's first priority is to protect public health and the environment by containing and cleaning up the spill. During the course of a normal work day, IRWD has multiple sewer maintenance, construction, and other crews working throughout the District that can be deployed to respond to emergency calls immediately. When a sewer spill is reported, IRWD typically responds with a minimum of two Vactor trucks: one deployed to control the source of the spill and the other to contain spilled sewage and

begin the clean-up effort. Depending on the size of the spill, additional IRWD resources such as its emergency by-pass pumps, portable sewage by-pass hoses, additional Vactor trucks, and IRWD construction crews can also be rapidly deployed to respond. A recent example of IRWD's emergency response to a sewer spill occurred on January 23, 2015 in Tustin, less than a mile from Service Area 7, when a private contractor knocked debris into a sewer manhole and caused a blockage. IRWD responded with nearly 21 personnel and \$2.5 million in equipment to the site, where all of the sewage was recovered.

During non-working hours, IRWD has stand-by crews for both sewer operations and construction services available 24 hours a day, seven days a week, as well as additional stand-by personnel in other key services including electrical maintenance, mechanical maintenance, water operations, etc. IRWD's stand-by crews take District vehicles home while on stand-by and will respond directly from their residences. IRWD personnel on stand-by must be able to respond to an emergency in the District's service area within 30 minutes. When an emergency call is received, the primary stand-by personnel responds directly to the spill incident site, and a secondary crew can be dispatched to bring additional equipment and materials to the incident site as required.

Service Area 7 is immediately adjacent to IRWD's current service area boundary. IRWD's Operations Headquarters, where the equipment listed above is stored, is located approximately nine miles driving distance from the central point of Service Area 7. IRWD's proposed response time is 30 minutes and will include the previously described staff and equipment.

Financing Operations and Maintenance

OC LAFCO is required to review the financial ability of agencies to provide services. In this case, the review is framed in state and federal requirements that were established to ensure that sanitary sewer system operators have established fee levels to ensure for the financial sustainability of daily O&M and long-term capital rehabilitation and replacement and emergency response. Since many of the O&M responsibilities in Service Area 7 are contracted services, the primary driver of long-term costs, which in turn drive the necessary service fees, are based on the assessment of Service Area 7 long-term rehabilitation and replacement of the system.

IRWD's Plan for Services proposes to extend the District's current service levels to OCSD Service Area 7. The District's plan for service includes similar service levels to those currently provided by OCSD and those proposed by EOCWD. IRWD's projected O&M budgetary expenditures are slightly higher (6 percent) than the O&M budget proposed by EOCWD. Total O&M expenditures are projected to be approximately \$775,000 the first year of operations which is slightly higher than the O&M expenditures projected by EOCWD during the District's first full year of operations (approximately \$750,000 for FY 2016-17). Similar to EOCWD's proposal, the difference is due to a transfer of rehabilitation expenses for CIPP and manhole replacement from O&M, as currently accounted by OCSD, to IRWD's proposed Capital Rehabilitation and Replacement Budget. The

District’s proposed Operating Budget for FY 2015-16 through 2019-2020 is presented in *Exhibit 35*, below.

EXHIBIT 35: IRWD PROPOSED OPERATING BUDGET FOR SERVICE AREA 7

OPERATING BUDGET	2015-16	2016-17	2017-18	2018-19	2019-20
<u>REVENUES</u>					
SEWER SERVICE FEES	\$2,894,765	\$2,894,765	\$2,894,765	\$2,894,765	\$2,894,765
PROPERTY TAX REVENUE	\$270,016	\$275,417	\$280,925	\$286,543	\$292,274
INTEREST REVENUE	\$173,189	\$182,626	\$190,815	\$198,704	\$206,724
TOTAL REVENUES	\$3,337,971	\$3,352,808	\$3,366,506	\$3,380,013	\$3,393,764
<u>O&M EXPENSES</u>					
LABOR, EQUIP - CLEANING, ETC.	(\$237,500)	(\$242,250)	(\$247,095)	(\$252,037)	(\$257,078)
LABOR, EQUIP - CCTV	(\$87,500)	(\$89,250)	(\$91,035)	(\$92,856)	(\$94,713)
MISC. SYSTEM REPAIRS	(\$50,000)	(\$51,000)	(\$52,020)	(\$53,060)	(\$54,122)
GENERAL AND ADMINISTRATIVE SUPPORT, BENEFITS	(\$288,000)	(\$293,760)	(\$299,635)	(\$305,628)	(\$311,740)
COMPUTER, GIS, INFORMATION SUPPORT	(\$32,500)	(\$33,150)	(\$33,813)	(\$34,489)	(\$35,179)
TRAINING	(\$5,000)	(\$5,100)	(\$5,202)	(\$5,306)	(\$5,412)
PROFESSIONAL SERVICES (FOG & MISC SERVICES)	(\$30,000)	(\$30,600)	(\$31,212)	(\$31,836)	(\$32,473)
CHEMICALS & SUPPLIES	(\$45,000)	(\$45,900)	(\$46,818)	(\$47,754)	(\$48,709)
TOTAL O&M EXPENSES	(\$775,500)	(\$791,010)	(\$806,830)	(\$822,967)	(\$839,426)
TRANSFER TO CAPITAL FUND	\$2,562,471	\$2,561,798	\$2,559,675	\$2,557,046	\$2,554,338

General administration and overhead costs account for the salaried employees that would support sewer service provision to OCSD Service Area 7. Professional services are primarily limited to contractual arrangement for inspection for regulatory compliance with the District’s Fats, Oils, and Grease (FOG) Program and other miscellaneous contractual services. The sewer cleaning and CCTV services are conducted by IRWD staff and is approximately 72 percent of the costs for the contract that OCSD currently has for the services and EOCWD proposes to continue. Other O&M line items include repair and maintenance, IT support service, and chemicals and supplies.

IRWD’s operating budget for providing sewer service to Service Area 7 was developed based on the District’s 50 years of experience owning and operating sewer systems. IRWD staff has evaluated and assessed the needs of the current sewers in North Tustin. IRWD’s proposed fee for sewer service to a single family home in Service Area 7 is \$108 per year, or \$9.00 per month. For comparison purposes, IRWD’s current sewer fee for a single family home in the District is \$7.85 per month. Both fees reflect the cost to provide sewer service, with an appropriate

funding rate for the future replacement of aging capital facilities. Because the average age of the sewers in North Tustin is a few years older than those in IRWD, it follows that the fee for the Service Area 7 sewers would be slightly higher. Some examples of how IRWD keeps its rates among the lowest in Orange County are described below.

- IRWD staff completes all routine maintenance and inspection activities with in-house personnel and equipment. IRWD sewer crews are also equipped and trained to observe and address minor repairs before they become major issues. This practice of fixing minor repairs while the crew is already at the site results in long-term cost savings. When needed for larger repairs, work requests can be generated and then completed by IRWD's construction crews, electrical or mechanical maintenance crews, or other departments. IRWD's in-house ability to provide comprehensive maintenance and repairs is a more cost-effective model than hiring multiple outside contractors.
- Often when IRWD's work crews find "off the shelf" maintenance items are deficient or sub-standard, custom tools or fittings are fabricated in IRWD's machine shop. Fabricating these items in-house typically result in lower cost, shorter delivery time, or both.
- IRWD operates a centralized Fleet Services Department staffed by five full-time technicians. The central facility is a 6,000 square-foot garage equipped with vehicle lifts and equipment hoists sufficient to perform comprehensive maintenance on all equipment and machinery in the fleet. The Fleet Services Department also operates a fully-equipped field service truck that, when necessary, enables staff to diagnose and repair vehicles in the field. At IRWD, high equipment readiness rates result from the significant investments made to establish the ability to complete all maintenance, diagnosis, and repair in-house rather than relying on outside contractors. In 2014, 44% of mechanical repairs completed on the highly specialized sewer cleaning trucks were completed in the field, 51% of repairs were completed in the central maintenance facility, and 5% were directed to outside vendors. This ability to quickly restore equipment to service minimizes the downtime of IRWD's service crews and enhances IRWD ability respond to emergencies, all in a cost-effective manner.

IRWD participated in several consolidations with other agencies that resulted in improved service and lower rates charged to customers. The customers and facilities associated with the Carpenter Irrigation District, Santa Ana Heights Mutual Water Company, Los Alisos Water District, Santiago County Water District, and the Orange Park Acres Mutual Water Company were all seamlessly integrated into the IRWD service model. In each of these consolidations, IRWD worked with community leaders to facilitate the transition of the customers and facilities to IRWD, and has indicated it would take the same approach in Service Area 7. While the cost savings realized by the customers in each of these consolidations varied, IRWD's proposal to provide service to the sewer customers in the North Tustin area is projected to result in a savings to the community of \$3,021,000 in the first year, with similar savings in the years thereafter.

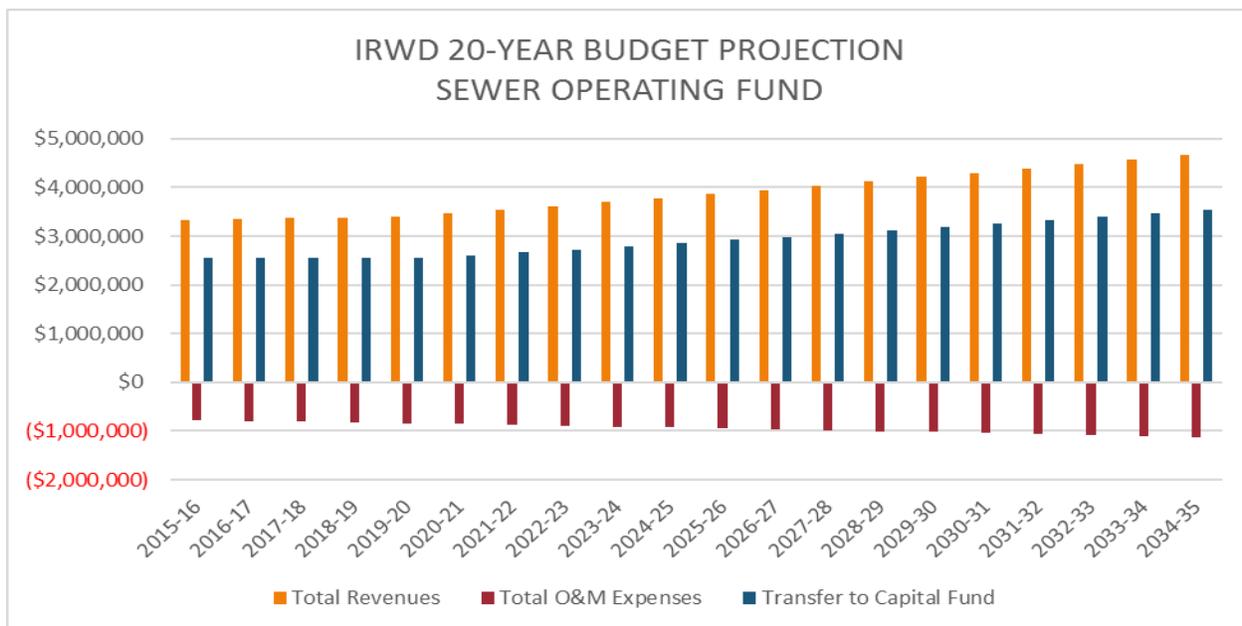
With a 50 percent reduction in the sewer service fee revenues, the anticipated reduction of O&M expenses as proposed by IRWD would result in a transfer of approximately \$2.5 million to reserves beginning in FY 2015-2016. The proposed operating budget was developed from IRWD's current sewer system operating plan and near-term infrastructure condition assessment. Similar to IRWD's annexation of the OCSD sewers in the Irvine Business Complex in 2003 (formerly part of OCSD Revenue Area 7), IRWD will immediately assume day-to-day operation of the sewers in Service Area 7 with no transitional assistance required from OCSD. To determine the adequacy of the proposed rates to cover inflationary increases in the costs of goods and services, the District included the following assumptions in its projections for the Sewer Operating Fund:

- Sewer service charge revenue reflects a 50 percent rate reduction to Service Area 7 ratepayers for five years with a two percent service fee escalation rate¹⁰ for each of the following 15 years.
- Other revenues and expenditures are assumed to grow at an annual rate of two percent.

Exhibit 36, below includes data from *Exhibit 35* (above) and represents the total projected revenue over the 20-year period along with anticipated annual expenditure and reserve transfer amounts. Total revenues (depicted in orange) are projected to increase at current CPI (two percent) rate over the 20-year period. The annual transfer to reserves (depicted in blue) increases each year in line with the projected growth in revenues. Annual O&M (depicted in red) increase slightly due to assumed annual growth rate in expenses increase.

¹⁰ The service fee escalation rate may be subject to Proposition 218 voter approval requirements.

EXHIBIT 36: IRWD 20-YEAR BUDGET PROJECTION - SEWER OPERATING FUND



Financing Capital Rehabilitation and Replacement

IRWD was provided access to Service Area CCTV and other information, including Service Area 7 Atlas maps of the pipelines and access to Geographic Information Systems data, to assess the condition of the infrastructure. The assessment is a critical factor to the ultimate cost of service to Service Area 7 ratepayers. In performing a long-term assessment of the Service Area 7 sewer system, IRWD staff based its review to operation and maintenance information provided to OC LAFCO from OCSD, useful life analysis for sewer pipes from various sources, and information from the Orange County Surveyor’s office.

The purpose of the condition assessment was to: (1) create a replacement-planning model for estimating long-term rehabilitation and replacement requirements of the entire Service Area 7 sewer collection system; and (2) estimate a long-term capital budget for necessary rehabilitation and replacement work. During the first year, IRWD will prepare a hydraulic model for Service Area 7. In addition to helping the District predict hydraulic capacity problems, this model will help identify the portions of the system that would be good candidates for future CIPP and what portions might need to be replaced in the future.

IRWD also proposed an initial five-year rehabilitation plan which would provide for CIPP rehabilitation of approximately 30,000 lineal feet of eight-inch sewers that have been identified as candidates for rehabilitation by OCSD staff, consultants, and the District’s hydraulic model. IRWD’s five-year operating and capital budget includes \$4.7 million in capital expenses during the first five years. *Exhibit 37*, below, depicts IRWD’s proposed capital budget for the first five years of operations and represents a key difference between EOCWD’s plan for service and IRWD’s aggressive approach to rehabilitation in the first five years.

EXHIBIT 37: IRWD PROPOSED CAPITAL BUDGET FOR SERVICE AREA 7

CAPITAL BUDGET	2015-16	2016-17	2017-18	2018-19	2019-20
BEGINNING CAPITAL FUND BALANCE	\$34,637,806	\$36,525,277	\$38,163,075	\$39,740,750	\$41,344,796
TRANSFER TO CAPITAL FUND	\$2,562,471	\$2,561,798	\$2,559,675	\$2,557,046	\$2,554,338
TOTAL CAPITAL FUND	\$37,200,277	\$39,087,075	\$40,722,750	\$42,297,796	\$43,899,134
CAPITAL EXPENSES					
DESIGN, CONSTRUCTION MANAGEMENT, INSPECTION	(\$280,000)	(\$294,000)	(\$322,000)	(\$308,000)	(\$378,000)
PIPE AND MANHOLE REHABILITATION, REPLACEMENTS	(\$395,000)	(\$630,000)	(\$660,000)	(\$645,000)	(\$765,000)
TOTAL CAPITAL EXPENSES	(\$675,000)	(\$924,000)	(\$982,000)	(\$953,000)	(\$1,143,000)
END YEAR CAPITAL FUND (ACTUAL DOLLARS)	\$36,525,277	\$38,163,075	\$39,740,750	\$41,344,796	\$42,756,134

The capital program presented in *Exhibit 37* for the first five years is based on OCSD’s sewer cleaning sequence and IRWD’s review of Service Area 7 CCTV data. The budget assumes that 30,000 lineal feet of sewer, identified as potential candidates for rehabilitation in OCSD documentation provided to stakeholders, will be rehabilitated in the first five years. The Plan assumes final investigation and design to start in 2015-2016 and construction to be completed over the following four years. IRWD’s approach to rehabilitation includes over \$3 million in pipe and manhole rehabilitation and replacement in contrast to the approximate \$912,500 in similar rehabilitation that is proposed by EOCWD during the first five years. *Exhibit 38*, below depicts IRWD’s projections for the Sewer Capital Replacement Fund including annual capital fund amounts (depicted in orange) and annual capital expenses (depicted in red).

For the long-term planning, IRWD has used a Replacement Planning Model for the past 20 years for evaluating rehabilitation and replacement requirements and setting customer rates. IRWD developed a similar replacement planning model for the Service Area 7 sewer system. The model estimates the rehabilitation and replacement cost for both manholes and gravity sewer based on the diameter of pipe or manhole, material, age, depth of manhole, and length of pipe.

According to IRWD, rehabilitation techniques include methods of correcting pipe deficiencies and extending the useful life of an existing sewer asset. These techniques tend to cause fewer disturbances to the community and environment than traditional replacement methods and are typically more cost effective. Techniques previously employed by IRWD include slip-lining and cured-in-place pipe (CIPP). IRWD successfully completed two capital projects, one in 2010 and

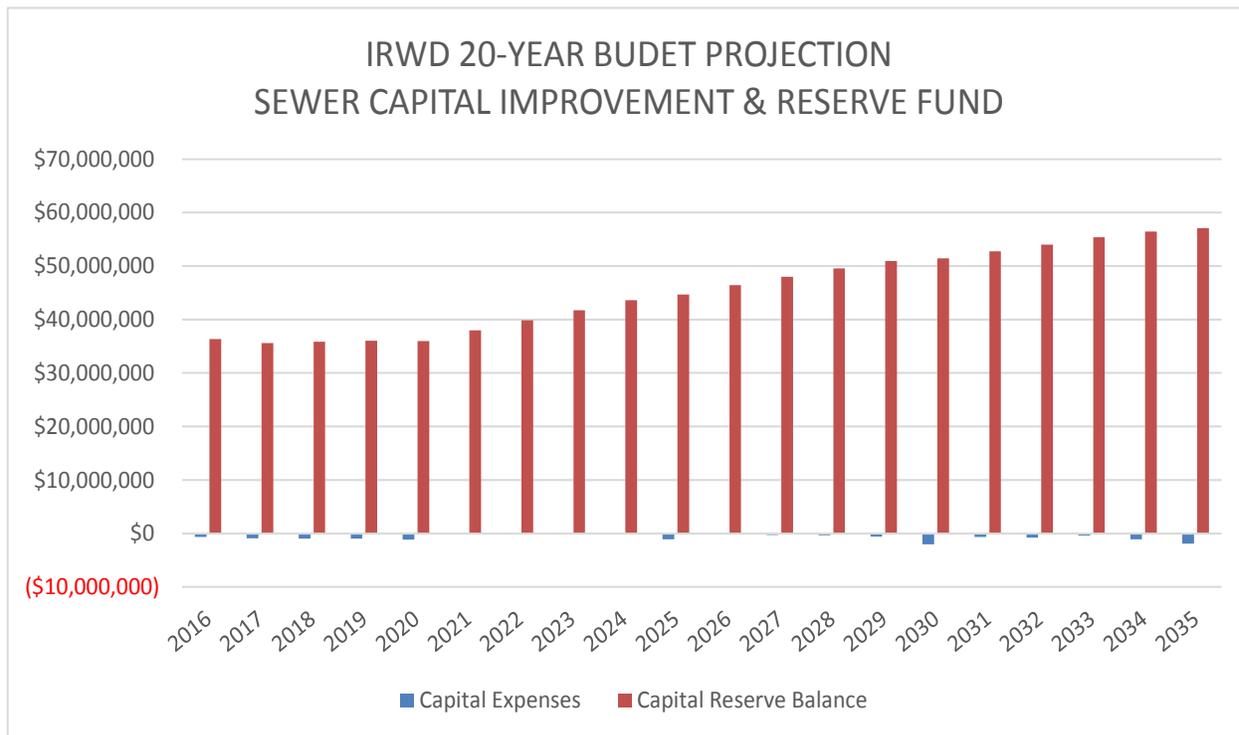
another in 2014, through which approximately 45,000 feet of IRWD sewers in Lake Forest were rehabilitated.

Replacements typically consist of abandoning or removing an existing facility and replacing it with a new facility. Replacement methods usually include traditional trenching and replacement, but also include trenchless techniques such as directional drilling and pie bursting. Replacement of sewer facilities can be as much as five times the cost of rehabilitation. The most common reason a sewer pipe would require replacement (not rehabilitation) is if it has severe structural damage, or if the rehabilitation would reduce the required capacity of the sewer pipe to an unacceptable level. Local sewers often flow well below 50 percent capacity. IRWD estimates that up to 90 percent of the local sewer in Service Area 7 could be eligible for rehabilitation.

IRWD developed a replacement model specifically for Service Area 7 using industry-established assumptions and staff's direct experience. The model allowed IRWD to look at various rehabilitation and replacement scenarios to ensure that sufficient funds are collected to avoid future rate spikes, while also ensuring that an excessive amount of funds are not collected. The overall costs generated by the model generally align with the replacement costs as presented in the Orange County Sanitation District's Sewer Replacement Plan (written in 2008 by GHD). IRWD used two model scenarios that included the proposed 50 percent rate reduction to "bookend" the potential future costs for rehabilitating and replacing sewers in North Tustin:

- The first scenario assumed 75 percent of the system would be eligible for rehabilitation. This run showed the entire replacement cost over the next 100 years could be paid on a cash-only basis.
- The second scenario assumed 25 percent of the system would be eligible for rehabilitation. This scenario showed that approximately 65 percent of the replacement plan could be paid from cash reserves and the remaining 35 percent would be paid using bond financing. Because it was the more conservative of the two, this scenario was reflected in IRWD's Plan of Service document.

EXHIBIT 38: IRWD 20-YEAR BUDGET PROJECTION - SEWER CAPITAL REPLACEMENT FUND



IRWD’s replacement-planning model estimated a total rehabilitation and replacement cost for Service Area 7 sewer system of \$365 million over the next 100 years. The total was similar to the 2007 GHD Local Sewer Service Study which estimated rehabilitation and replacement costs to be \$350 million at that time. IRWD’s distribution of rehab/replacement costs were spread between 2025 and 2112, with the majority of the costs occurring between 2050 and 2090.

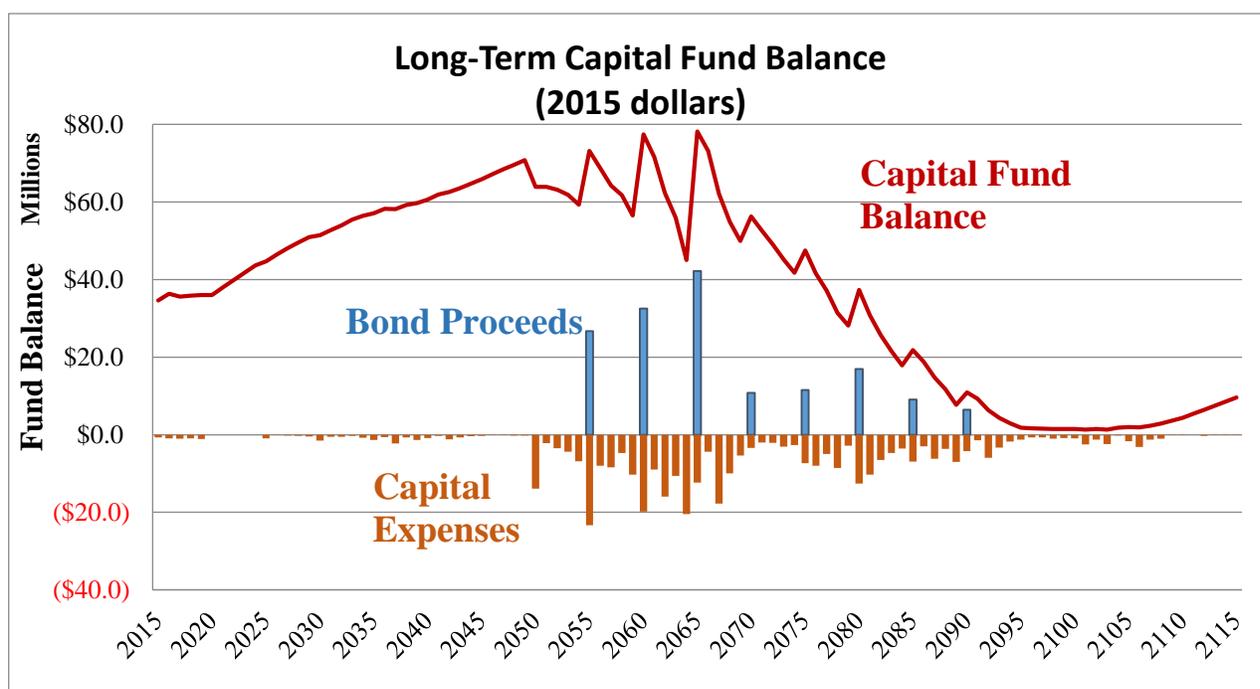
IRWD’s goal for its Capital Replacement Funds (also known as a “sinking fund”) is to maintain sufficient funds to allow IRWD to proactively optimize the life of the assets through timely rehabilitation and replacements, while concurrently maintaining sufficient funds to respond to emergency or unexpected repair situations. The District acknowledged the difficulty in estimating long-term replacement costs. Similar to data provided by OCSD, the rapid technological developments such as cured-in-place pipes have changed substantially over the past 50 years and are expected to continue to advance at a rapid pace in the future.

Such rapid technological advances limit the ability of any agency to predict the appropriate levels of reserve balances. Based on this assumption, the District felt that a reserve funding methodology that would build cash reserve balances based on current replacement would lead to excessive accumulation of fund balances. In the replacement plan submitted to LAFCO in the Plan for Service, IRWD did not assume that all future replacements would be funded on a pay-as-

you-go basis, and the District’s 100-year capital rehabilitation and replacement blends sinking fund and long-term capital financing in the form of revenue bonds.

IRWD has indicated that the District’s replacement financial plan includes a combination of cash reserve balance and future revenue bonds. In contrast to the sinking fund reserve methodology, the combination with revenue bonds does not place such a heavy burden of financing future infrastructure needs on current customers, but spreads those costs out among existing and future customers. *Exhibit 39*, below, projects the long-term capital fund balance, expenditures, and bond proceeds over the next 100 years. The capital fund balance (depicted in blue) is indicative of a typical “sinking fund” with a build-up and then draw-down of reserves. The bond proceeds (depicted in orange) are projected to occur every five years from 2055 to 2090 to help offset the anticipate capital expenses (depicted in red) for the 100-year period.

EXHIBIT 39: IRWD LONG-TERM CAPITAL FUND BALANCE PROJECTIONS



As an “AAA” credit-rated agency, IRWD has access to the lowest available rates for financing infrastructure improvement. Similar to EOCWD, IRWD’s reserve policy allows the District to “loan” capital from the District’s replacement fund until the Capital Replacement Fund was replenished should Service Area 7 reserves be deficient to provide necessary cash flows. IRWD’s Plan for Service also includes the formation of a new Improvement District over Service Area 7 to ensure that funds collected within the area are only used for the benefit of Service Area 7. The District separates various development areas and consolidation areas into Improvement Districts (IDs). For new consolidation areas, IDs allow IRWD to isolate and allocate revenues, operating expenses, and capital costs in a manner that is fair to the customers in the consolidated area and

equitable to existing IRWD customers. IRWD expects to maintain the revenues and expenses for Service Area 7 in a distinct Improvement District for the foreseeable future. Each of the individual improvement districts administered by IRWD received the District's strong bond rating to obtain low-cost financing (when needed), as well as temporarily utilizing funds from IRWD's other reserve funds such as loans to support short-term needs such as large repair projects.

Financing Emergency Response

The District's internal staff and equipment resources, along with its strong financial position, can address any potential failure of its sewage collection system. A minor spill would be covered through operating expenses. Larger spills or major system failures will be immediately addressed by IRWD, and this work will be funded by IRWD's reserve funds.

IRWD will seek reimbursement from its insurance coverage as described below or from outside entities if they are at fault. For a major spill or major system failure, the District has the following insurance programs through the California State Association of Counties – Excess Insurance Authority (CSAC-EIA):

- General and Auto Liability of \$35 million, with a deductible of \$100,000;
- Property, Boiler, and Machinery coverage of \$415 million, with a deductible of \$25,000;
- Workers' Compensation of \$50 million per occurrence and \$5 million Employers' Liability with a deductible of \$125,000; and
- Pollution & Remediation Legal Liability and Contingent Transportation coverage of \$20 million; with a deductible of a \$250,000.

In the event that a major spill is caused by a declared natural disaster, IRWD will typically seek reimbursement from disaster relief funding sources (such as FEMA).

Proposed Sewer Service Fees

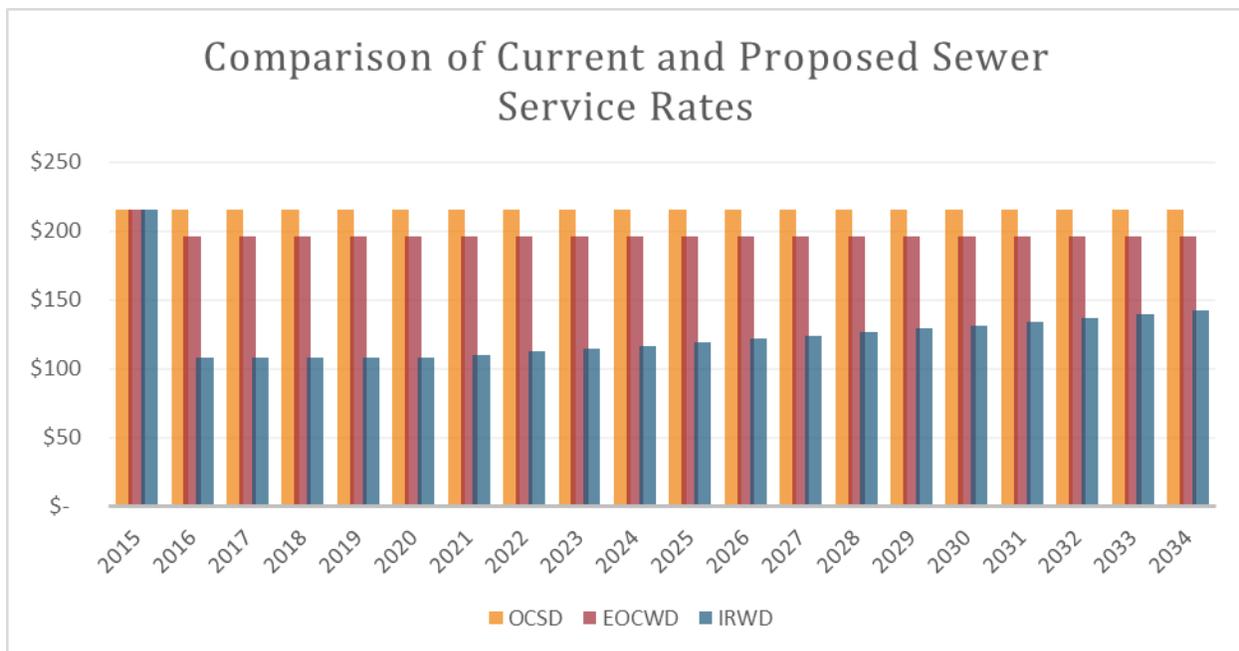
IRWD's Plan for Service stipulates that the current local annual sewerage collection fee will be reduced by 50 percent should IRWD assume local sewer service to Service Area 7. A 50 percent reduction would lower the fee for a single-family residence from \$216 per year to \$108 per year. IRWD's Plan for Service assumes the reduction remains in place for the first five years and then escalates at a rate of two percent per year through 2050 to account for inflation. After 2050, the local sewer rate escalates at a rate of four percent per year. The increase to four percent accounts for inflation and a two percent increase accounts for the repayment of replacement revenue bonds sold between 2050 and 2090. The Plan also assumes the property tax revenue will increase at a rate of two percent per year.

IRWD's sewer rates are among the lowest in Orange County, with a fixed monthly service charge of \$18.40 for single-family residential units. The rate includes both local sewer service and regional treatment and disposal. The current sewer rate schedule was adopted on June 23, 2014

and is included as **Appendix R**. The fee includes local service as well as regional collection and treatment.

Since IRWD’s application for annexation of Service Area 7 is for local sewer service only, the District needed to isolate local costs. To determine the appropriate local sewer rate for Service Area 7, IRWD analyzed the current age of the infrastructure and removed the District’s costs associated with regional treatment and disposal. The Newport Coast development in Newport Beach is the only area in the District’s service boundary that is only charged for local sewer service. The rate for Newport Coast is \$7.20 per month. IRWD’s analysis of the current condition of OCSD Service Area 7 infrastructure resulted in an additional \$1.80 per single-family unit per month. The District’s 20-year projections for the single-family local sewer fees are depicted in **Exhibit 40**, below along with the current rates by OCSD (depicted in orange) and EOCWD’s proposed rates (depicted in purple).

EXHIBIT 40: COMPARISON OF CURRENT AND PROPOSED SEWER SERVICE RATES



CITY OF ORANGE

The City of Orange maintains approximately 315 miles of sewer pipeline. The maintenance includes the annual cleaning of sewer lines, the use of CCTV to determine trouble spots, and the rehabilitation and replacement of sewer system infrastructure. The City determines sewer maintenance base on water usage. As of June 1, 2009, the City charges a \$.112 sewer system fee for every water billing unit, or 748 gallons of water.

The City of Orange has been identified by OC LAFCO as the logical long-term service provider for five unincorporated areas located in Service Area 7. The areas have been in the City's sphere of influence since 1973. Two of the five areas, El Modena and North El Modena, are small unincorporated islands (less than 150 acres) completely surrounded by the City of Orange. El Modena is approximately 103 acres in size with 657 dwelling units. North El Modena, the smaller of the two islands, is 31.6 acres and contains 125 single family homes. Both areas have a combined population of approximately 3,626 residents. The City currently provides retail water service to both islands.

For the past 20 years, OC LAFCO has proactively facilitated and approved the annexation of unincorporated islands to cities. In 2003, the City of Orange participated in LAFCO's island annexation program that resulted in the successful annexation of 11 islands to the City. However, during the MSR stakeholder discussions, the City has indicated that it is not interested in annexing the unincorporated islands of El Modena and North El Modena or the unincorporated portions of North Tustin within the City's sphere of influence at this time due to other issues involving code enforcement and infrastructure deficiencies. However, the City actively participated in this MSR process to ensure that any future annexation opportunities and potential service impacts are addressed appropriately. The City's interest in the eventual transfer of responsibility upon annexation aligns with the City's general plan, its current sphere of influence and the Commission's long-term policy on transitioning islands to adjacent cities.

Over the past several months, the Orange City Council has discussed the EOCWD proposal and the OC LAFCO MSR process at three public meetings. The discussions resulted in the City's execution of a memorandum of understanding (MOU) with EOCWD to protect the City's long-term interests in the event that OC LAFCO approves the District's proposed reorganization to assume sewer service in Service Area 7. The MOU addresses the eventual transfer of local sewer service responsibilities, assets, and proportionate share of capital reserves to the City upon annexation of the unincorporated portions of Service Area 7 within the City's sphere of influence. While the City of Orange decided to not move forward with execution of a similar agreement with IRWD, it is noted that should the Commission approve the IRWD application for assuming local sewer service for Service Area 7 that execution of a similar agreement with IRWD by the City would ensure that annexation and potential service impacts are appropriately addressed.

Although the City of Orange is not ready to pursue annexation at this time, the transfer of potential sewer service to either EOCWD or IRWD should include a transitional plan that addresses the City's issues and supports a timeline for eventual annexation of the El Modena and North El Modena islands. Alternatively, an agreement between OCSD (should it remain as the area's local sewer service provider) and the City should also be considered to support both agencies' and OC LAFCO's interests in: (1) ultimately transferring sewer service to the City and (2) eventual annexation of the El Modena and North El Modena islands.

CITY OF TUSTIN

The City of Tustin does not currently operate or maintain a sewer system. The City has been identified by OC LAFCO as the logical long-term service provider for the portion of the unincorporated area known as North Tustin located in Service Area 7. While slightly amended over the years, the general area has been in the City's sphere of influence since 1973. The City considered a contract with OCSD for the transfer of OCSD Service Area 7 sewer infrastructure and responsibility in 2010, but did not pursue the opportunity. The City participated in the Focused MSR stakeholder discussions to develop the scope and identify appropriate data for the MSR. The City was initially considered a potential alternative service provider for a portion of the system or to provide service through contractual arrangement. Ultimately, the City submitted a letter of support for EOCWD's proposal and did not respond to OC LAFCO's request for information necessary to conduct the review of the City as an alternative service provider.

CONTRACTUAL SERVICE ARRANGEMENTS

Under any of the alternative governance structures listed above, agencies have the ability to enter into contractual agreements for sewer services and one of the MSR determinations includes a review of the status of shared opportunities and facilities. For the past several years, OC LAFCO has encouraged the concept of "shared service" arrangements, when appropriate, to promote greater efficiency, maintaining of service levels and support of cost-savings for agencies and ratepayers.

According to state law and Commission policy, agreements solely involving two or more public agencies may be found exempt by OC LAFCO from the Commission process upon a determination made by the Commission finding that the public service to be provided through the agreement is an alternative to, or substitute for, public services already being provided by an existing public service provider, and where the level of service to be provided is consistent with the level of service contemplated by the existing service provider. In accordance with OC LAFCO policy, "already being provided" means the services are within the agency's service area. "Contemplated" means the service level is anticipated in a master plan or some other long-range planning document and sufficient infrastructure and capacity exists to provide the service.

A change of organization, such as activation of latent powers or annexation, supports more stability for long-term service provision, local accountability, and representation for ratepayers. While the EOCWD and IRWD applications discuss assuming local sewer service for the entire OCSD Service Area 7, the MSR notes the potential of a contractual arrangement to facilitate the eventual annexation of the El Modena and North El Modena islands surrounded by the City of Orange.

V. MUNICIPAL SERVICE REVIEW DETERMINATIONS

DETERMINATION I

GROWTH AND POPULATION PROJECTIONS FOR THE AFFECTED AREA.

According to data provided by the California State University, Fullerton Center for Demographic Research, the current population in OCSD Service Area 7 is approximately 80,783, and there is no growth projected to occur in OCSD Service Area 7 over the next 20 years. Between 2015 and 2035, the population in OCSD Service Area 7 is projected to decrease by less than one percent.

OC LAFCO noted no significant issues related to population growth for the MSR area.

DETERMINATION II

THE LOCATION AND CHARACTERISTICS OF ANY DISADVANTAGED UNINCORPORATED COMMUNITIES WITHIN OR CONTIGUOUS TO THE SPHERE OF INFLUENCE.

OC LAFCO confirmed that there are no disadvantaged unincorporated communities¹¹ (DUCs) within or contiguous to the spheres of influence of any of the affected agencies studied in the Municipal Service Review. Therefore, no related issues were noted.

DETERMINATION III

PRESENT AND PLANNED CAPACITY OF PUBLIC FACILITIES, ADEQUACY OF PUBLIC SERVICES, AND INFRASTRUCTURE NEEDS OR DEFICIENCIES INCLUDING NEEDS OR DEFICIENCIES RELATED TO SEWERS, MUNICIPAL AND INDUSTRIAL WATER, AND STRUCTURAL FIRE PROTECTION IN ANY DISADVANTAGED, UNINCORPORATED COMMUNITIES WITHIN OR CONTIGUOUS TO THE SPHERE OF INFLUENCE.

The Orange County Sanitation District (OCSD) inherited the Service Area 7 system in 1986 from the County of Orange. Much of the system's infrastructure is aging, but has been

¹¹ The term "disadvantaged unincorporated community" (DUC) is defined as a fringe, island, or legacy community in which the median household income is 80 percent or less than the statewide median household income. US Census data was used from the American Communities Survey, 2009-2013 Five-Year Estimates.

identified by OCSD as in generally good condition and is actively maintained by OCSD to reduce potential sanitary sewer overflows (SSOs). An assessment of the system's infrastructure related to deficiencies and needs was last completed in 2012. Sewer system assessments are typically completed once every five years. LAFCO recommends that a comprehensive sewer infrastructure condition assessment of OCSD Service Area 7 be completed by 2017 by the agency responsible for providing local sewer service to area at that time. The assessment should determine the system's short and long-term rehabilitation and replacement needs and be used to develop a capital improvement plan (CIP) that is reviewed annually.

Additionally, OC LAFCO notes that this focused MSR did not review the provision of municipal and industrial water and structural fire protection services within the OCSD Service Areas 7. However, in light of recent mandatory water use restrictions imposed by Governor Jerry Brown, OC LAFCO notes that agency reductions may potentially impact the overall operations of agencies providing or proposing to provide water and wastewater service. Information gathered as part of this MSR and included in the proposed plans for service submitted by EOCWD and IRWD do not address the potential impacts. As a reference, below are the reductions for each of the agencies discussed in this MSR that provide retail water:

- EOCWD Retail Zone: 36 percent
- City of Orange: 28 percent
- City of Tustin: 28 percent
- Irvine Ranch Water District: 16 percent

Additional discussion regarding this MSR determination, as it relates to each affected agency, is included below.

OCSD

OCSD staff has informed OC LAFCO that existing service levels, and the District's current approach to financing O&M and capital rehabilitation and replacement, would continue under a status quo alternative. OCSD adopted a local sewer user fee in 2008 to cover the cost of operations and maintenance and to begin accumulation of reserves sufficient to replace the entire system over the next 100 years. OCSD does include long-term capital rehabilitation and replacement for Service Area 7 infrastructure in the District's capital reserve budget. Some smaller repair and replacement efforts, such as manhole frame and cover replacements and spot repairs, are funded through OCSD's operating budget. OCSD has identified certain areas that require enhanced maintenance activities which are scheduled at appropriate intervals less than 12 months to avoid blockages and Sanitary Sewer Overflows. OCSD repairs infrastructure deficiencies as they are identified through routine maintenance and condition assessments. OCSD plans to conduct a system-wide capacity study that will include collecting the data necessary to determine the future

modifications, if needed, to the Browning Sub-trunk in the next three years. Because of this uncertainty, a complete understanding of the infrastructure condition and adequacy as well as any associated costs are unknown at this time.

EOCWD

The East Orange County Water District (EOCWD) has submitted an application and plan for service to assume local sewer service in OCSD Service Area 7. EOCWD proposes to utilize OCSD staff services through a transitional period that would occur during the period between OC LAFCO approval and the date EOCWD assumes full operational control by or before January 1, 2016. The District's Service Plan proposes the continuation of current service levels with the exception of providing improved response time to complaints and emergency response to sanitary sewer overflows that may occur within the service territory. EOCWD's Service Plan also acknowledges future infrastructure needs and proposes to maintain current reserve funding levels provided by OCSD until EOCWD can perform a future sewer infrastructure condition assessment to determine a long-term capital rehabilitation and replacement strategy. EOCWD's proposed budget includes funding for the rehabilitation and replacement of infrastructure current and future deficiencies that are identified during routine maintenance or condition assessments.

EOCWD has informed LAFCO staff of a proposed water rate increase to address the potential fiscal impacts of the drought. The District has also informed LAFCO staff of a Feasibility Study scheduled for completion by September 2015 that would evaluate options for reconstruction of its water treatment plant, obtaining water from independent sources and selling it to a non-MWDOC agency. At this time, it is not clear the extent to which these actions would require LAFCO approval or potentially impact the District's ability to assume local sewer service for OCSD Service Area 7. LAFCO is the authority that would approve adjustments to the District's wholesale and retail boundary and approve the extension of wholesale or retail service beyond the District's current boundary or sphere of influence and requests to be informed of any future potential boundary changes or extra-territorial service extensions.

IRWD

The Irvine Ranch Water District (IRWD) has submitted an application and plan for service to assume local sewer service in OCSD Service Area 7. IRWD proposes to immediately assume day-to-day operation of the sewers in Service Area 7 with no transitional assistance required from OCSD. IRWD would extend the District's current service levels to OCSD Service Area 7 and improve the current emergency response time of OCSD. IRWD proposes a five-year plan to rehabilitate portions of the system. Using existing data, IRWD also developed a replacement-planning model for the purposes of estimating long-term rehabilitation and replacement requirements of the entire Service Area 7

sewage collection system and estimated a long-term capital budget for necessary rehabilitation and replacement work. The District's long-term capital budget is based on 100-year projections for future rehabilitation and replacement of the system and proposes a combination of capital reserves and bond financing to finance the long-term infrastructure needs of the system.

CITY OF ORANGE

The City of Orange maintains approximately 315 miles of sewer pipelines. This maintenance includes the annual cleaning of sewer lines, videotaping to search for trouble spots and replacing sewer lines. The City's Sewer System Management Plan was recently updated in May 2014. The City also has a Sanitary Sewer Rehabilitation and Replacement Plan which details the City's process for assessment and implementing improvements to the sewer system as well as anticipated schedules. Multiple unincorporated areas within OCSD Service Area 7 are located within the City's sphere of influence. At this time, the City has expressed no interest in pursuing local sewer to those or other areas located within Service Area 7. The City has, however, executed an agreement with EOCWD that would facilitate the transfer of any portions of Service Area 7 located within the City's sphere of influence should EOCWD assume local sewer service provision.

While the City of Orange has expressed no interest in assuming local sewer service for the unincorporated areas within OCSD Service Area 7 that are within its sphere of influence, OC LAFCO recommends the City assume the provision of all municipal services to these areas upon future annexation. LAFCO recognizes that there are infrastructure and other annexation obstacles involving the El Modena and North El Modena islands that would negatively impact the City financially. Therefore, LAFCO recommends that its staff work collaboratively with the City, County, and the local sewer provider as approved by the Commission to develop a transitional plan that addresses the City's issues and supports a timeline for the eventual annexation of the islands to the City.

CITY OF TUSTIN

The City of Tustin does not own or maintain any sewer infrastructure. Local sewer service in Tustin is currently provided by IRWD and OCSD. In 2010, the City explored an agreement with OCSD to transfer ownership and maintenance of the local sewer system in Service Area 7, but did not approve the agreement. The City was a member of the MSR working group and has expressed no interest in pursuing local sewer service at this time.

DETERMINATION IV

FINANCIAL ABILITY OF AGENCIES TO PROVIDE SERVICES.

State and federal regulations require sanitary sewer system operators to charge fees sufficient for day-to-day activities as well as long-term capital rehabilitation and system replacement. Each of the agencies (OCSD, EOCWD and IRWD) have identified the financial ability to provide sewer services to the area. The current service provider (OCSD) and the two potential alternative service providers (EOCWD and IRWD) differ in their approaches to the financial management of the system.

OCSD

The existing rates are sufficient to cover operations and maintenance of the system, which currently includes capital rehabilitation and replacement of infrastructure identified by OCSD staff or contractors during routine maintenance and condition assessments. However, according to the 2013 Carollo Study, the District's current sewer rates result in a predicted shortfall of capital rehabilitation and replacement funds in 20 years. Should the District continue to provide local sewer services to Service Area 7, under the assumptions of the 2013 Carollo Study, new sewer rates would need to be in place well in advance of the large capital outlays projected in 2034.

Currently, OCSD has no plans to complete any major activities or projects prior to the transfer of the local sewer assets to a successor agency. OCSD will perform a reconciliation following the transfer to close out all contractor invoices and staff time charges to the local sewers in Service Area 7. According to OCSD staff, the projected costs are estimated at \$500,000.

In the event that OCSD continues to provide local sewer services to Service Area 7, OC LAFCO recommends that the District prepare a comprehensive sewer infrastructure assessment by 2017 and rate study by 2018 to address short and long-term capital rehabilitation and replacement needs and associated costs.

EOCWD

EOCWD proposes to provide operations and maintenance of Service Area 7 at a lower cost than currently provided by OCSD. EOCWD proposes a 10 percent reduction to ratepayers in sewer service user fees. Even with the reduction in sewer service fees, the District's service plan proposes an annual surplus in revenues over expenditures which will result in an increased accumulation of reserves. Within two years of operating the system, EOCWD proposes to perform a condition assessment to determine the appropriate long-term financial management of the system and will adjust rates to reflect the actual cost of service to the customer which may involve changes to 20-year assumptions reflected in the District's Plan for Service.

EOCWD financial portfolio includes operating revenues and expenses involving the provision of wholesale water service to five retail customers (including Golden State Water Company, IRWD, EOCWD Retail Zone, and the Cities of Orange and Tustin) and retail water service to approximately 1,211 customers. According to EOCWD's FY 13-14 audited financial statements, wholesale water sales account for 73 percent of the District's operating revenues. Should the District be authorized to add local sewer service to its portfolio, the agency's overall financial stability will depend on the financial viability of both water and sewer operations. The recent mandatory water use restrictions imposed by Governor Brown resulted in a 36 percent reduction for EOCWD. It is not discussed in the District's plan for service or known at this time if the District's wholesale and retail operations and the water use restrictions will impact local sewer service operations if approved by OC LAFCO. The potential cumulative impacts of the water use restrictions, assumption of sewer service and reconstruction of the District's water treatment plan are also unknown at this time. In light of this, OC LAFCO recommends that the District complete the following:

- If EOCWD's reorganization application is approved by OC LAFCO to assume local sewer service for OCSD Service Area 7, the District should prepare a comprehensive sewer infrastructure assessment by 2017 and rate study for OCSD Service Area 7 by 2018 to address short and long-term capital rehabilitation and replacement needs and associated costs (previously stated);
- If EOCWD's reorganization application is approved by OC LAFCO to assume local sewer service for OCSD Service Area 7, EOCWD's sewer infrastructure study should address overall impacts to the agency of providing retail, wholesale and sewer services.
- If EOCWD's reorganization application is approved by OC LAFCO to assume local sewer service for OCSD Service Area 7, the District should establish separate accounting systems and controls for the District's water and sewer operations as a condition of approval of the reorganization.

IRWD

IRWD's proposed financial management plan for Service Area 7 is similar to the remainder of the District's 1,025 miles of sewer mains. IRWD proposes to provide operations and maintenance of Service Area 7 at a lower cost than currently provided by OCSD. The proposed O&M budget for IRWD is slightly higher (six percent) than the O&M budget proposed by EOCWD. IRWD's plan for service proposes a 50 percent reduction to ratepayers in service fees from OCSD's current rate. The reduction in service fees would not impact long-term accumulation of the capital replacement reserve. IRWD does not assume that all replacements will be completed on a cash pay-as-you-go basis. IRWD's

replacement financial plan includes a combination of a cash reserve balance and future revenues bonds.

The District's overall financial stability depends on the stability of water as well as sewer operations. The recent mandatory water use restrictions imposed by Governor Brown resulted in a 16 percent reduction for IRWD. The District's allocation-based rate structure, implemented in 1991, was designed to promote the efficient use of water by providing customers pricing signal related to over-use of water. The District's budget based rate structure for water is designed so that reductions in water revenues do not adversely affect the District's day-to-day operations. OC LAFCO notes the District's Plan for Service includes the formation of a new Improvement District over OCSD Service Area 7 to ensure that funds collected from the area will only be used for the benefit of sewer service in the area.

CITY OF ORANGE

According to the City's sanitation service rate schedule, sewer maintenance is based on water usage. Accordingly, the City's sewer service rates are proportionate to the amount of water used. The most recent sewer service rate change was effective June 1, 2009. The sewer service rate became \$.112 per water billing unit. According to the City's sanitation service rate schedule, the average single-family residential customer uses approximately 4,000 cubic feet of water per bi-monthly interval. Based on that approximate water usage, the average single-family residential customer would pay \$4.48/bi-monthly¹². The City maintains an enterprise fund for water service, but does not currently maintain a separate enterprise for sewer operations. For Fiscal Year 2013-2014, the City reported that sanitation service charges, which includes sewer, street sweeping, tree trimming, and storm drain, exceeded expenses by approximately \$875,000 which allows for accumulation of reserves necessary for capital rehabilitation and replacement.

The City of Orange has expressed no interest in assuming local sewer service in OCSD Service Area 7 and did not provide requested information needed to review for this MSR determination. However, OC LAFCO recommends that City, County, and local sewer provider discuss and assess costs for City to provide local sewer and other municipal services upon annexation of the El Modena and North El Modena islands.

¹² Effective June 1, 2009: \$.112 x 40 hundred cubic feet (hcf) = \$4.48/bi-monthly
September 9, 2015

CITY OF TUSTIN

The City of Tustin explored the assumption of sewer service to OCSD Service Area 7 in 2010. The City did not move forward with an agreement with OCSD for transfer of the sewer infrastructure and service responsibility at that time.

The City of Tustin has expressed no interest in assuming local sewer service in OCSD Service Area 7 and did not provide requested information needed to review for this MSR determination. Data related to the City's financial ability to assume local sewer service was not included in this MSR report.

DETERMINATION V

STATUS OF, AND OPPORTUNITIES FOR, SHARED FACILITIES.

OCSD

Although the District provides major wastewater collection sewers throughout its service area, these sewers receive wastewater flows from the local sewers of the cities within the District's boundaries. There are also reciprocal agreements with the Sanitation Districts of Los Angeles County along the border between the two counties providing opportunities for each county to receive and treat gravity driven flows from the other county where feasible. OCSD shares its ocean outfall with IRWD which is used when reclaimed water produced by IRWD cannot be fully utilized. In 2008, the Groundwater Replenishment System (GWRS), a joint Capital Project between OCSD and the Orange County Water District, became operational. GWRS is the world's largest water purification system for potable use and can produce up to 100 million gallons of high quality water daily from highly treated wastewater.

EOCWD

EOCWD's wholesale boundary overlays much of Service Area 7 and the District's service plan asserts that the District will realize internal operational efficiencies by assuming sewer service. EOCWD currently contracts with Mesa Water District for part-time sharing of District Engineer service. Mesa Water is not authorized to provide sewer service, however EOCWD's service plan anticipates assistance from Mesa Water in general oversight of contract engineering services for capital projects. From 2010 to 2013, EOCWD participated in a shared services arrangement with the Serrano Water District for accounting services.

IRWD

IRWD and Service Area 7 share a common border, and sewer from a portion of Service Area 7 flows by gravity towards IRWD. Since 1985, IRWD and OCWD have collaborated on the funding of joint capital improvement projects. In 2010, IRWD and OCSD approved another agreement providing for treatment and disposal of sewage generated in IRWD service territory by OCSD and for temporary lease capacity in OCSD's treatment and

disposal facilities through 2016. OCSD would continue to receive and treat sewage generated in Service Area 7 as it currently flows to OCSD. Additionally, the existing flow accommodation agreements between IRWD and OCSD would remain in effect. IRWD entered into an agreement with the Santa Margarita Water District (SMWD) on February 27, 1989 to receive, treat, and dispose of wastewater through SMWD's Chiquita system.

IRWD and OCSD have collaborated on several capital improvement projects and have an existing agreement for the treatment of sewage generated in IRWD's service territory. An agreement may be adopted by the affected agencies to establish an ongoing process for the treatment of the sewer flows generated in OCSD Service Area 7.

CITY OF ORANGE

The City of Orange shares common borders with OCSD Service Area 7 as well as overlapping service territory with EOCWD and IRWD. IRWD provides retail water service to the Orange Park Acres community and the City of Orange has explored opportunities to share water infrastructure and services with the District.

CITY OF TUSTIN

Over half of the City of Tustin is located in OCSD Service Area 7. The City has explored local sewer service as well as other shared opportunities to improve services to the City's residents. Over the past several years, the city of Tustin and IRWD have collaborated on several water related project activities for the Tustin Legacy development.

DETERMINATION VI

ACCOUNTABILITY FOR COMMUNITY SERVICE NEEDS, INCLUDING GOVERNMENTAL STRUCTURE AND OPERATIONAL EFFICIENCIES.

OCSD

OCSD is special district established by the California State Legislature. The County Sanitation District Act specifies that the District's Board of Directors consists of certain city representatives, certain sewer district representatives, and one member of the County Board of Supervisors. The governing body of each local government appoints a member to represent them on the OCSD board. The Board meets once per month on the fourth Wednesday of each month at 6:00 p.m. at the District's Administrative Office in Fountain Valley.

To promote transparency, the District maintains a comprehensive and resourceful website. Public education is an important component of the District's mission and the District has participated in the Special District Leadership Foundation's effort to recognize agencies' efforts in this area. The District is in the process of divesting its local sewer service to increase its regional operational efficiency and have worked collaboratively with cities and special districts throughout its service area over the past seven years. Divestiture of local sewer service has been a strategic goal of the District since 2007 and

would allow OCSA to focus on its core business, which includes administrative oversight and maintenance of regional collection facilities, treatment and disposal.

The District's Board of Directors is comprised of representatives from each of the retail sewer providers with the exception of the Rossmoor/Los Alamitos Area Sewer District. Due to the specifics of the District's governing statute, the representatives for these areas are comprised of a representative from the County Board of Supervisors and the Cities of Los Alamitos and Tustin. OCSA staff has informed LAFCO that there would be no change in the composition of the OCSA Board of Directors as a result of a transfer to EOCWD or IRWD.

EOCWD

EOCWD is an independent special district established by California State law. The County Water District Law specifies that the District's Board of Directors consist of five directors each of whom, whether elected or appointed, are voters of the district. The Board meets once per month on the third Thursday of each month at 5:00 p.m. at the District's Administrative Office in Orange. The District hosts a comprehensive and resourceful website that was recently upgraded to improve transparency and access to information.

EOCWD service plan asserts that their reorganization proposal will promote public access and accountability for Service Area 7 ratepayers. OC LAFCO notes the importance of residents having local representation regarding local and regional sewer service. Approval of the District's application to assume local sewer service would not result in any change to the composition of the OCSA Board of Directors. Regionally, OCSA Service Area 7 ratepayers would continue to be represented by the County Supervisor in the unincorporated areas and the City of Tustin for the portion of OCSA Service Area 7 within the City's boundary. Locally, the OCSA Service Area 7 ratepayers would be represented by the EOCWD Board of Directors. Through an agreement between OCSA and EOCWD, EOCWD would not be added to the OCSA Board. Approval of the District's application to assume local sewer service in OCSA Service Area 7 would result in more direct representation than is presently provided by OCSA.

IRWD

IRWD is an independent special district established in 1961 as a California Water District under the provisions of the state of California Water Code. IRWD is governed by a five-member publicly elected Board of Directors who are elected at-large for four-year terms. The Board meets on the second and fourth Monday of each month at 5 p.m. in the IRWD Administrative Offices located in Irvine. As a sanitary sewer system operator within OCSA service territory, one of IRWD's Board of Directors is appointed to the OCSA Board of Directors. Since 1997, IRWD has consolidated with five water districts. The District maintains a comprehensive and resourceful website of information about the District's services and operations. IRWD's commitment to community education and outreach is

symbolized by the recognition of the District's water efficiency and environmental programs as Best Management Practices under the California Urban Water Conservation Council's memorandum of understanding dedicated to increasing efficient water use statewide.

OC LAFCO notes the importance of residents having local representation regarding local and regional sewer services. Approval of the District's application to assume local sewer service would not result in any change to the composition of the OCSD Board of Directors. Regionally, OCSD Service Area 7 ratepayers would continue to be represented by the County Supervisor in the unincorporated areas and the City of Tustin for the portion of OCSD Service Area 7 within the City's boundary. IRWD would continue to have representation on the OCSD Board representing areas included within its jurisdictional boundary but not within OCSD Service Area 7. Locally, OCSD Service Area 7 ratepayers would be represented by the IRWD Board of Directors. Approval of the District's application to assume local sewer service in OCSD Service Area 7 would result in more direct representation than is presently provided by OCSD.

CITY OF ORANGE

The City of Orange was incorporated in 1888 under the general laws of the State of California. Under a council-manager form of government, a mayor is elected every two years and four council members are elected to four-year terms alternating on a two-year basis. The City Treasurer and City Clerk are also elected positions. The City Manager, who is an administrative official of the City, is appointed by the City Council. The City Council meets on the 2nd Tuesday of each month, beginning at 6 p.m. The City maintains a comprehensive and resourceful website with access to city council agendas, financial reports, and city compensation information.

OC LAFCO notes that unincorporated areas located within the City of Orange's sphere of influence receive elected representation from the County Board of Supervisors. Future annexation of the islands to the City of Orange would result in a change in local representation from the County to the Orange City Council.

CITY OF TUSTIN

The City was incorporated under the general laws of the State of California in 1927. Government was by a five member elected City Council. The Council/Administrator form of city government was adopted in 1965 and was modified to the Council/Manager form in 1981. Council members serve staggered, four-year terms, with a two consecutive term limit. The Mayor is selected by the City Council members and serves a one-year term. The City Manager is appointed by the City Council to carry out the policies and direction of the City Council and to oversee the day-to-day operations of the City and appoint department heads. The City Council meets the 1st and 3rd Tuesday of every month at 7 p.m. The City maintains a comprehensive and resourceful website with access to City

Council agendas, financial reports, and other City information. The City maintains an individual webpage, "Transparency in City Government," created to provide a centralized location to help the public gain access to important information pertaining to City business.

GLOSSARY

ANNEXATION – Defined in Government Code Section 56017, “annexation” means the inclusion, attachment, or addition of territory to a city or district.

ASSESSED VALUATION – A valuation set upon real estate or other property by government as a basis for levying taxes.

CAPITAL PROJECTS – A program itemizing the County's acquisitions, additions and improvements to fixed assets.

CCTV – Closed-Circuit television.

COF – Certificate of Filing. The document issued by the LAFCO Executive Officer that confirms an application for a change of organization or reorganization has met submission requirements and is accepted for filing.

CIPP – Cured-in-place pipe. One of several trenchless rehabilitation methods used to repair existing pipelines.

DEPENDENT SPECIAL DISTRICT – Includes any special district that has a legislative body that consists, in whole or part, of ex officio members who are officers of a county or another local agency, or who are appointees of those officers, and who are not appointed to fixed terms.

DISCRETIONARY FUNDS – These are the general purpose revenues plus General Fund Balance Available.

DISTRICT RETAIL ZONE – The portion of the East Orange County Water District where the District provides retail water service to residential customers.

DISTRICT WHOLESALE ZONE – The portion of the East Orange County Water District where the District provides wholesale water sales to the EOCWD Retail Zone, Golden State Water Company, Irvine Ranch Water District and the Cities of Orange and Tustin.

EXPENSE – Designates the cost of goods delivered or services rendered whether paid or unpaid, for proprietary funds such as enterprise funds.

FISCAL YEAR (FY) – County accounting period which runs from July 1 through June 30 and is designated by the calendar year in which it ends.

GENERAL PURPOSE REVENUES – These are revenues to the County's General Fund from a variety of sources, primarily: property tax, vehicle license fees, interest and sales tax. The use of these revenues is unrestricted, which means that the Board can allocate them to any program under the Board's control.

INDEPENDENT SPECIAL DISTRICT – Includes any special district having a legislative body all of whose members are elected by registered voters or landowners within the district, or whose members are appointed to fixed terms and excludes any special district having a legislative body consisting, in whole or in part, of ex officio members who are officers of a county or another local agency or who are appointees of those officers other than those who are appointed to fixed terms (California Government Code Section 56044).

INFRASTRUCTURE – Refers to the physical assets of a government such as streets, public buildings, parks, and water and sewer infrastructure.

LAFCO – Local Agency Formation Commission.

MET – The Metropolitan Water District of Southern California is a regional wholesaler that delivers water to 26 member public agencies – 14 cities, 11 municipal water districts, one county water authority – which in turn provides water to more than 19 million people in Los Angeles, Orange, Riverside, San Bernardino, San Diego and Ventura counties. Metropolitan is governed by a 37-member board of directors who represent their respective member agencies ensuring each member agency is part of the governance of Metropolitan.

MOU – Memorandum of Understanding

MWDOC – The Municipal Water District of Orange County (MWDOC) is a wholesale water supplier and resource planning agency. MWDOC's service area covers all of Orange County, with the exception of the cities of Anaheim, Fullerton, and Santa Ana. The District supplies wholesale water to Orange County through 28 retail water agencies.

NASSCO – The National Association of Sewer Service Companies, was formed in 1976 and provides industry standards for the pipeline rehabilitation industry.

REVENUE – Money received to finance ongoing County governmental services. Examples: property taxes, interest, fines, fees, charges for services, etc.

PROPOSITION 13 – Adopted by California voters in 1978. It establishes a base year value for real estate and limits increases in taxable value.

PROPOSITION 218 – A California proposition approved by voters on November 5, 1996 which amended the California Constitution which created new requirements for voter approval types of taxes, fees, and assessments with certain exemptions.

SANITARY SEWER – Separate sewer systems specifically for the carrying domestic and industrial wastewater. Combined sewers carry both wastewater and urban run-off.

SSMP – SEWER SYSTEM MANAGEMENT PLAN is a document that described the activities a sewer system operator uses to manage the wastewater collection system effectively.

SSO – Sanitary Sewer Overflow is a spill, release or unauthorized discharge of wastewater from a sanitary sewer system.

SPHERE OF INFLUENCE – Defined in Government Code section 56076 a “sphere of influence” means a plan for the probably physical boundaries and service area of a local agency, as determined by the Commission.

TAX LEVY – Amount of tax dollars raised by the imposition of the tax rate on the assessed valuation.

TAX RATE AREA – A specific geographic area that is comprised of one or multiple individually identified properties that have a tax rate applied to the assessed valuation base. Each tax rate area is unique based on the specific taxing entities receiving a portion of the base tax levy.

VCP – Vitrified Clay Pipe (VCP) is a typical material for constructing smaller and medium sized portions of collection systems. While VCP has been manufactured for many decades, a significant improvement in its construction, particularly improvement joints, occurred around 1960. Nationally, the improvements typically resulted in pipelines with less infiltration of groundwater and fewer root problems.

WASTEWATER – Any water that enters a sanitary sewer.

FOCUSED MUNICIPAL SERVICE REVIEW

Orange County Sanitation District
Service Area 7

LIST OF APPENDICES

- A. Comparative Matrix of Alternative Service Providers
- B. Municipal Service Review Determinations
- C. Government Code Section 56824.12
- D. OC LAFCO Policy on MSRs and Plan for Service Reviews
- E. OC LAFCO Outreach for Focused MSR
- F. OC LAFCO Letter Regarding OCSD Strategic Plan
- G. OCSD Contract with Performance Pipeline
- H. OCSD Internal Memorandum
- I. 2013 Carollo Study
- J. OCSD Ordinance 38 – Local Sewer Fees
- K. EOCWD Draft SSMP
- L. EOCWD Summary of Water Assets & Training Supporting Sewer Operations
- M. Letter from Richard Brady Associates
- N. Sewer Facilities Transfer Agreement
- O. EOCWD Reserve Policy
- P. IRWD Emergency Response Equipment
- Q. IRWD Emergency Response Plan
- R. IRWD Water and Sewer Fee Schedule



Comparative Matrix of Alternative Service Providers

OCSD	EOCWD	IRWD
<i>Current</i>	<i>Proposed</i>	<i>Proposed</i>
<i>Benchmark</i>	<i>Alternative</i>	<i>Alternative</i>

Primary Service Activities

<i>Sewer Line Cleaning</i>	<p>12-18 month cycle depending on the zone. High risk areas are on a 12-month cleaning schedule, while lower risk areas are on an 18-month schedule.</p> <p>Certain enhanced maintenance areas are cleaned weekly, monthly, quarterly, or in six or nine month periods, as necessary, to prevent blockages.</p>	<p>12-18 month cycle depending on the zone. High risk areas will be on a 12-month cleaning schedule, while lower risk areas will be on an 18-month schedule.</p> <p>Certain enhanced maintenance areas will be cleaned weekly, monthly, quarterly, or in six or nine month periods, as necessary, to prevent blockages.</p>	<p>12-24 month cycle depending on the zone.</p> <p>High risk areas are on a monthly, quarterly, or semi-annual cleaning schedule depending on condition assessment to prevent blockages.</p>
<i>Sewer Line Inspection</i>	5-year schedule	5-year schedule	10-year schedule (trouble areas inspected with a greater frequency)
<i>Fats, Oils, and Grease (FOG) Control Program</i>	<p>FOG program includes permits for Food Service Establishments (FSEs) discharging into sewers. Cleaning of the grease interceptors required every 6-months. District performs routine inspections of FSEs.</p>	<p>Draft FOG program specifies permits for Food Service Establishments (FSEs) discharging into sewers. Cleaning of the grease interceptors required every 6 months. District to perform routine inspections of FSEs.</p>	<p>FOG program includes permits for Food Service Establishments (FSEs) discharging into sewers. Cleaning of the grease interceptors required every 3-6 months. District inspection FSEs on a two-year schedule.</p>
<i>Emergency Response</i>	<p>60 minutes</p> <p>Current SSO frequency rate of 1-2 spills per 100 miles of pipeline per year in Service Area 7.</p>	20 minutes	<p>30 minutes</p> <p>Current SSO frequency rate of less than 1 spill per 100 miles of pipeline per year in IRWD Service Area.</p>

Comparative Matrix of Alternative Service Providers

OCSB	EOCWD	IRWD
<i>Current</i>	<i>Proposed</i>	<i>Proposed</i>
<i>Benchmark</i>	<i>Alternative</i>	<i>Alternative</i>

Operating and Regulatory Staffing & Equipment

<i>Staffing</i>	<p>Existing staff and equipment provide emergency response and contract administration.</p> <p>OCSB has over 30 years of experience providing local sewer service. District offers extensive operational (25 employees with collection facilities and O&M experience) and regulatory (33 employees involved with environmental compliance) experience.</p>	<p>Currently 6 full-time employees operate wholesale and retail water operations.</p> <p>EOCWD plans to add 2 new staff for sewer operations and cross train several current employees for sewer system certifications.</p> <p>Use of contracts to provide routine services.</p> <p>EOCWD has no past experience with local sewer service as not presently able to provide service.</p>	<p>Currently 16 full-time employees for sewer operations.</p> <p>IRWD plans to add 2 new staff to support sewer services and contract for FOG and vector control services.</p> <p>IRWD has over 50 years of experience providing local sewer service. The District’s has extensive operational (20 employees with collection systems and O&M experience) and regulatory (8 employees involved with environmental compliance) experience.</p>
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Comparative Matrix of Alternative Service Providers

	OCSD <i>Current Benchmark</i>	EOCWD <i>Proposed Alternative</i>	IRWD <i>Proposed Alternative</i>
<i>Equipment</i>	Existing equipment includes two large vehicles for emergency response (1995 Vactor Truck and 2000 Hydroflusher truck). The District contracts for routine maintenance of service vehicles and replaces vehicles after 10-years or 100,000 miles.	OCSD to transfer two large vehicles for emergency response (1995 Vactor truck and 2000 Hydroflusher truck). No other equipment or maintenance / replacement costs were included in budget.	Existing equipment includes service fleet and purchasing warehouse. IRWD plans to purchase a new combination Vactor / Hydroflusher truck to accommodate new service territory. The purchase is included in the District’s proposed budget. IRWD also provides in-house fleet maintenance services.

Financial Information: Snapshot of Current and Proposed Budgetary Information

<i>Revenues (property taxes & sewer service fees)</i>	Historic five-year average (FY 2009/10 to 2013/14) \$5,990,034	Projected five-year average (FY 2016/17 to FY 2020/21) \$5,481,766	Projected five-year average (FY 2016/17 to FY 2020/21) \$3,193,000
<i>Expenditures</i>	Historic five-year average (FY 2009/10 to FY 2013/14) \$1,048,753	Projected five-year average (FY 2016/17 to FY 2020/21) \$803,944	Projected five-year average (FY 2016/17 to FY 2020/21) \$822,759
<i>Transfer to Reserves</i>	Historic five-year average (FY 2009/10 to FY 2013/14) \$4,941,281	Projected five-year average (FY 2016/17 to FY 2020/21) \$4,677,822	Projected five-year average (FY 2016/17 to FY 2020/21) \$2,370,242

Comparative Matrix of Alternative Service Providers

	OCSB <i>Current Benchmark</i>	EOCWD <i>Proposed Alternative</i>	IRWD <i>Proposed Alternative</i>
<i>Local Sewer User Fee</i>	\$216	\$196 (Static for 20-years)	\$108 (Static for 5-years, then increases 2 percent per year)
<i>Capital Financing Plan</i>	Capital reserve fund to finance infrastructure replacement on a pay-as-you-go basis.	Capital reserve fund to finance infrastructure replacement on a pay-as-you-go basis.	Blend of capital reserve financing and bond issuance. Debt repayments financed through annual 2 percent increase in sewer service fees after 2055.

Supplemental Service Related Information

<i>Local Sewer Service Connections</i>	17,377 (local sewer connections in OCSB Service Area 7)	0 Assumption of local sewer service would result in new service to 17,377 connections.	97,000 Assumption of local sewer service would result in an additional 17,377 service connections, increasing the current number of local connections by 18 percent to 114,377.
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MSR Determinations

Government Code Section 56430(a) outlines the written determinations that LAFCO is required to make when conducting an MSR.

MSR Determinations (Government Code §56430(a)):

- Growth and population projections for the affected area.
- The location and characteristics of any disadvantaged unincorporated communities within or contiguous to the sphere of influence.
- Present and planned capacity of public facilities, adequacy of public services, and infrastructure needs or deficiencies including needs or deficiencies related to sewers, municipal and industrial water, and structural fire protection in any disadvantaged, unincorporated communities within or contiguous to the sphere of influence.
- Financial ability of agencies to provide services.
- Status of, and opportunities for, shared facilities.
- Accountability for community service needs, including governmental structure and operational efficiencies.
- Any other matter related to effective or efficient service delivery, as required by LAFCO policy.

Service Delivery and Governance Structure Alternatives (Government Code §56430(b)):

- In conducting a service review, the Commission shall comprehensively review all of the agencies that provide the identified service or services within the designated geographic area. The Commission may assess various alternatives for improving efficiency and affordability of infrastructure and service delivery within and contiguous to the sphere of influence, including, but not limited to, the consolidation of governmental agencies.

Activation of Latent Powers – Plan for Service Review Requirements

Government Code Sections 56653(b) and 56824.12(a) outline the requirements for a Plan for Service prepared for the activation of a latent power.

General Requirements for All LAFCO Proposals (Government Code §56653(b)):

- An enumeration and description of the services to be extended to the affected territory.
- The level and range of those services.
- An indication of when those services can feasibly be extended to the affected territory.
- An indication of any improvement or upgrading of structures, roads, sewer or water facilities, or other conditions the local agency would impose or require within the affected territory if the change of organization or reorganization is completed.
- Information with respect to how those services will be financed.
- Any additional information required by the Commission or LAFCO Executive Officer.

Special Requirements for Latent Power Activation (Government Code §56824.12(a)):

- The total estimated cost to provide the new or different function or class of services within the special district's jurisdictional boundaries.
- The estimated cost of the new or different function or class of services to customers within the special district's jurisdictional boundaries. The estimated costs may be identified by customer class.
- An identification of existing providers, if any, of the new or different function or class of services proposed to be provided and the potential fiscal impact to the customers of those existing providers.
- A written summary of whether the new or different function or class of services or divestiture of the power to provide particular functions or classes of services, within all or part of the jurisdictional boundaries of a special district, pursuant to subdivision (b) of Section 56654, will involve the activation or divestiture of the power to provide a particular service or services, service function or functions, or class of service or services.
- A plan for financing the establishment of the new or different function or class of services within the special district's jurisdictional boundaries.
- Alternatives for the establishment of the new or different functions or class of services within the special district's jurisdictional boundaries.

Standards for Evaluating Service Plans and Preparing Municipal Service Reviews

I. BACKGROUND

Section 56653 of the Cortese/Knox Local Government Act of 1985 states that “whenever a local agency submits a resolution of application for a change of organization or reorganization the local agency shall submit a plan for providing services within the affected territory.”

LAFCOS are also required to comprehensively review all municipal services provided by agencies with spheres of influences. Service reviews are conducted before, or in conjunction with, but no later than the time LAFCO establishes or updates SOIs. Service reviews are not intended to be agency specific. Rather, they focus on all public and private service providers within an identified geographic area that provide the service under review. A service review process must include adoption of written evaluations of service related issues (§56430).

This policy is based on existing circumstances unique to Orange County and is primarily directed to ensuring that local services are provided efficiently and economically. They are designed to provide a broad range of criteria in which to review service plans and to conduct municipal service reviews. As such, these standards are not intended to preclude any Commission action which may conflict with these standards if special circumstances surrounding a specific proposal warrant such action.

II. SERVICE PLANS

The following standards have been adopted by the Orange County Local Agency Formation Commission to assist in the review of service plans and to facilitate **consistency with LAFCO’s stated purposes and objectives**. LAFCO staff has the responsibility for determining on a case by case basis, which standards should be applied to a proposed service plan:

- A. The plan for Services shall include all of the following information:
 1. An enumeration and description of the services to be extended to the affected territory;
 2. The level and range of those services;
 3. An indication of when those services can feasibly be extended to the affected territory;
 4. An indication of any improvement, or upgrading of structures, roads, sewer or water facilities, or other conditions the local agency would impose or require within the affected territory;

5. **An indication of how the agency's services will be financed if the change of organization is approved;**
 6. An indication of whether the affected area is or will be proposed for inclusion with an existing or proposed improvement zone, redevelopment area, assessment district or community facilities district.
- B. The Plan for Services shall be prepared and submitted by a local agency for all proposed changes of organization initiated by resolution and, if determined necessary by the Executive Officer, for proposed changes of organization initiated by petition.
 - C. The Plan for Services must be signed and dated by an official representative of the affected city or district.
 - D. In the case of a proposed annexation, the Plan for Services should demonstrate that the range and level of services currently available within the study area will be maintained or exceeded by the annexing agency.
 - E. In the case of a proposed annexation, the Plan for Services should demonstrate that the cost of services to existing residents will not increase as a result of the annexation, unless a corresponding increase in the levels of service also occurs.
 - F. The Plan for Service should demonstrate that proposed services will not result in any unnecessary duplication of services.
 - G. The Plan for Services should demonstrate that each service provider represents the most efficient and cost effective source of service delivery.
 - H. In the case of a proposed reorganization consisting of annexations to multiple agencies, the Plan for Services shall address each of the items specified above for each annexing agency.

III. MUNICIPAL SERVICE REVIEWS

The following guidelines are intended to assist in the preparation of municipal **service reviews and to facilitate consistency with LAFCO's stated purposes and objectives.** LAFCO staff has the responsibility for determining on a case by case basis, which portions of the following policy should be applied to a proposed municipal service review. All municipal service reviews are required to be consistent with existing State laws.

LAFCO shall conduct a service review of all municipal services provided in the county or other **appropriate designated area.** LAFCO can use a **"horizontal"** approach to municipal service reviews where particular services are examined **on a regional basis or a "vertical" approach which would examine a range of services within an area and for agencies specified by LAFCO.** (§56430).

LAFCO's MSR Program is designed to promote a unique and innovative strategy and programmatic approach to the MSRs. Therefore, MSRs should be:

- Future-oriented studies that address future growth and municipal service and infrastructure needs and opportunities over the next 15 to 20 years
- Valuable to the stakeholders and the public as the ultimate end-users of the studies
- Conducted through an open and inclusive process.

LAFCO shall comprehensively review all services of the agencies and private entities that provide the identified service or services within the designated area (§56430). Service reviews do not replace designations or updates of SOIs, LAFCO will attempt to minimize the number of required service reviews by clustering services or agencies as feasible and appropriate.

LAFCO shall work to streamline service review processes by (1) integrating SOI proposal processing and related CEQA processes with service reviews where appropriate; (2) placing high priority on reviews of services affected by pending or anticipated proposals where feasible and fair; (3) using existing information resources, technical support from the county, cities and special districts when available and adequate; and (4) using other innovative strategies to reduce service review processing costs and timelines. The Commission may reaffirm previously approved municipal service review reports and SOIs where deemed appropriate.

LAFCO shall encourage collaboration, cooperation and information sharing among service review stakeholders including participation in designing the service review, negotiating funding strategies, developing information needs assessment and collection strategies, identifying applicable industry standards, selecting consultants if appropriate, and evaluating technical drafts. LAFCO shall encourage private service providers to fully participate in service review processes (§56430).

LAFCO shall independently review and verify service review information compiled by other agencies. Appropriate local, state, federal and industry standards, identified during the scoping process, will be used to support analysis of technical data and conditions.

Service reviews shall contain conclusions and recommendations for SOI or other government structure changes needed to implement positive service changes.

For each service review, LAFCO shall adopt a written statement of its determinations with respect to each of the following:

- (1) Growth and population projections for the affected area.
- (2) Present and planned capacity of public facilities and adequacy of public services, including infrastructure needs or deficiencies.
- (3) Financial ability of agencies to provide services.

- (4) Status of, and opportunities for, shared facilities.
- (5) Accountability for community service needs, including governmental structure and operational efficiencies.
- (6) Any other matter related to effective or efficient service delivery, as required by commission policy.

LAFCO may consider SOI actions that are based on an approved service review immediately after adoption of written determinations. Such action should be delayed if imminent requests for reconsideration are expected or oral or written requests for delay are received prior to the end of the service review hearing.

Original Adoption Date: 1989
Date of Last Review: 4/9/2014
Date of Last Revision: 3/11/2009

OC LAFCO Outreach for Focused MSR

On June 17, 2015, OC LAFCO hosted a Community Workshop at Foothill High School located in Service Area 7. The purpose of the workshop was to provide an overview of the Focused MSR for OCSD Service Area 7 and receive comments and questions from the public. The Community Workshop was attended by over 30 people including staff and representatives from affected agencies, residents within and adjacent to OCSD Service Area 7 and representatives from the Foothill Community Association. In general, the following represent the questions and comments discussed at the workshop:

❖ Sewer Service

Residents expressed interest in the response times of OCSD, EOCWD, and IRWD to sewer emergencies and customer complaints. Residents also inquired about the costs for conversion from a septic system to a sewer system. City of Tustin provided comments on the property owner's responsibility for repairing sewer lines.

❖ Sewer Assets

Residents asked questions concerning the transfer of emergency response vehicles from OCSD to EOCWD and the life expectancy of the sewer pipes in the area. The discussion of sewer pipe replacement led to discussion of the reserve account funding and use.

❖ Finance

Several residents asked questions related to sewer fees and the financing of future replacement of the sewer pipes in the area. Residents also asked about the current status of the reserve account and how reserve funds would be used.

❖ Operational & Regulatory Experience

Residents inquired about the operational and regulatory experience that EOCWD and IRWD have related to sewer system operations. A resident from an adjacent community spoke positively of water and sewer service provided to his community by IRWD after the District had assumed the services from a former mutual water company.

❖ Governance

Some residents expressed the importance of local representation from an agency that Board members reside within OCSD Service Area 7.

❖ LAFCO Process

Residents inquired about future opportunities for public input and participation regarding the MSR and applications submitted by EOCWD and IRWD.

❖ Private utilities

Residents were interested about the role of the private water company, Golden State Water Company, in the MSR process and asked whether the company could assume local sewer service through a similar process.

LAFCO staff addressed each of the questions and comments during the Community Workshop and informed the attendees of the process to submit their comments to the Commission. Attendees were informed that written comments could be submitted by email or sent to the LAFCO office, and that oral comments could be provided directly to the Commission at the LAFCO regular meetings in July and August. Written comments received are included as Attachment 1.

I'm John Sears, a resident of unincorporated North Tustin and a Board Member of the influential Foothill Communities Association.

I understand that OC Sanitation District entered into an agreement with EOCWD last year... for operation of the sewer system in question, Area 7.

That a vote was taken by OCS D recommending to LAFCO that EOCWD be awarded the Area 7 sewer service responsibility....And that EOCWD's boundary of over 16 sq. miles closely encompasses that of service Area 7 and it is mostly within their Sphere of Influence.

Just last week The City Council of Orange by a vote continued its support for EOCWD and I understand that the City of Tustin is supportive of EOCWD operating the sewers as well.

The water ratepayers in North Tustin... have recently become highly aware of the importance in our community of having local control of our necessary services which, of course now potentially includes the sewer operation.

Having local representation is important to our residents. EOCWD is here and accessible. They will provide the public access and accountability in this matter.

Their sewer technicians will be required to live in the community and the close proximity of their headquarters and key technical staff will go to their ability to respond faster to any and all emergencies such as sewage spills.

Lisa Ohlund the District's General Manager, has 33 years of experience with the collection and treatment of wastewater in both public and private sector agencies.

EOCWD is a regional utility agency; it is a wholesale and retail water purveyor, providing water to the Cities of Orange and Tustin, to the Irvine Ranch Water District and to the private Golden State Water Company.

EOCWD is operated prudently, has no debt, and has kept its water rates low with no tiers. I am confident that they will have a well operated and financially stable service plan.

Having the support from the Foothill Communities Association, the OC Sanitation District, the Cities of Orange and Tustin indicates to me that EOCWD would be the best fit for each of our communities.

Thank you



10532 MIAA VISTA DR
SANTA ANA, CA. 92705

LAFCO- Sewer Services for North Tustin

Mr. Ben Legbandt, Project Manager

Dear Ben,

Please forward this letter to all LAFCO members.

This letter has three parts and all three point to the reason why EOCWD should not be considered for providing North Tustin with sewer service.

First- I believe LAFCO would be going against its own Mission Statement. Orange County LAFCO should be looking for ways to consolidate government services not expand them. To allow EOCWD to provide sewer service to North Tustin when, in fact, EOCWD has never provided sewer service period, would not be an "efficient use of services" and would, instead, be a huge disservice to the very people LAFCO is responsible to.

I sat on the City of Orange's MSR Plan for the city's SOI in 2004- 2006 and it is plain and simple that there are many government services that need consolidation- not expansion to an entity without any experience. This is not an experiment, it is a critical situation, and the people of North Tustin deserve the best service possible.

Second- IRWD already handles sewers. IRWD is a very professional organization with solid leaders who understand water delivery and sewers. There is no learning curve needed with IRWD, they have the work force, the vehicles, and the expertise to get the job done. I cannot imagine the citizens of North Tustin having to work with an organization whose leaders and labor force have never dealt with a sewer system.

Third- Having sat through the LAFCO workshop on June 17, I noticed that many are concerned about the size of each organization. Some folks liked the small size of EOCWD; some thought IRWD would be better suited because of their size. Smaller is not better in this situation! I have been involved in small and small doesn't work in the water and sewer world. I can tell you from first-hand knowledge when the Orange Park Acres Mutual Water Company (OPAMWC), I sat on that BOD, was looking for a suitor we looked at EOCWD along with many others, including Golden State, Serrano Water District and the City of Orange. Only IRWD had the ability and wherewithal to step into a situation where a small time water company had basically run its course. IRWD upgraded the system, lowered rates, and managed the water company all more efficiently than the small water company was able to do. IRWD had expertise and resources that no other organization possessed.

The issue of response time was brought up by EOCWD saying IRWD was not as close in proximity as EOCWD to respond to an emergency. That is pure bunk! IRWD is much better suited to respond to any type of emergency both in locale and personnel, that shouldn't even be an argument. EOCWD needs this "deal" for survival. I completely understand OCSD's desire to be out of the sewer delivery business and stick to the treatment of sewage. It seems to me that politics has entered into this process, as it seems to in many instances. It is LAFCO's job to help sort out right from wrong, and maybe there isn't a wrong here, but there is, clearly, a "right suitor" and a "wrong suitor"- the right suitor is IRWD.

Thank you to the LAFCO board and staff for your dedication to the citizens of Orange County.

Sincerely,



Tom Davidson
Orange, CA



March 9, 2011

CHAIR
JOHN MOORLACH
Supervisor
2nd District

VICE CHAIR
CHARLEY WILSON
Director
Santa Margarita
Water District

PAT BATES
Supervisor
5th District

PETER HERZOG
Councilmember
City of Lake Forest

SUSAN WILSON
Representative of
General Public

JOHN WITHERS
Director
Irvine Ranch Water District

ALTERNATE
BILL CAMPBELL
Supervisor
3rd District

ALTERNATE
JAMES FISLER
Director
Mesa Consolidated
Water District

ALTERNATE
DEREK J. MCGREGOR
Representative of
General Public

ALTERNATE
BOB RING
Councilmember
City of Laguna Woods

JOYCE CROSTHWAITE
Executive Officer

Larry R. Crandall, Chair
Orange County Sanitation District (OCSD)
10844 Ellis Avenue,
Fountain Valley, CA 92708-7018

Dear Chair Crandall,

The OCSD staff recently presented your agency's "Five-Year Strategic Plan" to the staff of the Orange County Local Agency Formation (LAFCO). At that meeting, OCSD staff requested that LAFCO write a letter supporting the following goal identified in your Strategic Plan:

"Local Sewer Service-Transfer back to cites and sanitary districts local sewer assets that are not serving a true regional purpose. Targeted for completion in FY 12-13"

The Commission understands that OCSD's eventual goal is to focus district resources on regional sewer collection and treatment. The Commission also recognizes that there are many challenging issues that OCSD and our Orange County cities/or special districts must mutually resolve before any transfer of local sewer assets occurs.

The Commission discussed the request of the OCSD staff at its March 9th 2011 meeting. The Commission noted that, while LAFCO has no purview over contracts between two public agencies, and there remain outstanding service and infrastructure issues among some local and regional sewer providers, it generally supports OCSD's goal in the long-term.

John Moorlach
Chair, LAFCO

OPERATIONS COMMITTEE

Meeting Date 05/06/15	To Bd. of Dir. 05/27/15
Item Number 5	Item Number 7

AGENDA REPORT

Orange County Sanitation District

FROM: James D. Herberg, General Manager
Originator: Nick Arhontes, P.E., Director of Facilities Support Services

SUBJECT: SEWER LINE CLEANING FOR CITY OF TUSTIN AND UNINCORPORATED COUNTY PROPERTY

GENERAL MANAGER'S RECOMMENDATION

Award a Sole Source contract to Performance Pipeline Technologies for a six-month period, effective July 1, 2015 through December 31, 2015, with (one) 6-month renewal option, for the cleaning services of approximately 90 miles of Area 7 sewer pipelines and manholes for an amount not-to-exceed \$202,204.

SUMMARY

We use contractor services to clean the local sewers in Service Area 7. This area includes the City of Tustin and unincorporated county areas north of Tustin, including the El Modena Islands. Services include combination cleaning per our specifications to remove debris, roots, and grease from 6-inch to 18-inch diameter pipelines and their respective manholes. A quick visual inspection of the related manholes and their frames and covers is also included. Contractor work is monitored by staff.

Performance Pipeline Technologies (PPT) is the current contractor and the current contract will expire on June 30, 2015. PPT was originally the lowest responsive bidder using a competitive process and has been performing this service for the past five years through annual renewals. The subject sewers are currently in the process of being transferred following LAFCO's process. We expect the transfer of ownership to be completed in the next six months or less. A month to month type service following our current cleaning plan and schedule best meets our needs. PPT has agreed to hold its current unit price schedule firm during the subject period. We do not need another long term agreement. This approach is recommended by staff as compared to a full new bid process that would only be needed for a short period of time. This approach also provides no lapse in services. This also avoids risks in start-up and learning the system as would be required for potentially a new contractor and their staff.

PRIOR COMMITTEE/BOARD ACTIONS

N/A

ADDITIONAL INFORMATION

In 2010, an annual service contract with four renewals was awarded for this which complied with authority levels of the OCSD's Delegation of Authority. In 2010 the services were budgeted items as part of OCSD's Operational Budget (2010/11

BUDGET PAGE, SECTION 4, PAGE 11, ITEM "LOCAL SEWER LINE CLEANING", PO# 103937-OB / PR# 75791-OR). PPT was the lowest responsive bidder.

The total agreement cost is not guaranteed nor is it paid to the Contractor should services not be utilized.

CEQA

N/A

BUDGET / PURCHASING ORDINANCE COMPLIANCE

This request complies with authority levels of the OCSD's Purchasing Ordinance OCSD-44 (Article 1, Section 1.07A). This repair will be funded through the Facilities Engineering and Repair Services Operating Budget (2014–2015 & 2015-2016 Budget Section 6 – Page 56) Object number 54030. The budget is adequate to cover this contract.

<u>Date of Approval</u>	<u>Contract Amount</u>	<u>Contingency</u>
5/27/15	\$ 202,204	

ATTACHMENT

The following attachment(s) may be viewed on-line at the OCSD website (www.ocsd.com) with the complete agenda package and attachments:

- Sole Source Contract

MAE:JF:eh

SOLE SOURCE SERVICE CONTRACT
Performance Pipeline Technologies
Sewer Line Cleaning for City of Tustin and Unincorporated County Property

THIS CONTRACT is made and entered into as of the date fully executed below, by and between Orange County Sanitation District, with a principal place of business at 10844 Ellis Avenue, Fountain Valley, CA 92708-7018 (hereinafter referred to as "OCSD") and Performance Pipeline Technologies with a principal business at 5305 Industrial Drive, Huntington Beach, CA 92649 (hereinafter referred to as "Contractor") collectively referred to as the "Parties".

WITNESSETH

WHEREAS, OCSD desires to retain the services of Contractor for Sewer Line Cleaning for City of Tustin and Unincorporated County Property "Services"; and

WHEREAS, OCSD has chosen Contractor to conduct Services in accordance with Ordinance No. OCSD-44; and

WHEREAS, on May 27, 2015, the Board of Directors of OCSD, by minute order, authorized execution of this Contract between OCSD and Contractor; and

WHEREAS, Contractor is qualified by virtue of experience, training, and education and expertise to accomplish such Services,

NOW THEREFORE, in consideration of the promises and mutual benefits exchanged between the Parties, it is mutually agreed as follows:

1. Introduction

1.1 This Contract and all exhibits hereto (called the "Contract") is made by OCSD and Contractor. The Terms and Conditions herein exclusively govern the purchase of Services as described in the Scope of Work, attached hereto and incorporated herein by reference as Exhibit "A".

1.2 Exhibits to this Contract are incorporated by reference and made a part of this Contract as though fully set forth at length herein. Exhibits to this Contract are as follows in order of precedence:

Exhibit "A"	Scope of Work
Exhibit "B"	Not Used
Exhibit "C"	Acknowledgement of Insurance Requirements
Exhibit "D"	Not Used

1.3 In the event of any conflict or inconsistency between the provisions of this Contract and any of the provisions of the exhibits hereto, the provisions of this Contract shall in all respects govern and control.

1.4 The provisions of this Contract may be amended or waived only by a writing executed by authorized representatives of both Parties hereto.

1.5 The various headings in this Contract are inserted for convenience only and shall not affect the meaning or interpretation of this Contract or any Paragraph or provision hereof.

1.6 The term “days”, when used in the Contract, shall mean calendar days, unless otherwise noted as business days.

1.7 OCSD holidays (non-working days) are as follows: New Year’s Day, Lincoln’s Birthday, Presidents’ Day Monday, Memorial Day Monday, Independence Day, Labor Day Monday, Veterans Day, Thanksgiving Day, Day after Thanksgiving, Christmas Eve, and Christmas Day.

1.8 The term “hours”, when used in this Contract, shall be as defined in Exhibit “A”.

1.9 Contractor shall provide OCSD with all required premiums and/or overtime work at no charge beyond the price provided under “Compensation” below.

1.10 Except as expressly provided otherwise, OCSD accepts no liability for any expenses, losses, or action incurred or undertaken by Contractor as a result of work performed in anticipation of purchases of said services by OCSD.

2. Compensation Compensation for this Contract shall not exceed the total amount of Two Hundred Two-Thousand Two Hundred Four Dollars (\$202,204.00).

3. California Department of Industrial Relations (DIR) Registration; Record of Wages Contractor shall comply with the registration requirements of Labor Code Section 1725.5. Pursuant to Labor Code Section 1771.4, the work is subject to compliance monitoring by the California Department of Industrial Relations. Contractor shall maintain accurate payroll records and shall submit payroll records to the Labor Commissioner pursuant to Labor Code Section 1771.4(a)(3). Penalties for non-compliance with the requirements of Section 1776 may be deducted from Contract payments per Section 1776. Contractor shall comply with the job site notices posting requirements established by the Labor Commissioner per Title 8, California Code of Regulations Section 16461 €.

4. Payments Payments shall be made upon approval by the OCSD Project Manager or designee, of invoices submitted for Services completed as described in Exhibit “A”. OCSD, at its sole discretion, shall be the determining party as to whether the Services have been satisfactorily completed.

5. Invoices

5.1 OCSD shall pay within thirty (30) days of completion and receipt and approval by the OCSD Project Manager or designee of an itemized invoice, in a form acceptable to OCSD to enable audit of the charges thereon. Invoices shall include the Purchase Order Number.

5.2 Invoices shall be emailed by Contractor to OCSD Accounts Payable at APStaff@OCSD.com and reference the following in the subject line: “INVOICE”, the Purchase Order number, the Project Manager, and Sewer Line Cleaning for City of Tustin and Unincorporated County Property.

6. Audit Rights Contractor agrees that, during the term of this Contract and for a period of three (3) years after its termination, OCSD shall have access to and the right to examine any directly pertinent books, documents, and records of Contractor relating to the invoices submitted by Contractor pursuant to this Contract.

7. **Scope of Work** Subject to the terms of this Contract, Contractor shall perform the Services identified in Exhibit "A". Contractor shall perform said Services in accordance with generally accepted industry and professional standards.

8. **Modifications to Scope of Work** Requests for modifications to the Scope of Work hereunder can be made by OCSD at any time. All modifications must be made in writing and signed by both Parties.

9. **Contract Term** The Services provided under this Contract are made and entered into, to be effective July 1, 2015, and terminate December 31, 2015.

9.1 OCSD may exercise the option to renew the Contract for up to one (1) six-month period based upon the criteria set forth in Exhibit "A", if mutually acceptable Contract terms can be negotiated. OCSD shall make no obligation to renew nor give reason if it elects not to renew.

9.2 Renewals may be made through the OCSD Purchase Order Process.

10. **Termination**

10.1 OCSD reserves the right to terminate this Contract for its convenience, with or without cause, in whole or in part, at any time, by written notice from OCSD of intent to terminate. Upon receipt of a termination notice, Contractor shall immediately discontinue all work under this Contract (unless the notice directs otherwise). OCSD shall thereafter, within thirty (30) days, pay Contractor for work performed (cost and fee) to the date of termination. Contractor expressly waives any claim to receive anticipated profits to be earned during the uncompleted portion of this Contract. Such notice of termination shall terminate this Contract and release OCSD from any further fee, cost or claim hereunder by Contractor other than for work performed to the date of termination.

10.2 OCSD reserves the right to terminate this Contract immediately upon OCSD's determination that Contractor is not meeting specification requirements, if the level of service is inadequate, or any other default of this Contract.

10.3 OCSD may also immediately cancel for default of this Contract in whole or in part by written notice to Contractor:

- if Contractor becomes insolvent or files a petition under the Bankruptcy Act; or
- if Contractor sells its business; or
- if Contractor breaches any of the terms of this Contract; or
- if total amount of compensation exceeds the amount authorized under this Contract.

10.4 All OCSD property in the possession or control of Contractor shall be returned by Contractor to OCSD upon demand, or at the termination of this Contract, whichever occurs first.

11. **Insurance** Contractor and all of its subcontractors shall purchase and maintain, throughout the life of this Contract and any periods of warranty or extensions, insurance in amounts equal to the requirements set forth in the signed Acknowledgement of Insurance Requirements (attached hereto and incorporated herein as Exhibit "C"). Contractor shall not commence work under this Contract until all required insurance is obtained in a form acceptable to OCSD, nor shall Contractor allow any subcontractor to commence service pursuant to a subcontract until all insurance required of the subcontractor has been obtained. Failure to maintain required insurance coverage shall result in termination of this Contract.

12. Indemnification and Hold Harmless Provision Contractor shall assume all responsibility for damages to property and/or injuries to persons, including accidental death, which may arise out of or be caused by Contractor's services under this Contract, or by its subcontractor or by anyone directly or indirectly employed by Contractor, and whether such damage or injury shall accrue or be discovered before or after the termination of the Contract. Except as to the sole active negligence of or willful misconduct of OCSD, Contractor shall indemnify, protect, defend and hold harmless OCSD, its elected and appointed officials, officers, agents and employees, from and against any and all claims, liabilities, damages or expenses of any nature, including attorneys' fees: (a) for injury to or death of any person or damage to property or interference with the use of property, arising out of or in connection with Contractor's performance under the Contract, and/or (b) on account of use of any copyrighted or uncopied material, composition, or process, or any patented or unpatented invention, article or appliance, furnished or used under the Contract, and/or (c) on account of any goods and services provided under this Contract. This indemnification provision shall apply to any acts or omissions, willful misconduct, or negligent misconduct, whether active or passive, on the part of Contractor or of anyone employed by or working under Contractor. To the maximum extent permitted by law, Contractor's duty to defend shall apply whether or not such claims, allegations, lawsuits, or proceedings have merit or are meritless, or which involve claims or allegations that any of the parties to be defended were actively, passively, or concurrently negligent, or which otherwise assert that the parties to be defended are responsible, in whole or in part, for any loss, damage, or injury. Contractor agrees to provide this defense immediately upon written notice from OCSD, and with well qualified, adequately insured, and experienced legal counsel acceptable to OCSD.

13. Safety Standards and Human Resources (HR) Policies OCSD requires all contractors and service providers to follow and ensure their employees and all subcontractors follow all Federal and State regulations as well as the OCSD Safety Standards while working at OCSD locations. If during the course of the Contract it is discovered that OCSD Safety Standards do not comply with Federal or State regulations then the Contractor is required to follow the most stringent regulatory requirements at no additional cost to OCSD. Contractor and all their employees and subcontractors, shall adhere to all applicable OCSD Safety Standards and Human Resources Policies found at: OCSD.com, "Doc Central" (bottom of page), under "Safety".

14. Warranties In addition to the Warranties stated in Exhibit "A", the following shall apply:
 14.1 Manufacturer's standard warranty shall apply. All manufacturer warranties will begin at date of completion of this Contract.

14.2 Contractor's warranty: If, within the 12-month period following completion of its Services, OCSD informs Contractor that any part of the Services fails to meet the standards required under this Contract, Contractor shall, within the time agreed to by OCSD and Contractor, take all such actions as are necessary to correct or complete the noted deficiency(ies) at Contractor's sole expense.

15. Performance Time is of the essence in the performance of this Contract and the provisions hereof.

16. Force Majeure Neither party shall be liable for delays caused by accident, flood, acts of God, fire, labor trouble, war, acts of government or any other cause beyond its control, but said party shall use reasonable efforts to minimize the extent of the delay. Work affected by a Force Majeure condition may be rescheduled by mutual consent or may be eliminated from the Contract.

17. Freight (F.O.B. Destination) Contractor assumes full responsibility for all transportation, transportation scheduling, packing, handling, insurance, and other services associated with delivery of all products deemed necessary under this Contract.

18. Familiarity with Work By executing this Contract, Contractor warrants that: 1) it has investigated the work to be performed; 2) it has investigated the site of the work and is aware of all conditions there; and 3) it understands the facilities, difficulties and restrictions of the work under this Contract. Should Contractor discover any latent or unknown conditions materially differing from those inherent in the work or as represented by OCSD, it shall immediately inform OCSD of this and shall not proceed, except at Contractor's risk, until written instructions are received from OCSD.

19. Regulatory Requirements Contractor shall perform all work under this Contract in strict conformance with applicable Federal, State, and local regulatory requirements including, but not limited to, 40 CFR 122, 123, 124, 257, 258, 260, 261, and 503, Title 22, 23, and California Water Codes Division 2.

20. Licenses, Permits, Ordinances and Regulations Contractor represents and warrants to OCSD that it has obtained all licenses, permits, qualification and approvals of whatever nature that are legally required to engage in this work. Any and all fees required by Federal, State, County, City and/or municipal laws, codes and/or tariffs that pertain to work performed under the terms of this Contract will be paid by Contractor.

21. Applicable Laws and Regulations Contractor shall comply with all applicable Federal, State, and local laws, rules, and regulations. Contractor also agrees to indemnify and hold harmless from any and all damages and liabilities assessed against OCSD as a result of Contractor's noncompliance therewith. Any permission required by law to be included herein shall be deemed included as a part of this Contract whether or not specifically referenced.

22. Contractor's Employees Compensation

22.1 Davis-Bacon Act - Contractor will pay and will require all subcontractors to pay all employees on said Contract a salary or wage at least equal to the prevailing rate of per diem wages as determined by the Secretary of Labor in accordance with the Davis-Bacon Act for each craft or type of worker needed to perform the Contract. The provisions of the Davis-Bacon Act shall apply only if the Contract is in excess of two thousand dollars (\$2,000.00) and when twenty-five percent (25%) or more of the Contract is funded by Federal assistance. If the aforesaid conditions are met, a copy of the provisions of the Davis-Bacon Act to be complied with are incorporated herein as a part of this Contract and referred to by reference.

22.2 General Prevailing Rate – OCSD has been advised by the State of California Director of Industrial Relations of its determination of the general prevailing rate of per diem wages and the general prevailing rate for legal holiday and overtime work in the locality in which the work is to be performed for each craft or type of work needed to execute this Contract, and copies of the same are on file in the office of the engineer of OCSD. The Contractor agrees that not less than said prevailing rates shall be paid to workers employed on this Contract as required by Labor Code Section 1774 of the State of California. Per California Labor Code Section 1773.2, OCSD will have on file copies of the prevailing rate of per diem wages at its principal office and at each job site, which shall be made available to any interested party upon request.

22.3 Forfeiture For Violation - Contractor shall, as a penalty to OCSD, forfeit fifty dollars (\$50.00) for each calendar day or portion thereof for each worker paid (either by the Contractor or any subcontractor under it) less than the prevailing rate of per diem wages as set by the

Director of Industrial Relations, in accordance with Sections 1770-1780 of the California Labor Code for the work provided for in this Contract, all in accordance with Section 1775 of the Labor Code of the State of California.

22.4 Apprentices – Sections 1777.5, 1777.6, 1777.7 of the Labor Code of the State of California, regarding the employment of apprentices are applicable to this Contract and the Contractor shall comply therewith if the prime contract involves thirty thousand dollars (\$30,000.00) or more or twenty (20) working days or more; or if contracts of specialty contractors not bidding for work through the general or prime Contractor are two thousand dollars (\$2,000.00) or more or five (5) working days or more.

22.5 Workday – In the performance of this Contract, not more than eight (8) hours shall constitute a day's work, and the Contractor shall not require more than eight (8) hours of labor in a day from any person employed by it hereunder except as provided in paragraph 19.2 above. Contractor shall conform to Article 3, Chapter 1, Part 7 (Section 1810 et seq.) of the Labor Code of the State of California and shall forfeit to OCSD as a penalty, the sum of twenty five dollars (\$25.00) for each worker employed in the execution of this Contract by Contractor or any subcontractor for each calendar day during which any worker is required or permitted to labor more than eight (8) hours in any one (1) calendar day and forty (40) hours in any one (1) week in violation of said Article. Contractor shall keep an accurate record showing the name and actual hours worked each calendar day and each calendar week by each worker employed by Contractor in connection with the project.

22.6 Record of Wages; Inspection - Contractor agrees to maintain accurate payroll records showing the name, address, social security number, work classification, straight-time and overtime hours worked each day and week, and the actual per diem wages paid to each journeyman, apprentice, worker or other employee employed by it in connection with the Contract and agrees to require that each of its subcontractors do the same. All payroll records shall be certified as accurate by the applicable Contractor or subcontractor or its agent having authority over such matters. Contractor further agrees that its payroll records and those of its subcontractors shall be available to the employee or employee's representative, the Division of Labor Standards Enforcement, and the Division of Apprenticeship Standards and shall comply with all of the provisions of California Labor Code Section 1776, in general. Penalties for non-compliance with the requirements of Section 1776 may be deducted from Contract payments per the requirements of Section 1776.

23. South Coast Air Quality Management District's (SCAQMD) Requirements It is Contractor's responsibility that all equipment furnished and installed be in accordance with the latest rules and regulations of the South Coast Air Quality Management District (SCAQMD). All Contract work practices, which may have associated emissions such as sandblasting, open field spray painting or demolition of asbestos containing components or structures, shall comply with the appropriate rules and regulations of the SCAQMD.

24. Governing Law This Contract shall be governed by and interpreted under the laws of the State of California and the Parties submit to jurisdiction in Orange County, in the event any action is brought in connection with this Contract or the performance thereof.

25. Breach The waiver of either party of any breach or violation of, or default under, any provision of this Contract, shall not be deemed a continuing waiver by such party of any other provision or of any subsequent breach or violation of this Contract or default thereunder. Any breach by Contractor to which OCSD does not object shall not operate as a waiver of OCSD's rights to seek remedies available to it for any subsequent breach.

26. Remedies In addition to other remedies available in law or equity, if the Contractor fails to make delivery of the goods or Services or repudiates its obligations under this Contract, or if OCSD rejects the goods or Services or revokes acceptance of the goods or Services, OCSD may (1) cancel the Contract; (2) recover whatever amount of the purchase price OCSD has paid, and/or (3) "cover" by purchasing, or contracting to purchase, substitute goods or Services for those due from Contractor. In the event OCSD elects to "cover" as described in (3), OCSD shall be entitled to recover from Contractor as damages the difference between the cost of the substitute goods or Services and the Contract price, together with any incidental or consequential damages.

27. Dispute Resolution

27.1 In the event of a dispute as to the construction or interpretation of this Contract, or any rights or obligations hereunder, the Parties shall first attempt, in good faith, to resolve the dispute by mediation. The Parties shall mutually select a mediator to facilitate the resolution of the dispute. If the Parties are unable to agree on a mediator, the mediation shall be conducted in accordance with the Commercial Mediation Rules of the American Arbitration Agreement, through the alternate dispute resolution procedures of Judicial Arbitration through Mediation Services of Orange County ("JAMS"), or any similar organization or entity conducting an alternate dispute resolution process.

27.2 In the event the Parties are unable to timely resolve the dispute through mediation, the issues in dispute shall be submitted to arbitration pursuant to California Code of Civil Procedure, Part 3, Title 9, Sections 1280 et seq. For such purpose, an agreed arbitrator shall be selected, or in the absence of agreement, each party shall select an arbitrator, and those two (2) arbitrators shall select a third. Discovery may be conducted in connection with the arbitration proceeding pursuant to California Code of Civil Procedure Section 1283.05. The arbitrator, or three (3) arbitrators acting as a board, shall take such evidence and make such investigation as deemed appropriate and shall render a written decision on the matter in question. The arbitrator shall decide each and every dispute in accordance with the laws of the State of California. The arbitrator's decision and award shall be subject to review for errors of fact or law in the Superior Court for the County of Orange, with a right of appeal from any judgment issued therein.

28. Attorney's Fees If any action at law or inequity or if any proceeding in the form of an Alternative Dispute Resolution (ADR) is necessary to enforce or interpret the terms of this Contract, the prevailing party shall be entitled to reasonable attorney's fees, costs and necessary disbursements in addition to any other relief to which he may be entitled.

29. Survival The provisions of this Contract dealing with Payment, Warranty, Indemnity, and Forum for Enforcement, shall survive termination or expiration of this Contract.

30. Severability If any section, subsection, or provision of this Contract, or any agreement or instrument contemplated hereby, or the application of such section, subsection, or provision is held invalid, the remainder of this Contract or instrument in the application of such section, subsection or provision to persons or circumstances other than those to which it is held invalid, shall not be affected thereby, unless the effect of such invalidity shall be to substantially frustrate the expectations of the Parties.

31. Damage to OCSD's Property Any of OCSD's property damaged by Contractor, any subcontractors or by the personnel of either will be subject to repair or replacement by Contractor at no cost to OCSD.

32. **Disclosure** Contractor agrees not to disclose, to any third party, data or information generated from this Contract without the prior written consent from OCSD.
33. **Independent Contractor** The legal relationship between the parties hereto is that of an independent contractor, and nothing herein shall be deemed to make Contractor an OCSD employee. During the performance of this Contract, Contractor and its officers, employees, and agents shall act in an independent capacity and shall not act as OCSD's officers, employees, or agents. Contractor and its officers, employees, and agents shall obtain no rights to any benefits which accrue to OCSD's employees.
34. **Limitations upon Subcontracting and Assignment** Contractor shall not delegate any duties nor assign any rights under this Contract without the prior written consent of OCSD. Any such attempted delegation or assignment shall be void.
35. **Third Party Rights** Nothing in this Contract shall be construed to give any rights or benefits to anyone other than OCSD and Contractor.
36. **Non-Liability of OCSD Officers and Employees** No officer or employee of OCSD shall be personally liable to Contractor, or any successor-in-interest, in the event of any default or breach by OCSD or for any amount which may become due to Contractor or to its successor, or for breach of any obligation for the terms of this Contract.
37. **Read and Understood** By signing this Contract, Contractor represents that he has read and understood the terms and conditions of the Contract.
38. **Authority to Execute** The persons executing this Contract on behalf of the Parties warrant that they are duly authorized to execute this Contract and that by executing this Contract, the Parties are formally bound.
39. **Entire Contract** This Contract constitutes the entire agreement of the Parties and supersedes all prior written or oral and all contemporaneous oral agreements, understandings, and negotiations between the Parties with respect to the subject matter hereof.

40. Notices All notices under this Contract must be in writing. Written notice shall be delivered by personal service or sent by registered or certified mail, postage prepaid, return receipt requested, or by any other overnight delivery service which delivers to the noticed destination and provides proof of delivery to the sender. Rejection or other refusal to accept or the inability to deliver because of changed address or which no notice was given as provided hereunder shall be deemed to be receipt of the notice, demand or request sent. All notices shall be effective when first received at the following addresses:

OCSD: Larry Roberson
Senior Contracts Administrator
Orange County Sanitation District
10844 Ellis Avenue
Fountain Valley, CA 92708-7018

Contractor: Gene Glassburner
Performance Pipeline Technologies
5305 Industrial Drive
Huntington Beach, CA 92649

Each party shall provide the other party written notice of any change in address as soon as practicable.

IN WITNESS WHEREOF, intending to be legally bound, the Parties hereto have caused this Contract to be signed by the duly authorized representatives.

ORANGE COUNTY SANITATION DISTRICT

Dated: _____ By: _____
Tom Beamish
Chair, Board of Directors

Dated: _____ By: _____
Kelly A. Lore
Clerk of the Board

Dated: _____ By: _____
Contracts/Purchasing Manager

COMPANY

Dated: _____ By: _____

Print Name and Title of Officer

IRS Employer's I.D. Number

EXHIBIT "A"
SCOPE OF WORK
SEWER LINE CLEANING FOR CITY OF TUSTIN
AND UNINCORPORATED COUNTY PROPERTY

- A. Background** – Orange County Sanitation OCSD (OCSD) is a public agency responsible for collecting, treating, and safely disposing of wastewater and its residuals for 2.2 million residents and businesses in Orange County. OCSD operates two (2) treatment plants: Plant 1 located in Fountain Valley and Plant 2 located in Huntington Beach, California. In addition, OCSD operates over 600 miles of large pipelines, and seventeen (17) remote pump stations, which convey flows to the treatment plants.
- B. General** – Contractor will furnish all labor, materials, equipment and incidentals necessary for the cleaning of approximately 175 ± miles of sewer lines and manholes described herein. The Contractor shall be responsible for the removal of debris from the pipeline and manholes, and shall take all the necessary steps to ensure that no spills of any sewage occur. Pipeline debris is described as, but not limited to, sludge, dirt, sand, rocks, grease, roots, and other solid or semisolid materials. The sewers in this Contract area are scheduled to be cleaned every twelve (12) to eighteen (18) months. Sewer lines are vitrified clay pipe (VCP), ductile iron pipe (DIP), and polyvinyl chloride (PVC) and range in sizes from 6 to 18 inches in diameter. Lengths shown are approximate. Payment will be for actual footage cleaned.

6"	=	2,500'
8"	=	850,000
10"	=	31,000
12"	=	26,000
15"	=	13,098
18"	=	2,383

Work crews may be on site from 7:00 a.m. to 3:30 p.m., Monday through Thursday. No line work shall be performed on Fridays. These sewers are located in the Unincorporated County Property located in the Cowan Heights, Lemon Heights, North Tustin, East Tustin, Tustin Foothills, and Red Hill areas; some portions of the City of Orange; and the City of Tustin as shown on atlas maps provided to the Contractor. All sewers on the sewer cleaning sequence shall be cleaned every eighteen (18) months. Sequence of work shall be per the attached Sewer Cleaning Sequence (Exhibit A-4).

C. Cleaning Equipment

1. Combination of high velocity hydro-cleaning and vacuum removal equipment shall be utilized and shall have the following features as a minimum:
 - a. A minimum of 900 feet of 1 inch diameter high pressure hydro flushing hose.
 - b. A dual degree nozzle with six (6) jets at 15 degrees and six (6) jets at 45 degrees is preferred by OCSD to be used for normal cleaning. A comparable nozzle may be used upon approval by OCSD. In addition, a grease nozzle and penetrating head nozzle shall be available. Nozzle skids shall be used for the appropriate size of pipe being cleaned. The nozzle used for normal cleaning shall be specifically sized for the jetter pump used for this Contract and shall be brand new. Nozzle specifications listing the orifice diameter shall be submitted to OCSD. The nozzle shall be considered worn out when the orifices measure 0.005-inch over and shall be replaced with new nozzle. The nozzle shall be checked for wear on a quarterly basis and replaced with a new one as

- needed.
- c. At least one (1) root cutter attachment for 6 inch through 12 inch pipe.
 - d. A high-pressure handgun for washing and cleaning manhole walls, channels, shelves, and manhole cover frames.
 - e. A 1,500-gallon minimum water tank, pump and a hydraulically driven hose reel.
 - f. Debris catcher with telescoping poles for roots and grit.
 - g. Minimum working pressure of 1,200 pounds per square inch at 65 gallons per minute (GPM) rate.
 - h. Centrifugal or positive displacement blower vacuum equipment suitable to remove all debris at the downstream manhole while the hydro flushing is being performed.
 - i. Two (2) two-way hand held radios for communication in easements.
 - j. Small hand tools for changing fittings and removing bolt down manhole covers.
 - k. Spill containment equipment.
 - l. Availability of a closed circuit television (CCTV) crawler camera rig with DVD recording capability.

- D. Cleaning Precautions** – During sewer cleaning operations, satisfactory precautions shall be taken in the use of cleaning equipment to ensure that the water pressure or head created does not damage or cause flooding of public or private property being served by the sewer. Care shall be exercised in the selection and use of the cleaning tools to avoid pipe damage. Contractor shall be responsible for all costs for repairs and/or clean up to OCSD, city owned or private property to OCSD's satisfaction. Use of a nozzle skid is required to prevent accidental entry of nozzle into house connections.

There are also a few areas where certain homes are affected by cleaning operations whereby 'toilet burps' occur. These 'toilet burps' are caused by the vacuum created during high pressure jetting which pulls the water from the house connection and when the vacuum subsides the back pressure causes the toilet bowl to splash water out of the bowl. These areas will be identified and a notice shall be placed on the residence door the day before cleaning these particular sewers

- E. Sewer Cleaning Procedures** – The designated sewer line segments will be cleaned using combination high-velocity jet with vacuum removal. The normal cleaning operation shall be to jet from the downstream manhole towards the upstream manhole thereby pulling any debris back to the downstream manhole. **A minimum of two (2) passes shall be made for each line segment.** Pullback rate on jetting shall not be greater than 40 feet per minute. If, after the second pass, debris is encountered the entire run shall be made repeatedly until debris is no longer present. At any sign of significant dirt and gravel the cleaning operation for that pipe shall cease and OCSD shall be notified of a possible line break. If any abnormal conditions are encountered, OCSD shall be contacted by phone and email. Contractor shall be ready to CCTV the section of sewer creating cleaning problems.

Once the appropriate traffic control has been placed, the Contractor shall wash the upstream manhole with the high-pressure water gun while being cautious not to spray any surrounding vehicles or pedestrians. All manholes, except for inaccessible manholes, shall be washed and any loose debris shall be removed. Evidence of unwashed manholes shall result in re-cleaning of that pipe segment. Any major defects in the manhole or the frame and cover shall be noted and brought to the attention of OCSD for remedy. No debris from the cleaning work shall be left on the roadway. (Note: All manhole covers removed that were sealed will be resealed upon replacing – OCSD will supply sealing material at no cost to the Contractor

during the Contract).

Selection of the equipment used will be based on the conditions of the sewer lines at the time work commences. The equipment and methods selected must be satisfactory to OCSD's representative(s). The equipment shall be capable of removing dirt, grease, roots and other materials and obstructions from the sewer lines and manholes. If cleaning of an entire section cannot be successfully performed from the downstream manhole, the equipment will be set up on the upstream manhole and cleaning will again be attempted. If successful cleaning again cannot be performed or the equipment fails to traverse the entire manhole section, it will be assumed that a major blockage exists and the Contractor will notify OCSD's representative(s) of this condition immediately for further instructions.

Contractor shall be prepared to use root saw tool on approximately thirty percent (30%) of the sewers to be cleaned. This percentage may be higher as needed. The OCSD shall designate areas to be root sawed. Lines that are designated for root sawing shall upon CCTV inspection have no more than one half inch of root stub present. Longer lengths of roots remaining shall result in a repeat root sawing effort by the Contractor at no additional cost to OCSD. Debris catcher tool shall be used to prevent cut roots from traveling downstream.

For pipeline segments with extremely steep slopes, where the jetter nozzle fails to climb to the upstream manhole the cleaning method shall be to jet from the upstream manhole down slope for washing purposes. Then, jet from the downstream manhole upslope so that the cleaning directions overlap.

Water for cleaning will be from the closest available fire hydrant. The Contractor shall make arrangements with the local water agency for the water meters and any other equipment needed to get water from the local fire hydrant. Contractor shall submit to OCSD evidence of arrangements made with water agency before proceeding with cleaning in those areas. Water costs will be paid by the Contractor directly to the water agency. Copies of the water bills shall be submitted to the OCSD on a schedule agreed upon by the various water agencies. A list of the various water agencies in the service area with telephone numbers and map of boundaries will be issued to the awarded contractor.

Trouble spot and siphon lists are in Exhibit A-3. If there are any questions regarding these lists or previous cleaning data, they should be directed to an OCSD representative. Siphon and trouble spots will be cleaned/maintained on a routine basis, typically a one (1) to two (2) month frequency. However, the Contractor is still required to provide line cleaning in these areas as shown in the cleaning sequence.

Line cleaning sequence cannot be changed such that debris from upstream reaches will be deposited into recently cleaned downstream reaches. If this is found to occur, Contractor will re-clean the downstream reaches at no additional cost to OCSD.

- F. Permits and Access** – Contractor shall pay all required fees and obtain licenses for any encroachment permits required by the various cities or the County of Orange when cleaning and inspections are necessary on their right-of-ways. OCSD will reimburse Contractor for actual permit fees upon proof of payment provided by the Contractor.

For easement cleaning where entry must be made onto homeowner's property, advance notice must be given for permission to enter property. Coordination of sewer cleaning will be made through an OCSD representative. The OCSD representative shall be notified one (1)

week in advance of the Contractor's anticipated cleaning area. The OCSD representative will provide assistance with manhole access and make arrangements as needed for entry onto private property for the cleaning of easements. An easement atlas will be provided to the Contractor. A sewer atlas with the trouble spots and siphons highlighted will be provided to the Contractor.

Easements requiring additional manpower for making turns in manholes or for pulling the jetter hose, coordination will be made through the OCSD representative. Two-way hand held radios may be needed for communication.

- G. Material Removed** – The Contractor shall be responsible for the removal of debris from the pipeline and cleaning and/or re-cleaning the pipe wall to OCSD's satisfaction as proven by the closed circuit television (CCTV) video inspection. All sludge, dirt, sand, rocks, roots, grease and other solid or semisolid material resulting from the cleaning operation shall be removed at the downstream manhole of the section being cleaned. Passing material from manhole section to manhole section, which may cause line stoppages, shall not be permitted.

Lines shown by CCTV to contain root balls or other debris that may potentially cause a stoppage, that were reported to have been cleaned, may require an emergency call out by the Contractor to remove the debris, at no additional cost to OCSD. Contractor shall respond to site once contacted within one (1) hour. If unable to contact or not able to be on site within the hour response time OCSD will respond and clean the area and back charge the Contractor for the costs incurred.

- H. Material Disposal** – Liquids shall be decanted and drained back to the sewer. All solids or semisolid resulting from the cleaning operations will be removed from the work site and disposed of at no added cost to the Contractor in the Digester cleaning beds at OCSD's Plant 1 located in Fountain Valley. Amounts and disposal dates shall be reported to the OCSD as part of biweekly cleaning submittals. All materials will be removed from the work site at the end of each workday. Under no circumstances will the Contractor be allowed to accumulate debris, etc. on the site of work beyond a single workday, except in totally enclosed leak and odor proof containers and as approved by OCSD's representative(s). See Exhibit A-2 "Sewer Grit Disposal Procedure".

- I. Spill Reporting and Handling** – Contractor shall immediately notify OCSD's representative(s) of any manhole overflow or interruption/backup of customer service and Contractor shall contain and control all overflow. The OCSD spill policy is in Exhibit A-1. Contractor shall be responsible for any fines levied by others as a result of the Contractor's work.

Exhibit A-1 is the "Notification Guidelines for a Spill" which includes the telephone numbers of the various agencies. Ultimately, if the Contractor is involved with a spill, it must:

1. First and immediately, notify OCSD's Control Center at (714) 593-7025. OCSD will then make the required notifications.
2. Second, the Contractor must attempt to contain the spill to isolate it from entry to any waterways.
3. Third, the Contractor must attempt to relieve the spill. Once the spill has been contained and relieved, the area must be cleaned up.
4. Last, follow-up reports must be made. Once a spill is reported to OCSD's Control Center, personnel will be dispatched for response.

Contractor shall be responsible for any fines levied by others, reimbursement of any agency incurred costs, damage, cleanup, restoration of flow, and any disruption of service costs to customers as of a result of Contractor's work. This is in addition to any and all costs incurred by the customer.

Contractor shall also notify OCSD's Control Center immediately of any apparent non-Contractor related spills and/or any abnormal conditions.

- J. Confined Space Issues and Safety Issues** – All manholes in this work are defined as Title 8 Permit Required Confined Spaces. The Contractor's attention is directed to the General Industry Safety Orders of the State of California, Article 108, Confined Spaces, Section 5157 (Title 8 of California Code of Regulations, Sections 5167, 5157, 5158). Contractor shall attend a safety meeting at OCSD with the Risk Management Division, prior to the start of work under this Contract, for the purpose of reviewing the Contractor's safety manuals, its knowledge of Title 8, and to discuss all safety aspects of the job.

All work shall be conducted from above ground. Manhole entry, if required, shall be conducted in strict accordance with permit required confined space entry regulations. These regulations include, at a minimum: entry permit, trained authorized entrant(s), attendant(s), entry supervisor(s), full body harness (with life line), mechanical retrieval device, continued force air ventilation, continuous air monitoring, communication system (minimum of two (2) types), and all other protective equipment that may be required. Work shall be conducted in accordance with all Federal, State, and local laws and regulations.

The local fire department may be able to offer services for confined space rescue. Contractor shall make any and all arrangements necessary at no additional cost to OCSD.

- K. Traffic Control** – All traffic control shall be in accordance with the latest MUTCD (Manual on Uniform Traffic Control Devices) and based on the speed limits posted in the work zones. Flagmen may be required in some locations. Additional local regulations shall have precedence. Contractor shall apply for all traffic control permits and pay all fees and obtain all licenses for said permits. OCSD will reimburse the Contractor for traffic control permits and for detailed traffic control plans signed by a traffic engineer registered in the State of California, where required by the local agency. Safe and adequate pedestrian and vehicular access shall be provided in accordance with the Standard Specifications for Public Works Construction, Latest Edition.

NOTE – Inadequate or improper signage and delineation for traffic control may be cause for the cancellation of the Contract.

- L. Work Plan** – The Contractor shall prepare a weekly work plan and submit it one (1) week in advance to an OCSD representative for review and approval. The work plan shall verify the cleaning sequence and identify all the line sections to be cleaned based on OCSD maps and sequence data provided. The work plan may be amended due to weather or local road maintenance or construction issues discovered by either party. OCSD estimates a maximum of 5,000 feet of sewer lines (without root cutting) can be cleaned in an 8 hour shift.
- M. Work Documentation** – Biweekly reports based on the work plan shall be submitted for OCSD review on the last Friday of the two-week period. Contractor's log sheets, with a section-by-section breakdown including comments, shall be maintained on site, in a legible manner, for review at all times. Comments on log sheets shall include notice of badly worn

manhole frames and covers, broken manhole caps, buried manholes, unmapped manholes, badly deteriorated manhole concrete structures, and shall include the type and amount of debris encountered.

- N. Contractor Crew** – Contractor shall provide a minimum of a two-person crew at all times, one person shall witness the jetting nozzle reaching the upstream manhole. A crew of three shall be utilized for all work in confined spaces. Additional personnel shall be utilized when needed for traffic control flagmen.

The Contractor's foreman must be able to communicate both verbally and in writing with OCSD staff as well as with his or her crew. The Contractor's foreman must demonstrate the capability to read, interpret, and understand the OCSD Safety Standards and Cal/OSHA requirements, OCSD's plans, drawings, specifications and work direction, as necessary.

In addition, a field supervisor shall be provided by the Contractor to oversee the crew's work and provide quality control. The field supervisor shall have a cell phone and email to communicate with OCSD at any time. The field supervisor shall prepare the forward work plan and also document work performed, resolve crew and/or OCSD concerns and serve as the cleaning program manager and primary contact. The field supervisor shall be on the job site not less than eight (8) hours per week and available for OCSD staff at any time during the work day or for off hours emergencies.

- O. Television Inspection** – After each biweekly cleaning report submittal, at least ten percent (10%) of the total footage cleaned will be selected by OCSD for closed circuit television (CCTV) inspection by an independent CCTV contractor on a random basis to determine the effectiveness of the cleaning operations. The CCTV inspection shall occur within two (2) weeks of receiving the cleaning submittal. Pipeline segments found to be unacceptably cleaned during the CCTV review shall be re-cleaned by Contractor at no additional cost to OCSD. CCTV inspections resulting in more than ten percent (10%) of the pipeline being unacceptably cleaned shall result in the entire pipeline included in the bi-weekly submittal being re-cleaned at no additional cost to OCSD. Any line segments requiring re-cleaning will be one hundred percent (100%) CCTV reviewed. This additional CCTV cost will be paid by the Contractor. This CCTV submittal shall be delivered to OCSD within three (3) weeks. No further scheduled cleaning shall take place until all unacceptable pipeline segments are re-cleaned to the satisfaction of the OCSD.
- P. Submittals** – Submittals, except for payment invoices, shall be made electronically through email. As previously mentioned the Contractor shall submit: (1) a weekly cleaning schedule; (2) a biweekly submittal of cleaned pipe listing the line segments and footages, any defective manhole structures including frames, covers, and caps; (3) dates of debris disposal; (4) and any water usage billed by the various water agencies.
- Q. OCSD's Equipment and Labor** – OCSD's equipment and labor, except for the OCSD's representative to monitor the work, shall not be utilized at any time.
- R. Sewer Atlas (Map)** – Two (2) DVDs of the OCSD Electronic Map Book showing all the sewers in the service area to be cleaned shall be given to the Contractor at no charge.

 Orange County Sanitation District	Procedure No: TS-ECRA-SOP-009
	Path: H:\ntglobal\Control Center Reports\Spill Procedures & Forms\SSO Notification Procedures_Official_08-21-07.doc
Sanitary Sewer Overflow Notification Procedures	Date: January 16, 2009
	Approved by: Edward M. Torres

PROCEDURE REVISION HISTORY		
Rev.	Date	Approval
0	March 30, 2004	Robert P. Ghirelli, Technical Services Director
1	April 12, 2006	Robert P. Ghirelli, Technical Services Director
2	August 21, 2007	Edward M. Torres, Technical Services Director

1. PURPOSE AND SCOPE

The purpose of the Sanitary Sewer Overflow (SSO) Notification Procedures is to provide a procedure for prompt notification to Orange County Sanitation District (OCSD) staff and appropriate public agencies of an unauthorized release of wastewater (raw or treated sewage or industrial wastewater). It also clarifies the roles of each division regarding SSO response and reporting responsibilities.

2. DEFINITIONS

- A. **CIWQS:** California Integrated Water Quality System - SSO Reporting System
- B. **GWDR:** Statewide General Waste Discharge Requirements for sanitary sewer systems issued on May 2, 2006, by the SWRCB to all federal and state agencies, municipalities, counties, districts, and other public entities that own or operate sanitary sewer systems greater than one mile in length that collect and/or convey untreated or partially treated wastewater to a publicly owned treatment facility.
- C. **LRO:** Legally Responsible Official that certifies SSO Reports in CIWQS
- D. **Non-Working Hours:** Hours when day-shift staff are not on-site.
- E. **OCHCA:** Orange County Health Care Agency
- F. **OCSD's Service Area:** Includes corridors where the regional trunk sewers, interceptor, and pump stations are located. Also includes local sewers where OCSD has operations and maintenance responsibility.
- G. **OES:** California Office of Emergency Services
- H. **Private Property SSO:** Sewage discharges that are caused by blockages or other problems within a privately owned lateral. SSOs that are caused by a blockage in an OCSD-owned line are not considered private property per the definition in the Statewide GWDR permit.
- I. **OC PUBLIC WORKS:** Orange County department that protects the public county-wide from the threat of floods by constructing, operating and maintaining major flood control channels, dams, retarding basins, pump stations.
- J. **RWQCB:** California Regional Water Quality Control Board, Santa Ana Region

- K. **SSO:** Sanitary Sewer Overflow; or sewage spill
- L. **SWRCB:** California State Water Resource Control Board
- M. **Working Hours:** Monday – Friday, 6:30 a.m. – 5:00 p.m.

3. RESPONSIBILITIES OVERVIEW

- A. **Division 152, Public Information Office:** Receive and respond to phone calls from the media or general public related to SSOs. Visit an SSO site when media is present. Notify cities, fire departments, police departments, etc. of SSOs when public relations are warranted.
- B. **Division 153, Safety & Health:** Respond to and assist with emergency response coordination of large OCSD safety issues, SSOs, and incident command center activations.
- C. **Division 250, Information Technology:** Work with Division 870, 620, and 830 to resolve problems with Internet/Network connection when non-operational. Once the Internet/Network is operational, relay the information to the appropriate division.
- D. **Division 870, Collection Facilities O&M:** Project manager and the division responsible for the GWDR to develop, implement, maintain a preventative maintenance program, and certify SSO reports. Respond to reports of possible SSOs from OCSD's facilities; Contain and coordinate the clean up of OCSD SSOs, including making every effort to recover sewage from the storm drain system before it reaches a surface water; Document actions taken using field reports, pictures, maps, etc.; Assist member agencies when possible and document actions; Deal directly with private property owners, this does not necessarily mean field staff but individuals should be instructed to contact supervisors/management if they have specific questions. The Manager is a designated LRO that can certify SSO Reports.

Designated Collection Office Staff (and back-up person)

- Compile all GWDR required SSO information, including field reports, pictures, maps, sampling results, calculations, problem reports, and submit package to Division 620 in a timely manner for review (i.e.,: For a Category 1, report submit information by the second day. For a Category 2 report, submit information by the 15th of the following month). File in appropriate directories;
 - Coordinate with ECRA regarding CIWQS SSO Reporting System issues;
 - Provide training for Division 870 CIWQS SSO Reporting System issues and reporting responsibilities;
 - Point of contact for Division 620. Relays information provided by 620 to 870 staff.
- E. **Division 620, Environmental Compliance & Regulatory Affairs (ECRA):** Liaison with regulators and GWDR compliance overseer. Assure regulatory agency notifications and any additional necessary notifications are fulfilled. Visit SSO site as required in the ECRA Sanitary Sewer Overflow Response Procedure, TS-ECRA-SOP-008. Submits drafts of the Category 1 and 2 SSOs to CIWQS for compliance with the GWDR. Review SSO reports before certification by Legally Responsible Official. Assist with SSO tracking and attend meetings to clarify compliance related issues and requirements. Provide support by

contacting CASC contractors to respond to SSOs that enter flood control channels.

- F. **Division 630, Environmental Sciences Lab:** If deemed necessary by the OCHCA and the SSO occurs during working hours, take sewage samples of SSO and runoff in designated areas. Perform analyses on sewage samples. Report results to Divisions 421 and 620. If SSO occurs during non-working hours, ECRA will take samples in accordance with lab guidelines and coordinate with Division 630 staff for proper and timely analyses.
- G. **Division 640, Source Control:** Respond to reports of possible SSOs that may involve industrial process waters, assist Collections staff as necessary, and document actions taken.
- H. **Division 830, Operations – Plant No. 1: Control Center:** Coordinate SSO response by receiving and processing preliminary information on possible SSOs. Notify necessary divisions, member agencies, and regulatory agencies (after-hours) by phone, radio, text (PNA) and numeric pagers, and e-mail as necessary. Document actions by filling out the SSO report in the CIWQS SSO Reporting System. If the CIWQS SSO Reporting System is down at the time of the SSO, complete the SSO report on the appropriate CIWQS SSO Reporting System data sheet found in the Collection System Binder and follow up by entering the data into the CIWQS SSO Reporting System at a later time.
- I. **Member Agencies (Cities and Sanitation Districts):** Respond to reports of SSOs that may involve their collection systems or private sewer systems that may impact the municipal storm drain system. Contain and clean-up their respective SSOs, protect their storm drains, and notify necessary regulatory agencies.
- J. **Orange County Health Care Agency:** Goal is to protect the public health from an SSO including responding to SSOs and closing beaches and other recreational waters.
- K. **Private Property Owner:** Remove the blockage (e.g., call a plumber) and stop using water that goes to the sewer until the blockage is removed. OCSD may assist with containment and clean-up if sewage enters public right-of-way. Local city or OC Public Works or OCHCA stormwater code/ordinance enforcement can assist with uncooperative owners. OCSD is not authorized and will not participate in the cleaning of any privately owned lateral lines.
- L. **OC PUBLIC WORKS and Stormwater Co-permittees:** Protect County and co-permittee stormwater conveyance facilities from illegal discharges (including sewage). Coordinate response to SSOs or other illegal discharges from private property that are impacting storm drains and code enforcement may be used if necessary (if property owner can not be reached or is uncooperative. Provide support by contacting CASC contractors to respond to SSOs that enter flood control channels.

4. SSO REPORTING AND NOTIFICATION PROCEDURES

NOTE: Regulatory and other affected agencies require initial notification as soon as possible without jeopardizing the response process (usually within one hour).

A. SSO Report Received

- (1) Control Center staff shall initiate documentation of the reported SSO (who, what, when, where, why) on a Spill Interview Form (Attachment A).
- (2) Control Center staff shall determine whether the reported SSO is in the OCSD's service area or is the responsibility of another agency using the Sphere of Influence, Sewer Atlas, other available resources in the Control Center, and/or with the assistance of Collections staff.

B. SSO from the OCSD's Facilities

- (1) If the Control Center determines that the possible SSO may be related to the OCSD's facilities, Control Center staff shall contact and relay the available information for investigation and/or control of reported SSO to the on-duty Collection Facilities Supervisor or Designee during the day shift or standby Collection Facilities staff during after-hours.
- (2) Control Center staff shall notify OCSD staff and regulators of the possible SSO via an Outlook e-mail and provide the available information to the *Spill Notification* distribution list (see Attachment B for recipients – includes internal, OCHCA, OC Public Works, and RWQCB staff). For small, non-critical events (using the Operations supervisor's best judgment) when reports are taken between 10 p.m. and 5 a.m., the control center staff may utilize the *Spill Notification w/o PNA* (Attachment B) (no pagers are notified). The following information should be included in the preliminary e-mail notification if available:
 - Responsible city, agency, private property owner
 - Date and time
 - Incident location including address and city
 - Problem description
 - Response status
 - If it entered a storm drain
 - Estimated volume
- (3) Upon arrival on site and preliminary investigation of reported SSO, Collection Facilities staff will confirm whether or not there is an SSO and the status of their response and containment.
- (4) Collection Facilities staff will make sketches and take photographs of the SSO, and they will forward digital files or hard copies (if a traditional camera is used) to the designated Collection Office staff responsible for compilation of SSO reports. Collection Facilities staff will file all SSO documents on the electronic server at: H:\dept\ras\870\Field Photos\Spill Reporting Photos.
- (5) Control Center staff will send out intermittent updates as new information becomes available to the *Spill Notification* subscribers.
- (6) The on-duty member of the ECRA staff (Control Center staff during evening shifts and weekends or if ECRA staff can not be reached) shall notify RWQCB and OCHCA staff with a phone call for any SSO volume (see Attachment C). If the SSO is equal to or greater than 1,000 gallons also contact OES.

- During the night and weekend shifts: contact the County of Orange Control 1 instead of OCHCA; contact OES instead of RWQCB.
 - Responsible staff shall complete all applicable regulatory notifications in accordance with the Decision Table in Attachment C.
 - As revised by Order No. WQ 2008-0002-Exec OES, RWQCB, and OCHCA must be notified immediately, but no later than 2 hours of an SSO.
 - Additionally, OCSD must certify to RWQCB through the SSO Database that OES and OCHCA were notified within 24 hours.
- (7) Collection Facilities staff or managers may request Control Center staff to contact other staff that may be required (e.g., ESL, Public Information Officer, ECRA, Contractors). They may also request Control Center staff to determine the location and direction of flow for storm drains in the SSO area. This information is located on a set of 80 large County of Orange facility drawings in the Control Center or online at OC Public Works website http://www.ocwatersheds.com/watersheds/intro_highres_map.asp
- (8) Control Center staff shall create a service request number in the CMMS System. Staff will then enter the SSO data into the CIWQS SSO Reporting System or if it's non-operational on the appropriate CIWQS SSO Reporting System data sheet found in the Collection System Binder and follow up by entering the data into the CIWQS SSO Reporting System at a later time. Documentation in either the CIWQS SSO Reporting System or data sheet will continue throughout the SSO response and related preliminary information received during communications with the responding Collection Facilities staff. Control Center staff shall confirm all field-related preliminary information on Tabs 1 and 2 of the CIWQS SSO Reporting System with Collections staff and send updates to the *Spill Notification* distribution list as information becomes available.
- (9) When Collection Facilities staff and Control Center staff believe the preliminary information is as complete as possible for the response and clean-up (usually after Collection Facilities staff leaves the site), Control Center staff shall e-mail the SSO Report to the Outlook distribution list, *Spill Notification w/o PNA* (no pagers will be notified).
- (10) By the end of the reporting period, the designated Collection Office Staff shall review the SSO report and any information provided by other divisions including Source Control, Collections, and Construction Management to verify the preliminary information and to ensure accuracy. The designated Collections Office staff will make any necessary changes and additions in the CIWQS SSO Reporting System and submit the final report to ECRA staff in a timely manner for their review. ECRA shall perform Quality Assurance/Quality Control of the final report and make necessary corrections in the CIWQS SSO Reporting System. When all changes are complete, ECRA staff will click on the Ready to Certify button so that the LRO can certify the SSO report for compliance. (see ECRA Sanitary Sewer Overflow Response Procedure, TS-ECRA-SOP-008)

C. SSO from Private Property

- (1) Control Center staff shall notify and/or dispatch Collection Facilities staff, especially in Area 7, to determine if the OCSD sewer is causing the problem.
- (2) See Section B above. Response is the same. However, no field pictures, sketches or calculations are required. Control Center staff shall note in the CIWQS SSO Reporting System that the problem was a Private Property SSO. Information provided in the CIWQS SSO Reporting System will include the following:
 - Responsible city, member sanitation agency, or private property owner
 - Date and time
 - Incident location including address, city and zip code
 - Problem description
 - If it entered a storm drain
 - Estimated volume
- (3) If Collection Facilities staff informs Control Center staff that the blockage is located in the private property owner's lateral, they may request that Control Center staff call the owner/property manager (if they are not onsite) and have the owner/property manager relieve the blockage (including calling out a plumber immediately if necessary). Due to liability concerns and the possibility of damage to the property owner's line in OCSD trying to solve the situation, it is against OCSD policy for Collection Facilities staff to work on private lines, although supervisors or management may authorize this work on a case-by-case basis.
- (4) ***If the property owner or the occupant of the property can not be reached or refuses to call a plumber AND the private property discharge is entering the public right-of-way or a storm drain, Control Center staff shall call OC Public Works (714-955-0200) (Control 1 after hours – 714-628-7008) to request stormwater code/ordinance enforcement assistance.*** Control Center staff can also request response from the City of Tustin Code Enforcement Office during working hours (714-573-3106) for issues within the City limits (NOT in Unincorporated OCSD 7). The County and the local cities are required by their NPDES permit to not allow sewage to discharge to storm drains, and they have the legal authority to enforce their requirements, which may include shutting off the water supply and other measures.
- (5) If none of these agencies can respond and assist with the enforcement issues, the Orange County Health Care Agency can also be called for assistance at either 714-433-6000 during business hours or through Control 1 (714-628-7008) after hours.
- (6) If a member of the public calls to report a reoccurring or ongoing SSO on private property or that we can not otherwise assist them, they can report the problem by calling **24-Hour Water Pollution Problem Reporting Hotline 714-955-0200** or logging onto **<http://www.ocwatershed.com/>** and clicking on Pollution Hotline. Staff can also use this mechanism, but official agency calls should be made to Control Center.

- (7) Control Center staff shall provide the completed SSO report through *Spill Notification w/o PNA (Attachment B)* as usual.
- (8) ECRA staff will include the SSO report as part of the GWDR reporting period submittal.

D. SSO NOT Located in the OCSD's Service Area or OCSD Staff Does Not Respond to SSO Site

- (1) Control Center staff shall:
 - a. Refer the problem to the correct agency.
 - b. Document the agency's name, contact person, time of contact, and phone numbers on the internal Collection System Problem Report.

E. SSO NOT OCSD's Facility BUT Responsible Agency Requests Assistance

- (1) Control Center staff shall notify and/or dispatch Collections Facilities staff, if available.
- (2) See Section B above. Response is the same. However, no field pictures, sketches or calculations are required. Control Center staff shall note in the internal Collection System Problem Report that the problem was not an OCSD's SSO.
- (3) Provide notification through *Spill Notification w/o PNA (Attachment B)* as usual.

5. REFERENCES

- California Code of Regulations, Title 23, Section 2250
- California Fish and Game Code, Chapter 2, Article 1, Section 5650
- California Health and Safety Code, Division 5, Chapter 6, Article 2, Sections 5410-5415, 5460-5462
- California Water Code (Porter Cologne Act) Section 13271
- ECRA Sanitary Sewer Overflow Response Procedure, TS-ECRA-SOP-008
- State Water Resources Control Board Order No. 2006-0003, Statewide General WDR for Wastewater Collection Agencies

6. ATTACHMENTS

- A. Control Center Spill Interview Form
- B. Spill Notification Contacts
- C. Spill Notification Decision Matrix and Contact List

Attachment A
Collection System Problem Report – Sample Form
Page 1 of 2

Orange County Sanitation District
CONTROL CENTER SPILL INTERVIEW FORM

Call Initiated: _____ Date: _____ Time: _____ CMMS Work Order #: _____

PERSON REPORTING PROBLEM:

Name: _____ Agency: _____

Spill Location: _____

City: _____ Phone # _____
(Use Unincorporated County if applicable)

Nearest Cross Street: _____ Thomas Guide® Page & Coordinates: _____

IF A RESIDENT IS REPORTING PROBLEM:

Notes:

Example Opening Statement: We'll be dispatching our field crew momentarily. To help us most effectively respond to your call, we need some additional information. These questions should only take a minute, but will help us tremendously in better responding to your call.

For the field responders, is there a good reference landmark? (shops, houses, etc.)

Did you see water flowing from a manhole? Yes No Don't Know

If not, where is it coming from?

Why do you think it is sewage? (Is there an odor? / Does the manhole say "OCSD" or "sewer?")

How fast is the water flowing? (Is it a small trickle out the side or is it gushing through all outlets with force?)

Is the water flowing in or to the street gutter? Yes No Don't Know

Do you know if a storm drain catch basin is nearby? Yes No Don't Know

Is the water flowing to or about to get to that catch basin? Yes No Don't Know

Approximately how wide and deep is the (flowing or wet) water path? Deep: _____ Wide: _____

Have you called any other agencies or did another agency refer you to us?

IF ANOTHER AGENCY IS REPORTING PROBLEM:

Notes:

If we find out the spill belongs to another city/agency always ask the question: "Is your agency handling all notifications & documentation? If they are, OCSD only has to document our involvement."

Do you have a crew currently onsite? Yes No Don't Know

If so, have they contained the spill and protected storm drains? Yes No Don't Know

If not, will your agency be responding? Yes No Don't Know

Is the water flowing in or to the street gutter? Yes No Don't Know

Is the water flowing to a storm drain/catch basin? Yes No Don't Know

Approximately how wide and deep is the (flowing or wet) water path? Deep: _____ Wide: _____

If the answers to **1a and 1b. are NO**, and **2 or 3 is YES**, then you should state the following:

Although we will be responding as quickly as possible, we request that your staff start protecting the storm drains, setting up containment and any necessary traffic control until we arrive onsite. These measures are important to protect the environment and possibly prevent a beach closure.

How fast is the water flowing? (Is it a small trickle out the side or is it gushing through all outlets with force?)

Attachment A
Collection System Problem Report – Sample Form
Page 2 of 2

Orange County Sanitation District
CONTROL CENTER SPILL INTERVIEW FORM

QUESTIONS FOR THE COLLECTIONS CREW:

Notes:

Fill in the Blanks: If there are any blanks left on page one, ask Collections these questions when they arrive onsite.

General information:

Is this a District problem (i.e., in, from, or caused by District's facilities)? Yes No

Type of spill: Sewage Chemical (I.W.) Other _____

Size of line (not cleanout): _____ inches **Did any sewage reach storm drain?** Yes No

List **receiving water** (if known): Newport Bay Santa Ana River San Gabriel River Other _____

Cause of spill: Grease Roots Other Debris Rain-related Inflow Line Break
Vandalism Other _____

Initial Estimated **volume**: _____ gallons Estimated amount **recovered** to sewer or vectored: _____ gallons

Response:

Responding Personnel: _____

Responding Vehicles: _____

1.) Time Collections was first contacted: _____ 2.) Time arrived onsite: _____

3.) Time containment set: _____ 4.) Time blockage cleared: _____

5.) Time clean up complete/left site: _____

EXHIBIT "A-1"

**Attachment B
Spill Notification Contacts**

CONTACTS CONTAINED IN SPILL NOTIFICATION DISTRIBUTION LIST

Name	Division / Agency	Notified via E-mail or PNA Pager?
James Ruth	110	E-mail
Bob Ghirelli	150	E-mail
Bret Colson	152	E-mail
Jennifer Cabral	152	Both
Sonja (Wassgren) Morgan	152	Both
Wesley Bauer	153	Both
Jeff Reed	240	E-mail
Peggy Echavarria	870	E-mail
Chuck Winsor	870	Both
Peter Cheffs	870	E-mail
Donald Cleveland	870	Both
John Gonzalez	870	Both
Jeff Peterson	870	Both
Ed Torres	610	E-mail
ECRA Spill Response Cell	620	PNA
Dindo Carrillo ¹	620	Both
New ²	620	Both
New ³	620	Both
Jim Colston ⁴	620	Both
Michele Farmer	620	Both
Deirdre Bingman	620	Both
Charles McGee	630	Both
Kelly Christensen	640	E-mail
Darrell Ennis	640	Both
Tom Meregillano	640	E-mail
Jerry Evangelista	640	E-mail
Tom Gaworski	640	E-mail
Merrill Seiler	640	Both
Mike Zedek	640	E-mail
Jim Herberg	710	PNA
John Linder	740	E-mail
Hardat Khublall	750	E-mail
William Cassidy	760	Both
Tod Haynes	760	PNA
Terry Krie	760	E-mail
Nick Arhontes	810	Both
Sherrell Brown	830	Both
Kathy Dodderer	830	E-mail
Marc Larson	830	Both
Tony Lee	830	E-mail
Ted Mauter	830	Both
Peter McGrath	830	E-mail
Victoria Raymond	830	E-mail
Michael Vuong	830	Both
Frank Chavez	830	E-mail
Ron Wade	830	Both
Dave Heinz	830	E-mail

Superscript numbers indicate order of ECRA responders.

EXHIBIT "A-1"

**CONTACTS CONTAINED IN SPILL NOTIFICATION
DISTRIBUTION – EXTERNAL**

Name	Division / Agency	Notified via E-mail or PNA Pager?
Duc Nguyen	OC Public Works	E-mail
Chris Crompton	OC Public Works	E-mail
Larry Brennler	OCHCA	E-mail
Mike Fennessy	OCHCA	E-mail
Larry Honeybourne	OCHCA	E-mail
Dan Yokoyama	OCHCA	E-mail
Najah Amin	RWQCB	E-mail
Steve Mayville	RWQCB	E-mail
Ken Theisen	RWQCB	E-mail

ECRA CONTACT INFORMATION

Name	Back-Up Order	Internal	Pager/Cell	Home
Dindo Carrillo*	1-ECRA 620	x 7476	(714) 343-0333	NA
New	2-ECRA 620	x NA	NA	NA
New	3-ECRA 620	x NA	NA	NA
Jim Colston	4-ECRA 620	x 7458	(714) 803-1397	(949)766-0045

*ECRA Primary Spill Responders will carry ECRA Spill cell phone (714-343-0333).

NOTIFICATION CONTACTS

Normal Hours	After Hours
OCHCA (Please call down the list until someone has been contacted) (1) (714) 433-6419 (Office Support Staff) (2) Mike Fennessy (714) 433-6281 (3) Dan Yokoyama (714) 433-6288 (4) Larry Brennler (714) 433-6284 (5) Larry Honeybourne (714) 433-6015	Control 1: (714) 628-7008 (will contact OCHCA on-call staff)
RWQCB – Water Board Santa Ana Region (951) 782-4130 Najah Amin (951) 320-6362	24 hours: (951) 782-4130 OES: (800) 852-7550
OES (Office of Emergency Services) (800) 852-7550	24 hours
OC Public Works (714) 567-6363 (storm drain/flood channel facility owners)	Control 1: (714) 628-7008
Caltrans (949) 724-2607	24 hours
California Highway Patrol OC Communications Center (949) 559-7888 (traffic control / road way hazard on highways and unincorporated areas)	24 hours
Carl Warren & Company District's Third Party Administrator (public / private property damage) (800) 572-6900 Susan Garcia (714) 740-7999, x117	

EXHIBIT "A-1"

CITY, SEWER, AND WATER AGENCY CONTACTS

CITY	BUSINESS HOURS	OFF-HOURS	NOTIFICATION E-MAIL	COMMENTS
PUBLIC WORKS / CITIES				
Anaheim	(714) 765-6860 1(714) 765-3300	(714) 765-6840 (714) 765-6860	lvechione@anaheim.net	24-hr Emergency Dispatch Off-hrs.
Brea	(714) 990-7648 (714) 990-7691	(714) 990-7911	Jerrym@ci.brea.ca.us	Off-hours: Police Dept.
Buena Park	(714) 562-3655	(714) 562-3902	bjones@buenapark.com rhunt@buenapark.com	Off-hours: Police Dept.
Cypress	(949) 724-7502 (714) 229-6760	(562) 594-7232 (714) 229-6600	gvazquez@ci.cypress.ca.us , pdickson@ci.cypress.ca.us	Off-hours: Police Dept.
Fountain Valley	(714) 593-4493 (714) 593-4600	(714) 593-4483	Steve.hauerwaas@fountainvalley.org	Off-hours: Police Dept.
Fullerton	(714) 738-6897	(714) 738-6715 (714) 738-6700	dand@ci.fullerton.ca.us , PattyL@ci.fullerton.ca.us (sewer spills), BillR@ci.fullerton.ca.us (sewer spills) GeneV@ci.fullerton.ca.us (storm/hazmat), DougR@ci.fullerton.ca.us (storm/hazmat)	Off-hours: Police Dept.
Huntington Beach	(714) 960-8861 (714) 960-8830 (714) 536-5921	(714) 960-8825	cgray@surfcity-hb.org jjones@surfcity-hb.org	Off-hours: Police Dept.
Irvine	(949) 453-5300 (949) 724-7516 (949) 724-7600	(949) 724-7000 p.d.	kilani@irwd.com	Off-hours: Call IRWD or Police Dept.
La Habra	(562) 905-9708 (562) 905-9792	(562) 905-9750	carlo_nafarrete@lahabra-city.com	Off-hours: Police Dept.
La Palma	(714) 523-1140	(714) 690-3368	chafikm@cityoflapalma.org	Off-hours: Police Dept.
Laguna Beach	(949) 497-0765	(949) 497-0717		Off-hours: Police Dept. Hours: 7am-3:30pm
Newport Beach	(949) 644-3011	(949) 644-3717	eburt@city.newport-beach.ca.us	Off-hours: Police Dept.
Orange	(714) 744-5525 (714) 532-6480	(714) 538-1961	JLoertscher@cityoforange.org	
Placentia	(714) 993-8245	(714) 993-8164	N/A	Off-hours: Police Dept.
San Clemente	(949) 366-1553 (949) 361-8224	(949) 366-1553		
San Juan Capistrano	(949) 493-6363 (949) 443-1171	(949) 443-1171		Off-hours: Answering Service
Santa Ana	(714) 647-3380 / 3344	(714) 834-4211 p.d.		Rick Strenberg cell: (714) 402-7042 or Police Dept.
Seal Beach	(562) 431-2527	(562) 799-4100	N/A	Off-hours: Police Dept.
Stanton	(714) 379-9222, x205	(714) 288-6742 (Sheriff's)	t_soza@ci.stanton.ca.us b_doss@ci.stanton.ca.us	Off-hours: Sheriff's Dept.
Tustin	(714) 573-3150 (714) 573-3200, (Field Service)	(714) 573-3225 Police	ryee@tustinca.org agonzales@tustinca.org knguyen@tustinca.org	Off-hours: Police Dept.

EXHIBIT "A-1"

Villa Park	(714) 998-1500	Cell (714) 337-5214 (714) 497-7391	cityhall@villapark.org	Off-hours: Lead Maintenance Mike Knowles and Ken Domer
Westminster	(714) 898-3311 (0 for operator)	(714) 898-3315 x326 (police dispatcher) or 911		Off-hours: Jeff Howell, Public Works Manager, ext. 6290
Yorba Linda City	(714) 961-7170	(714) 990-7911		Off-hours: Police Dept.
SANITATION DISTRICTS				
Costa Mesa	(949) 631-1731 (714) 393-4433 (714) 337-3535	(714) 754-5250 (714) 393-4433 / (714) 754-5252	tomfauth@ci.costa-mesa.ca.us	Off-hours: Answering Service/Police Dept.
Dana Point (part of SCWD)	(949) 499-4555 (949) 496-9322	Ernie Garcia (949) 289-0137		Off-hours: Answering Service at (949) 499-4555
Garden Grove	(714) 741-5395	(714) 741-5704 p.d.	brenth@ci.garden-grove.ca.us	Off-hours: Police Dept.
L.A. Sanitation	(562) 699-7411			
Midway City and Westminster	(714) 893-3553	(714) 310-9004		Off-hours: Standby Cellular phone
O.C.S.D.	(714) 962-2411	(714) 593-7025		Off-hours: Control Center
Rossmoor Los Alamitos Sewering District	(562) 431-2223	(562) 708-1772 (562) 400-4022		Off-hours: Standby Pager OR General Manager Susan Bell OR Melody Hiller
Sunset Beach	(562) 493-9932 (714) 330-3728	(714) 330-3728		Off-hours: Answering Service
WATER DISTRICTS				
EOCWD	(714) 538-5815			
El Toro	(949) 837-0660	(949) 837-7050		Administration Center with Answering Service
Irvine Ranch	(949) 453-5300	(949) 453-5300	roberts@irwd.com	Off-hours: Answering Service
Los Alamitos	(562) 431-2223			Los Alamitos
Los Alisos (IRWD)	(949) 830-0580			After hour – answer service
Moulton Niguel ²	(949) 831-2500	(949) 831-2500		24-hour service
Orange County	(714) 288-2475 (714) 378-3200	(714) 538-1961		Off-hours: Answering Service
Santa Margarita	(949) 459-6400	² (949) 459-6581		
Santiago County (IRWD)	(714) 649-2630 (949) 453-5300			Off-hours: Answering Service
South Coast ³	(949) 499-4555			Off-hours: Answering Service
Trabuco Canyon	(949) 551-8580 (949) 858-0277	(949) 856-0277		Trash only Off-hours: Answering Service
Yorba Linda	(714) 701-3050			Off-hours: Answering Service
COUNTY OF ORANGE				
OC Public Works	(714) 955-0200	(714) 955-0200		Off-hours: Answering Service

¹Daytime Secondary Number/Off-hours Answering Service²Cities served – Laguna Niguel, Aliso Viejo, Laguna Hills, Sections of Mission Viejo and North Dana Point³Cities served – Dana Point, Capistrano Beach and South Laguna

EXHIBIT "A-1"

Phone numbers last updated: 1/16/09

EXHIBIT "A-1"

Attachment C
Spill Notification Decision Matrix and Contact List
Page 1 of 1

Checklist Guidance	If YES, Notify:
If a possible spill of any size is reported to the District	<ul style="list-style-type: none"> • Collection Facilities Supervisor, Designee, or Standby • Plant No. 1 Chief Operator or Designee
If a spill of any size is confirmed by Collection Facilities staff	<p>E-mail <i>brief</i> notification to internal staff, OCHCA, and RWQCB via the Spill Notification distribution list in Outlook.</p> <p>Include the following information, if known and available:</p> <ul style="list-style-type: none"> • Responsible city, agency, private property owner • Notified date and time • Incident location including address and city • Problem description • Response status • If it entered a storm drain • Estimated volume
If Collection Facilities staff confirm the spill to be a non-District's line	Call the responsible Agency or City. See Contact City List above. <i>(This includes private property spills where the spill is on City property.)</i> Fill out Collection System Problem Report.
If the spill is estimated to be <i>less than 1,000 gallons</i>	Call: OCHCA* (714) 433-6419 / 6015 RWQCB* (951) 782-4130
If the spill is estimated to be <i>equal to or greater than 1,000 gallons</i>	Call: OCHCA* (714) 433-6419 / 6015 RWQCB* (951) 782-4130 OES (800) 852-7550
If spill discharging to <i>storm drains / flood control</i>	Call OCHCA* (714) 433-6419 / 6015 RWQCB* (951) 782-4130 OC PUBLIC WORKS* (714) 567-6363
If the <i>private property owner is uncooperative</i> and public property and/or storm drains are impacted	Call OC PUBLIC WORKS* (714) 567-6363 OCHCA* (714) 433-6419 / 6015 (After Hours Control 1 , at (714) 628-7008 and request storm water ordinance enforcement).
If the spill possibly contains <i>industrial process water?</i>	Call: Source Control Division - Kelly Christensen at (714) 713-6172 OCHCA* (714) 433-6419, and RWQCB* (951) 782-4130
If <i>hazardous materials</i> are a possible concern?	Notify the local police, fire, or sheriff's department, Source Control - Kelly Christensen at (714) 713-6172, and Safety – Wesley Bauer at (714) 263-5304.
If <i>local oversight or enforcement</i> is needed	Contact the local/governing city, especially for gutter and storm drain response or if the spill is flowing to <i>city property</i> .
If command and control <i>authority</i> is needed	Notify the local police or sheriff's department. OCHCA and/or the local city may also be of assistance. OC PUBLIC WORKS/Control 1 can enforce against illegal discharges to storm drains throughout the

EXHIBIT "A-1"

Checklist Guidance	If YES, Notify:
	county.
If <i>traffic control</i> is a concern	Notify the local police or sheriff's department, California Highway Patrol, (949) 559-7888 or Caltrans (949) 724-2607 as necessary
If the spill has the potential to <i>damage public or private property</i>	As the District's management directs, notify the District's Third-Party Administrator, Carl Warren & Company, to determine whether their representative should respond to the scene at (800) 572-6900.

* If an SSO occurs after hours, notify OES/Control 1 and they will make the necessary contacts.

**ORANGE COUNTY SANITATION DISTRICT (OCSD)
RECLAMATION PLANT NO. 1**

PROCEDURE TITLE: **SEWER GRIT DISPOSAL PROCEDURE**

PROCEDURE NUMBER: **870-09-01**

APPROVALS

Simon Watson, Manager, Maintenance Division Date: _____

Patrick McNelly, Principal Staff Analyst, Planning Division Date: _____

Dave Heinz, Manager of Operations Date: _____

PROCEDURE REVISION BLOCK			
PRF NO.	REV	DATE	Comments
420-08-01	1	10-29-07	Updated to reflect temporary grit dumping area location
420-08-01	2	07-21-08	Updated to reflect opening of new permanent grit dumping area location
870-09-01	1	08-01-09	Updated to reflect new division numbers and to clarify Grit Disposal Form issues

1.0 PURPOSE and INTRODUCTION

The purpose of this procedure is to provide guidelines to assist member cities and agencies, their contractors and OCSD staff in the correct procedures for disposing sewer grit and decant water in the permanent grit disposal facility located at the Orange County Sanitation District (OCSD) Reclamation Plant No. 1 in Fountain Valley, California.

- 1.1. Regular removal of grit, solids and semisolid materials from sanitary sewers is a recommended best management maintenance practice to ensure continuous operation and reliability, and to prevent sanitary sewer overflows due to blockages from fats, oils and grease (FOG), grit and other debris.
- 1.2. This procedure applies only to the disposal of sewer grit solids removed from sanitary sewers; **no other materials or waste products (such as catch basin, street gutter and stormdrain debris) shall be accepted at this facility.**
- 1.3. The existing dumping sites at the temporary facility are clearly marked "**Solids Dump**" and "**Decant**", and caution is urged by all personnel using this facility.
- 1.4. OCSD does not currently charge a fee for this service.

2.0 DEFINITIONS

- 2.1. **Sewer Grit** – For the purposes of this procedure, sewer grit is defined as the solid and semisolid waste products and debris that are removed during the cleaning of sanitary sewer lines using combination sewer cleaning trucks or other similar methods. These solid waste products can include but are not limited to: FOG, tree roots, rocks, gravel, sand, silt, stones, grit and other solid and semisolid wastes commonly removed during the cleaning of sanitary sewers.
- 2.2. **Catch Basin, Street Gutter and Stormdrain Debris** – For the purpose of this procedure, catch basin, street gutter and stormdrain debris are those wastes consisting of leaves, paper, plastics, trash, etc. that have not been contaminated by sewage, and have been removed during the normal cleaning of stormdrains, catch basins or street gutters.

3.0 PREREQUISITES and PROHIBITIONS

- 3.1. All OCSD staff and city/sewering agency staff members or contractors using this facility shall be familiar with this procedure prior to scheduling, disposing, or assisting in the disposal of sewer grit.
- 3.2. All OCSD staff and city/sewering agency staff members or contractors shall follow this procedure whenever they are on site at OCSD Plant No. 1 to dispose of or are assisting in the disposal of sewer grit.

- 3.3. All trucks or vehicles using this facility must be in good mechanical condition, and must be maintained and equipped to be able to decant excess liquid prior to dumping grit.
- 3.4. Loads containing hazardous materials shall not be accepted. Hazardous materials include, but are not limited to: explosives, flammable liquids, flammable solids, oxidizers, poisons, radioactive materials, corrosives, reactive agents, solvents, or petroleum products.
- 3.4. No sewer grit originating outside of the OCSD service area shall be disposed of at this facility. Operations staff reserves the right to inspect and reject any load.
- 3.5. All persons using this procedure shall follow all OCSD plant safety rules while on site.
- 3.6. Failure to comply with this procedure may result in having your city or agency's privileges to use this facility suspended or revoked.

4.0 **PRECAUTIONS**

- 4.1. **Personal Protective Equipment:** The following personal protective equipment shall be worn when performing this procedure:
 - Hardhat
 - Safety glasses – or goggles and dust mask when working with sawdust
 - Hard-toed shoes and gloves are also recommended

5.0 **DIRECTIONS**

- 5.1 How to Get to Orange County Sanitation District – Reclamation Plant No. 1
 - Going South on the 405 freeway, exit at Euclid St. off ramp, go straight through signal at Ellis Ave, enter OCSD main gate and continue straight ahead (south).
 - Going North on the 405 freeway, exit at Euclid Ave., turn right on Euclid St. (which becomes Ellis Ave.), turn left at first signal immediately after 405 freeway underpass, enter OCSD property and continue straight ahead (south).

6.0. **BRIEFING**

- 6.1. If you are using this procedure for the first time, you must call one of the following staff members in OCSD Division 870 to be briefed on this procedure at least **48 hours** before you will be able to schedule a delivery.

All drivers and their supervisors must be briefed on this procedure. All phone numbers are in the 714 area code.

<u>NAME</u>	<u>Office Phone No. and Voice Mail</u>	<u>Pager No.</u>	<u>Cell Phone</u>
Jeff Peterson	593-7642	806-3315	269-8149
John Gonzalez	593-7644	354-2954	305-5940
Collections Shop	593-7645	N/A	N/A

7.0 LOAD SCHEDULING

- 7.1 Sewer grit deliveries will be accepted on the following days and times:
- Mondays from 10:00 a.m. to 3:00 p.m.
 - Tuesdays thru Fridays from 9:00 a.m. to 3:00 p.m.
- 7.2 You must call the OCSD Plant No. 1 Control Center (714-593-7025) **at least 24 hours prior to arriving** to schedule your delivery. Please contact the OCSD Control Center if you need to schedule a delivery at another time or need to make other special arrangements. Scheduling more than 24-hours in advance is preferred.
- 7.3 Contractors **shall not** schedule their own deliveries. All sewer grit deliveries from contractors **shall be scheduled by the contracting city or agency only.**
- 7.4 The driver must have a copy of the **Grit Dumping Authorization Form** upon arrival. A copy of this form is included as the last sheet of this procedure. Refer to section 8.3.5 for instructions on completing this form.

8.0 SEWER GRIT DUMPING PROTOCOL

- 8.1. Once you have entered the plant from Ellis Ave, drive south (straight ahead) toward the gated entrance and push the call box button for Control Center assistance to open the gate. **DO NOT** enter the plant by going to the right past the guard shack.
- 8.2. Control Center personnel will remotely open the gate and notify the Operations Supervisor of your arrival. After the gate has been opened, enter the plant, **pull to the right and park, and wait for an Operations staff member to meet you.** The operations staff member will escort you to the grit dumping disposal area. **Drivers may not enter the plant without an escort!**

Speed Limits and Safety

The **maximum** speed limit on OCSD property is **15 MPH** unless otherwise posted. Some construction zones are posted at **10 MPH**. You must always exercise caution when on OCSD property and obey all speed limits. The grit disposal area is located near a major construction zone.

8.3. The following contains step-by-step instructions once you arrive at the sewer grit disposal facility.

8.3.1. Follow the Operations staff member to the sewer grit disposal facility and ensure that decant water is disposed of properly and safely in the designated location. This entire area of Plant No. 1 is under construction so please use caution.

8.3.2. If you are unable to decant excess liquid due to mechanical or operational problems, you are responsible to mitigate any spill mess you create by either vacuuming it up or some other appropriate method approved by Operations staff at the site.

8.3.3. Please follow OCSD Operations staff instructions when disposing of sewer grit. The sewer grit must be disposed into the prepared sawdust berm inside the grit dumping area and must be thoroughly covered with sawdust after the truck has been unloaded. OCSD staff will assist in covering the grit as necessary to control odors.

Sawdust must be kept sufficiently moist to prevent any airborne particulate matter emissions. This facility is regulated and permitted by the South Coast Air Quality Management District (SCAQMD), and Operations' staff shall ensure that all permit conditions are followed. A copy of the SCAQMD permit is available in the Plant. No. 1 Control Center.

8.3.4. Prior to departure (as necessary), wash down your truck with the hose provided. **Note:** Wash-down water is reclaimed water and is not potable.

8.3.5. When you have completed dumping your load of sewer grit, you **must** stop at the Plant No. 1 Solids Loading facility and drop off a completed Sewer Grit Dumping Authorization form in the designated mail box. A copy of this form must be completed by the delivery driver and signed by the OCSD Operator for each load dumped at this facility. Check off all applicable boxes on the form. The AQMD Operating Permit for this facility requires that OCSD keep daily records for the amount of grit/sludge dewatered, the number of trucks washed, and the number of leaky or overfilled trucks. ALL entries on the **Sewer Grit Dumping Authorization Form** must be completely filled out!

Exit the plant using the same route you came in (unless otherwise instructed).

Warning!

Failure to follow these procedures may result in your city or agency's privileges to use this facility to be suspended or revoked!



ORANGE COUNTY SANITATION DISTRICT SEWER GRIT DUMPING AUTHORIZATION FORM

DATE: _____

CITY/AGENCY DUMPING GRIT:

- | | | |
|---|--|--|
| <input type="checkbox"/> Anaheim | <input type="checkbox"/> Brea | <input type="checkbox"/> Buena Park |
| <input type="checkbox"/> Costa Mesa San Dist | <input type="checkbox"/> Cypress | <input type="checkbox"/> Fountain Valley |
| <input type="checkbox"/> Fullerton | <input type="checkbox"/> Garden Grove San Dist | <input type="checkbox"/> Huntington Beach |
| <input type="checkbox"/> La Habra | <input type="checkbox"/> La Palma | <input type="checkbox"/> Rossmoor/Los Alamitos |
| <input type="checkbox"/> Midway City Sanitary Dist | <input type="checkbox"/> Newport Beach | <input type="checkbox"/> Orange |
| <input type="checkbox"/> Placentia | <input type="checkbox"/> Santa Ana | <input type="checkbox"/> Seal Beach |
| <input type="checkbox"/> Stanton | <input type="checkbox"/> Sunset Beach | <input type="checkbox"/> Tustin |
| <input type="checkbox"/> Villa Park | <input type="checkbox"/> Westminster | <input type="checkbox"/> Yorba Linda |
| <input type="checkbox"/> Yorba Linda Water District | <input type="checkbox"/> Other _____ | |

CONTRACTORS:

- | | | |
|---|-----------------------------------|--|
| <input type="checkbox"/> Sancon | <input type="checkbox"/> Pro-Pipe | <input type="checkbox"/> National Plant Services |
| <input type="checkbox"/> Houston Harris | <input type="checkbox"/> Empire | <input type="checkbox"/> Innerline Engineering |
| <input type="checkbox"/> Other: _____ | | |

APPROXIMATE VOLUME in CUBIC YARDS: _____

Truck-wash performed by Driver: Yes No

Truck License Number: _____

Hazardous Material Declaration: "I hereby declare, to the best of my knowledge, that there are no hazardous materials or anything other than sewer debris in this truck load, and that all material came from within the OCSD service area."

Driver Signature

Print Name/ Emp. #

OCSD Staff Approval Signature

Print Name/ Emp. #

- Sawdust pile condition (to be completed by OCSD Operator):** No action necessary
 Moistened per AQMD permit to prevent airborne particulate matter emissions
 Reorder sawdust

Exhibit "A-3"

TROUBLE SPOT	Feet	Dia	Upstream MH	EMB Pg #	Downstream MH
Newport & Sycamore (Both Sides of the Street)	300'	8"	RED0135-0045	4044	RED0135-0055
Sycamore To Red hill	2658'	8"	RED0135-0000	4145 / 4044	RED0135-0045
First Street & Centennial to Newport	1542'	8"	SUN0390-0070	3846 / 3946	SUN0390-0000
Tustin Meadows to Red hill (Easement)	230'	8"	RED0125-0000	4145	RED0125-0025
Hidden Hills to Royal Oak	261'	8"	HAT0080-0125	4246 / 4245	HAT0080-0095
Royal Oak to Browning Trunk	772'	8"	HAT0080-0095	4245 / 4246	HAT0080-0000
Fallen Leaf to Browning Trunk	265'	8"	HAT0080-0005	4246	HAT0080-0000
Vandenberg to Prospect	2357'	8"	RED0380-0000	3745 / 3645	RED0380-0065
Enderlee to Vnadenberg (From 17th Street)	565'	8"	RED0380-0075	3645 / 3745	RED0380-0030
Red hill & San Juan (Between Red hill & Tustin, E. DR.)	1066'	8"	SUN0315-0515	4047 / 4046	SUN0315-0450
Tustin East Drive to Sierra Vista to Browning	635'	8"	HAT0180-0045	4047 / 4147	HAT0180-0000
Nisson & Red hill	1335'	8"	SUN0315-0275	4046 / 3749	SUN0315-0215
Tustin Village Way to McFadden, West to Williams	2079'	8"	RED0145-0060	4044	RED0115-0085
Pasadena from McFadden to Altadena to Newport	2090'	8"	RED0115-0255	4044	RED0115-0075
Myrtle and Newport (Last section to Newport)	1095'	8"	RED0115-0080	4044	RED0115-0075
Camino Real from Orange to Red hill (by School)	4459'	8"	SUN0315-0345	4046	SUN0315-0305
Holt & Newport (by Cocos Restaurant)	70'	12"	SUN0400-0025	3846	SUN0400-0020
First & Prospect (in front of McDonalds)	592'	8"	RED0275-0025	3846 / 3845	RED0275-0005
Newport to Old Irvine to Elizabeth Way	398'	8"	SUN0315-1150	3847	SUN0315-1105
Newport to Irvine	1049'	15"	SUN0430-0010	3847 / 3846	SUN0430-0000
Newport & 1st. Street	421'	8"	SUN0400-0015	3846	SUN0400-0105
Newport & El Camino Real	1145'	8"	SUN0315-0420	3945 / 3946	SUN0315-0350
Marmon to Montgomery on Hewes	1126'	8"	SUN0480-0190	3347	SUN0480-0165
Park to Washington from Chapman	1005'	8"	SUN0480-1510	3347	SUN0480-1520
Esplanade to James on Chapman	1209'	12"	RED0575-0000	3346 / 3347	RED0585-0000
Easement to Malena to Anglin	675'	8"	RED0395-0040	3645	RED0395-0060
Grove Site to Easement	1275'	8"	RED0395-0055	3645	RED0395-0235
Laurinda to Malena (Easement)	312'	8"	RED0395-0020	3645	RED0395-0025
Laurinda to 17th Street (Every 6 Months)	983'	8"	RED0395-0020	3645	RED0395-0005
Manhole on Prospect in front of Loma Vista School	195'	8"	RED0410-0000	3646	RED0410-0005
Carrol Way to Yorba on 17th	1278'	8"	RED0390-0740	3645	RED0390-0025
Crawford Canyon between Chapman & Stroller	759'	8"	RED0625-0440	3348	RED0625-0030

Exhibit "A-3"

TROUBLE SPOT	Feet	Dia	Upstream MH	EMB Pg #	Downstream MH
McFadden and Walnut	1000'	8"	RED0145-0080	4044 / 4045	RED0145-0055
Fox Run Road (by Castle Gate)	480'	8"	SUN0430-0495	3351	SUN0430-0505
Overhill from Miralogo to (2) manholes upstream	230'	8"	HAT0000-0575	3551	HAT0000-0585
Park Loop the Barn	2100'	8"	RED0105-0000	4245	RED0105-0050

Memorandum

Date: April 15, 2010

From: Chuck Winsor

To: Rob Thompson

Subj: Sep. 2007 GHD Report, OCSD Service Area 7 Local Sewer Study, Cost
Projection of Rehabilitation and Replacement over 100 years

I believe that the current data in the GHD report regarding the infrastructure (manholes and pipe line segments) appears to be identified correctly. The executive summary talks about the formulas for calculating the rehabilitation and replacement costs. It also includes a discussion on the basis of revised costs as a result of a deficiency in the data from FY 2005/06 where a lot of the pipe segments were previously left out and the revised costs went from \$27 million to \$350 million.

I agree with the current infrastructure data accounting and I don't disagree with the formulas for calculating asset replacement costs as shown in table 1 on the second page of the executive summary, although these formulas may need to be reviewed to include rehabilitation rather than replacement.

However, I disagree with what appears to be one of the underlying assumptions that are built into the model regarding rehabilitation costs and methods followed by replacement costs and methods. Appendix C is titled Rehabilitation and Renewal by Year and Area. The next page (which I have numbered C-1) shows total costs, including both rehabilitation and replacement from 2009 through 2107, which represents approx. 100 years, costing approx. \$350 million.

The assumptions for the manhole assets (see page D-1) is that the manholes are first rehabilitated within approximately 57 years after initial installation and are replaced 55 years after that. Each row on the attached table (pages D-1 and subsequent pages) shows the asset ID number (single ID number represents one manhole) and gives the year assumed for rehab, followed by the next row showing the same asset ID number but showing the assumed year for replacement.

Starting on page D-94 and pages following, the table shows the two asset ID numbers which represent a pipe line segment (first ID number is the downstream MH and next ID number is the upstream MH). The assets represented here are nearly entirely 8-inch diameter Vitrified Clay Pipe (VCP) pipes. This is because the vast majority of the local sewer pipes in the City of Tustin (as well as in the unincorporated County portion of Service Area 7) are 8-inch VCP local sewers.

Pages D-94 and subsequent pages have different years or timeframes from initial sewer installation to when the first rehabilitation of sewer pipe line segments is assumed to begin. These pages show anywhere from 16 years from the initial installation of the sewer to the rehabilitation date, all the way to 48 years from the initial installation date to first rehabilitation date. This variation can be explained because GHD introduced condition assessment data from actual manhole and pipeline inspections into the model to determine the date (or year) of first rehabilitation. Then, the model shows an assumed time period of 61 years between first rehabilitation date and next replacement date.

Today (4-15-10), we completed a telephone conference discussion involving Chuck Winsor and Kevin Hadden from OCSD talking with Mathew Oakey from GHD to resolve some of these issues involving GHD's model assumptions. Mathew Oakey agrees that if OCSD thinks there are more current underlying model assumptions than what is presently programmed in the model, it would be good to introduce the new changed assumptions and rerun the model to arrive at some more accurate conclusions.

I do not agree with one of the primary assumptions in the GHD model. Specifically, I do not agree that in the assumed 100 year time period, there needs to be two separate repairs within the same line segment for every line segment, the first repair being called "Rehabilitation" and the second being called "Replacement." I believe that using a good quality lining product as a repair within the existing 8" VCP, we should be able to get another 100 years of life out of the pipe without having to replace the pipe within that overall 100 year period. VCP pipe does not corrode. It can only crack but if restrained by a good liner product applied correctly, I don't believe it will fall apart or significantly deteriorate even over 100 years.

I believe that except for a catastrophic event such as a severe earthquake (which is not built into the model anyway), there should only be one significant repair method in the 100 year life of the sewer and I would call that a rehabilitation.

The rehabilitation or repair should be done using a good quality lining method such as "Cured-in-Place Pipe" (CIPP), sliplining of a pipe within a pipe, spiral wound rehabilitation lining methods or possibly a few other acceptable methods.

Since VCP does not corrode even with a high concentration of chemicals and sewer gasses, it will last almost indefinitely. However, if the sewer is not installed and bedded well in the beginning, offset joints and other cracked pipe issues can occur which can be repaired by lining the pipe as discussed. If we standardize on a good quality repair method, I am convinced that they should last 50 to 100 years, therefore eliminating the need for two increments of repair in the 100 year cycle that the model assumes.

Another issue has been developing in the sewer pipe repair business in recent years that changes some of these equations and assumptions, especially in the small 8" to 12" pipe sizes. That is, there is no longer the need to mandatorily assume and budget for complete lining repair between two manhole segments in all cases. The average distance between the local OCSD manholes in Service Area 7 is in the range of 250 to 350 feet, say 300 feet. If the sewer is cracked and starting to fall apart in only one or two places in that 300 feet, there are now very good quality lining methods that can go for say 8 to 12 feet per liner segment and can be done robotically from the closest manhole without necessarily doing a pumped bypass of sewage flow above the surface of the street. This can reduce the total footage of repair compared to some of the older continuous lining methods used, thereby saving a large amount in unnecessary costs. This will vary depending upon the overall volume of flow and other condition factors in any particular line segment. But, substantial savings should be able to be made compared to the assumptions built into the model.

The only scenario where I feel it is realistic to assume complete replacement of the pipe line segment is either one of three of the following things occurring: (1) Catastrophic failure of the pipe such as in a severe earthquake (I believe that is beyond the scope of this model). (2) Sewer capacity within the pipe is used up because of high density development and sewer replacement is needed because of highly increased flows in the area (I believe that is also beyond the scope of this model). (3) Severe sags in the sewer because of either poorly installed or improperly bedded sewers or severely poor soil conditions causing portions of the sewer to sink. I believe we have a few of those sags now, but the percentage of pipe line segments needed to be replaced because of severe sags is probably less than 5%. The point is that except in a few cases, complete replacement of the pipe should not need to occur, only one cycle of rehabilitation within 100 years.

Using that assumption and the same rehabilitation cost numbers shown in the GHD report on page C-1, it brings the overall cost down to \$106.58 million from \$350 million by not assuming a complete replacement within 61 years of the initial rehabilitation which I believe is correct. If you want to assume a greater factor of safety because we know some line segments will need to be replaced after rehabilitation (and allowing for more inflation), then assume, say \$150 million.



February 13, 2013

Mr. Lorenzo Tyner
Finance and Human Resources Director
Orange County Sanitation District
10844 Ellis Avenue
Fountain Valley, CA 92708

Subject: ***Local Sewer Fee Increases***

Dear Mr. Tyner:

As part of the 2013 rate update process, Carollo recommended that the District increase the 2014 local sewer fees by 4.8% in order to continue to set aside money to fund identified future capital replacement needs. The proposed fee adjustment is commensurate to the increase to the District-wide service charge increases on a percentage basis.

The District retained GHD to perform an asset management update for its local sewer system. Based on this analysis, the District is projected to undertake significant capital replacements beginning in FY 2034/35. In anticipation of these improvements, the District currently collects replacement funding through the local sewer fees. This replacement set aside will be used to offset future capital expenditures and mitigate future rate spikes. This proactive approach also achieves intergenerational equity by requiring existing users to contribute to the future replacement of sewer assets.

If the District does not increase the local sewer fee in FY 2013/14, it will continue to collect adequate revenues to fund its ongoing operation and maintenance requirements, but lower the annual capital replacement set aside by approximately \$300,000. The District could increase future local sewer fees or issue debt in the future as necessary to fund replacement needs at the time of the capital improvements when actual project costs are known.

Sincerely,
CAROLLO ENGINEERS, INC.

Robert S. Grantham
Vice President

**ORANGE COUNTY SANITATION DISTRICT
WASTEWATER REVENUE AND RATE STUDY**

FINAL
January 2013

**ORANGE COUNTY SANITATION DISTRICT
WASTEWATER REVENUE AND RATE STUDY**

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Orange County Sanitation District

WASTEWATER REVENUE AND RATE STUDY**1.0 INTRODUCTION****1.1 Purpose and Scope****1.1.1 Purpose**

The purpose of this report is to present the findings of an independent review of the Orange County Sanitation District (District) user rate recommendations for FY 2013/14 through FY 2020/21. To develop this report, Carollo Engineers, Inc. (Carollo) evaluated the District's revenue needs, projected reserve balances, and user rate structure.

1.1.2 Scope of Work

The scope of work includes the following evaluations:

- Revenue needs forecast from FY 2013/14 through FY 2020/21.
- Cost-of-service allocation and equitable rate basis.
- Independent review of select customer class user rates based on estimated sewer discharge characteristics.

1.2 Background

The District is a public agency responsible for regional wastewater collection, treatment, and disposal. The District provides service to an area of approximately 479 square miles with a population of approximately 2.5 million people in the northern and central portion of the County, treating approximately 200 mgd of wastewater. This service area includes the Irvine Ranch Water District (IRWD), which is an independently operating revenue area within the District's service area. IRWD treats the majority of wastewater flows in their service area. The District owns sanitary sewerage facilities with a replacement value of approximately \$6.26 billion.

On July 17, 2002, the Board of Directors approved Resolution No. OCSD-14, "Establishing the Policy for Level of Treatment of Wastewater Discharged into the Ocean." This resolution established the District's policy to treat all wastewater discharges into the ocean to secondary treatment standards. Implementation of full secondary treatment standards has now been completed by the District. The completion was under budget and ahead of the December 31, 2012 schedule.

The wastewater system must also meet other demands, including service to a growing customer population, decreasing per capita flows, odor control improvements, and air quality protection needs. Over the next 17 years, the District's overall Capital Improvement

Plan (CIP) is projected to total approximately \$2.4 billion. All capital costs presented within this report are stated in 2012 dollars, unless otherwise denoted.

1.3 Project Findings and Recommendations

Based on the analyses performed for this rate study, Carollo has concluded that the staff recommendations are reasonable based on industry practice and our understanding of the District's costs. The confirmed recommendations are as follows:

- Increase the regional user rate 4.8 percent, from \$294 to \$308 per equivalent dwelling unit (EDU) in FY 2013/14.
- Following the FY 2013/14 adjustment, implement additional annual increases of 2.4 percent in subsequent years between FY 2014/15 and FY 2020/21.
- Increase the Local Sewer Service user rate concurrently with the regional user rate.
- Update the industrial rates based on unit costs developed through this revenue program update, using a 3-year transitional period.
- During the forecast period, the District is projected to reduce reserves to its policy target levels. In FY 2016/17, prior to reducing the reserve target, the District will fall approximately \$2.9 million below its target. In addition, the District is forecasted to fall short of the reserve policy in FY 2017/18 by roughly \$1 million. After FY 2017/18, the District is projected to exceed the revised target levels. Furthermore, the District is projected to replenish reserves in the latter years of the forecast period. Slightly higher, inflationary rate increases would mitigate the drawing down of reserves.
- As the District anticipates reducing reserve levels to fund major capital rehabilitative projects over the forecasted 8-year time period, all recommendations should be reviewed and updated periodically to confirm continued compliance with the District's Reserve Policy.
- Wastewater customers may request a rate adjustment by providing water consumption records that demonstrate lower sewer discharge levels than defined within the District's ordinance (Ordinance No. OCSD-35). The District should consider implementing a loadings criteria (sampling) for rate adjustments, rather than merely basing it on water meter information. This would require the customer to perform and pay for a discharge sampling and provide the District with the results prior to a rate charge adjustment. The current District ordinance allows sampling information to be required under Article II – Section 2.03B.

The basis for these recommendations is presented within the report herein. The project calculations are presented in Appendix A of this report.

1.4 Forward-Looking Statement

The projections and forecasts of this analysis are based on reasonable expectation of future events. Although there were minor differences in assumptions and escalators, Carollo's analysis closely mirrors the District's internal results. If cost escalation, operating expenditures, or capital needs exceed projected levels prior to FY 2020/21, the District will be required to begin a new Proposition 218 process to increase rates above currently projected levels. The District would similarly be required to begin a new Proposition 218 process if revenues do not materialize as projected.

2.0 ASSUMPTIONS AND DATA

2.1 Flow and Growth Assumptions

According to the latest District projections (Planning Department July 2012 projections), the population of the District's service area that currently sends flow to Plants 1 and 2 is projected to grow from approximately 2.2 million to 2.4 million by the year 2030 (IRWD, which is in the District's service area is not included in this estimate because they treat the majority of the flows in their portion of the service area.). The average yearly influent flow to the District has decreased steadily over the last 10 years from approximately 246 mgd in FY 2000/01 to 201 mgd in FY 2011/12. This is partially due to increased indoor water conservation and efficiency, industry leaving the service area, and, in recent years, because of tough economic conditions. However, based on projected service population growth, average flow rates at both treatment plants are projected to increase to a total combined flow of approximately 280 million gallons a day (mgd) by 2030.

2.1.1 Flows

Projected flows treated by the District are presented within Table 1.

Table 1 Summary of Total Projected Treatment Plant Flows Wastewater Rate and Revenue Study Orange County Sanitation District				
Flow Source	Flow (mgd)			
	2010	2015	2020	2030
District Flows	192.3	201.8	219.5	255.7
Irvine Ranch Water District (IRWD)	3.0	3.0	3.0	3.0
Santa Ana Watershed Protection Agency (SAWPA)	11.9	15.0	18.0	20.0
Total District Flows	207.2	219.8	240.5	278.7

Notes:
(1) District flows include urban runoff and wet-weather infiltration and inflows.

2.1.2 Equivalent Dwelling Units

As stated above, the District provided customer flow and population projections. The number of customers or connections to a sewer system is often expressed in EDUs. An EDU is a measurement of the demand on collection and treatment facilities in terms of flow and strength that is equivalent to that produced by a single-family home. Biological Oxygen Demand (BOD) and Total Suspended Solids (TSS) measure influent strength. Residential and commercial user rates are based on EDUs.

The projected number of customers served by the District from FY 2013/14 through FY 2020/21, identified in EDUs, is presented in Table 2.

Table 2 Projected Equivalent Dwelling Units (without industrial) Wastewater Rate and Revenue Study Orange County Sanitation District	
Fiscal Year	Projected EDUs
2013/14	929,430
2014/15	932,033
2015/16	934,736
2016/17	937,493
2017/18	940,306
2018/19	943,127
2019/20	945,956
2020/21	948,794

Notes:
 (1) EDU growth during the projection period assumes nominal growth. Growth rates were developed by District staff and confirmed as reasonable by Carollo.

The District calculates the number of EDUs based on the annual revenues divided by the current single-family residential (3-bedroom house) annual user rate charge. Based on projected user rate revenues for FY 2013/14 of \$285 million and a projected annual user rate of \$308 per EDU, the District is assumed to serve 929,430 EDUs (not including industrial EDUs). This EDU count is used as the basis for the analysis presented within this study. EDU growth is projected to increase slowly from 0.27 percent in FY 2013/14 to 0.30 percent in FY 2017/18, where growth is then held static.

2.2 Approach to Rate Analysis

Rate development consists of two steps. First, the annual revenue requirement is determined, defining the amount of revenue that must be collected through user rates each year in order to meet the District's cash and bond coverage obligations. Second, unit costs for flow, BOD, and TSS are developed based on this annual revenue requirement. This process is discussed later within this report.

2.3 User Rate Categories

Users are billed a flat wastewater service charge based on the property-use classification maintained by the County Assessor. The District maintains a listing of average flow and wastewater strength discharges for each property type, which is used to develop the user rates. The single-family residential (SFR) user rate is based on typical flow and loadings for an average 3-bedroom home and serves as the base rate to calculate rates for other users. Multi-family residential users are charged 70 percent per unit of the SFR rate. Commercial and the majority of industrial users are charged a percentage of the SFR rate as specified in the Fees and Charges Ordinance, Ordinance No. OCSD-35. These use factors are based on the average flow and strength characteristics for the type of property, charged on a 1,000-square-foot basis. Users with unusually high flows and/or strength of wastewater, known as "Permit Users," pay individually calculated charges, based on measured wastewater flows and strengths.

The District currently has 118 different residential and commercial use code rates. See Table B for a complete listing of user rate categories, contained in Ordinance No. OCSD-35.

2.4 Capital Improvement Plan

The District developed the current CIP in combination with the Interim Strategic Plan. This CIP is updated annually and runs through FY 2030/31. The District expects to meet future demands on the Wastewater System through the CIP. This program has been developed to satisfy anticipated regulatory requirements; increased population; additional treatment requirements; conservation, energy, and other resource-savings considerations; odor control improvements; and air-quality protection needs. Whereas the CIP in the 2008 rate analysis was significantly related to District's implementation of full secondary treatment, the future CIP is primarily intended to address the District's long-term rehabilitation and replacement (R&R) needs. With respect to costs and cost recovery, the change in projects result in a slight shift from loadings- to flow-related. Over the next 18 years, the District's CIP will accomplish:

- Major rehabilitation of the existing headworks, primary-treatment, outfall, and solids-handling facilities.
- Rehabilitate and replace many of the District's outlying pumping stations and trunk sewers.
- Fund cooperative projects to help cities upgrade their sewer systems.

In preparation of each year's budget, the District conducts an Annual CIP Validation Study to ensure that the scopes of the projects were necessary, and that the cost estimates were accurate. As a result of the completion of the CIP Validation Study, a revised CIP was

developed to continue the process of R&R of the existing facilities. The CIP values used in this rate evaluation are based on the District's most recent CIP.

The CIP, as included within this study, totals approximately \$1.63 billion in 2012 dollars between FY 2013/14 and FY 2020/21. Of this total, approximately \$1.44 billion will be undertaken for R&R and treatment upgrades, while \$0.19 billion will be undertaken to provide capacity for projected growth. As the exact R&R needs and timings are adaptable, the District has flexibility in the CIP plan to delay or adjust the improvements as deemed necessary and financially prudent.

2.5 Functional Allocation

The purpose of a cost-of-service analysis is to provide a rational basis for distributing the full costs of the District's utility service to each class or customer in proportion to the demands they place on the system. Detailed cost allocations help determine the degree of equity that can be achieved in the design of the resulting unit rates. This analysis yields an appropriate method for allocating costs, which could be sustained unless substantial changes in cost drivers or customer discharge patterns occur.

The Functional Cost Allocation apportions the annual revenue requirement for a select test year by major function of the utility. For the District, the primary functions are related to flow, BOD, and TSS. These function cost pools include the system's existing operations and maintenance (O&M) expenditures, debt service, and rate-funded capital costs.

It is necessary to allocate costs to billable constituents that can be both measured at the treatment facilities and estimated or measured for each user. O&M expenditures and the capital cost for each project were assigned to each associated billable constituents: flow and strength (BOD and TSS). The District applies separate allocations for O&M and capital costs in order to more accurately reflect appropriate cost relationships. This process allows the District to recover a proportionate share of capital and O&M costs from each user through the annual user rate based on flow and loading discharges.

Although, the wastewater system has undergone significant change, the unit process allocations presented in the 1998 Determination of Financial Rates and Charges Report are still applicable and provide a strong foundation for establishing cost-of-service based rates. At the time of this study, the District conducted an extensive review of the District's costs and respective relationship to flow, BOD, and TSS. For each cost category (e.g., collection and diversion), a defined percentage share of those costs are allocated to flow, BOD, and TSS. Over time, the expenditures associated with each cost category change, but the percentage allocations to billable constituents should remain consistent. The allocation percentages for O&M costs, by unit process, are presented in Table 3. An example of how these allocations are applied is shown later in the report in Table 12.

Table 3 Operations and Maintenance Cost Allocation to Billable Constituents Wastewater Rate and Revenue Study Orange County Sanitation District			
Treatment Process	Allocation Percentages (%)		
	Flow	BOD	TSS
Collection and Diversion	90	5	5
Interplant	90	5	5
Headworks	75	5	20
Primary Sedimentation	15	25	60
Activated Sludge Process	–	100	–
Oxygen Activated Sludge	–	100	–
Blower Equipment and Structures	–	100	–
Aeration Equipment and Structures	–	100	–
Trickling Filters	–	100	–
Secondary Sedimentation	–	100	–
Sludge Thickening ⁽¹⁾	–	25	75
Digestion	–	25	75
Solids Handling	–	25	75
Solids Disposal	–	45	55
Effluent Disposal	100	–	–
Non-Assignable Costs ⁽²⁾	25	31	44

Notes:
(1) Allocation of sludge thickening was changed to reflect co-thickening process.
(2) Percentage based on weighted average for all other allocated O&M costs.

For the capital-related costs, the allocation percentages, by unit process, are presented in Table 4.

Table 4 Capital Project Allocations to Billable Constituents Wastewater Rate and Revenue Study Orange County Sanitation District			
Unit Process	Allocation Percentages (%)		
	Flow	BOD	TSS
Collection and Diversion	90	10	–
Interplant	90	10	–
Headworks	75	5	20
Primary Sedimentation	–	30	70
Activated Sludge Process	–	100	–

Table 4 Capital Project Allocations to Billable Constituents Wastewater Rate and Revenue Study Orange County Sanitation District			
Unit Process	Allocation Percentages (%)		
	Flow	BOD	TSS
Oxygen Activated Sludge	–	100	–
Blower Equipment and Structures	–	100	–
Aeration Equipment and Structures	–	100	–
Trickling Filters	--	100	0
Secondary Sedimentation	–	70	30
Sludge Thickening ⁽¹⁾	–	25	75
Digestion	–	25	75
Solids Handling	–	25	75
Solids Disposal	–	45	55
Effluent Disposal	100	–	–
Non-Assignable Costs ⁽²⁾	45	21	34

Notes:
(1) Allocation of sludge thickening was changed to reflect co-thickening process.
(2) Percentage based on weighted average for all other capital project allocated costs.

Table 5 applies the information from Table 4 and presents the replacement and expansion CIP costs broken into the billable constituents from FY 2013/14 to FY 2020/21. These capital expenditures are stated in 2012 dollars.

Table 5 CIP Billable Constituents Cost Breakdown (Millions of Dollars) Wastewater Rate and Revenue Study Orange County Sanitation District				
	Flow	BOD	TSS	Total CIP Costs
Replacement	\$644.7	\$423.5	\$370.0	\$1,438.1
Expansion	\$90.8	\$30.52	\$67.7	\$189.1

Notes:
(1) Costs presented in 2012 dollars.

2.6 Operations and Maintenance Expenditures

The revenue requirement analysis uses the District's proposed FY 2012/13 budget as the baseline for forecasting future revenue needs. Carollo also met with District staff to validate future projections and highlight known variations between proposed and actual. Future expenditures are assumed to increase commensurate with cost inflation and projected cost increases associated with increases in wastewater flows due to growth and higher treatment standards.

Carollo verified the District's net O&M inflator of 5.0 percent. Revenues and expenses are projected for future fiscal years using the following annual escalation factors, as agreed upon with the District:

- General Cost Inflation: 4 – 5%.
- Variable O&M Inflation: 7%.
- Labor Inflation: 4.8 – 6.0%.
- Construction Cost Inflation: 5%.
- Customer Growth: 0.25 – 0.30%.
- Fund Earnings: 2 – 4%.

2.7 Existing Financial Information

The background financial information supplied by the District included: existing debt service and future payments, current reserve ending fund balance, other future non-treatment alternative-related expenses, other future revenues, future property taxes, and other miscellaneous financial information. The District also provided revenues and expenses associated with providing service to IRWD, Santa Ana Watershed Project Authority (SAWPA), and other miscellaneous items.

3.0 REVENUE REQUIREMENT ANALYSIS

3.1 Introduction

The revenue requirement analysis determines the amount of rate revenue needed in a given year to meet a utility's expected financial obligations. At least two separate tests must be met in order for rates to be sufficient:

1. Cash Flow Test: A utility must generate annual utility revenues adequate to meet general cash needs.
2. Bond Coverage Test: Annual rate revenues must satisfy debt coverage obligations on Certificates of Participation (COPs).

The cash-flow test identifies projected cash requirements in each given year. Cash requirements include O&M expenses, debt service payments, policy-driven additions to working capital, miscellaneous capital outlays, replacement funding, and rate-funded capital expenditures. These expenses are compared to total annual projected revenues. Shortfalls are then used to estimate needed rate increases.

The bond-coverage test measures the ability of a utility to meet legal and policy-driven revenue obligations. Given the District's existing debt obligations, it is required to collect

sufficient funds through rates to meet all ongoing O&M expenses, as well as 1.25 times the total debt-service requirements due in a year. The coverage factor is set by policy in order to maintain the District's current bond rating.

As the District is transitioning into a pay-as-you-go capital-replacement cycle, the bond coverage test will not be a driver of rate increases.

Revenues must be sufficient to satisfy both tests. If revenues are found to be deficient through one or both of the tests, then the greater deficiency (shortfall) drives the rate increase.

3.2 Funding Sources

Over the next 8 years, the District projects \$1.63 billion in future wastewater-treatment improvements and future collection-system capital improvements, as stated in 2012 dollars. The District expects to fund these improvements through a combination of user rate and Capital Facilities Capacity Charge (CFCC) revenues and reserves.

3.2.1 Current Revenues

3.2.1.1 *User Rates*

User rate revenue is the primary revenue source of the District. These rates were adjusted in previous years to generate sufficient cash flow for additional capital-improvements and debt-service obligations. As the District is entering an R&R phase, future rate revenue increases are less than previous years. Over the forecast period with proposed rate increases, the District's annual rate revenues are projected to increase from \$277 million in FY 2012/13 to \$356 million in FY 2020/21.

3.2.1.2 *Capital Facilities Capacity Charges*

CFCCs are a one-time charge imposed on new development or expansion of existing users that increase demand on the system. They provide for equitable cost recovery of growth-related costs. Based on the projected growth, CFCC revenue is expected to increase from \$7.6 million in FY 2012/13 to \$12 million in FY 2020/21.

3.2.1.3 *Tax Revenues*

The District currently receives nearly 17 percent of its total revenue, or \$64 million in property tax revenue, from the County. Given the current economic climate, this amount is held constant until FY 2014/15, at which point a 5-percent annual increase is assumed. By FY 2020/21, the District is projected to generate \$90 million in property-tax revenue. Should these revenues not materialize, the District would need to adjust future expenditures or possibly revisit the revenue analysis.

3.2.2 Debt Financing

As the District enters a time period in which the CIP is oriented toward R&R projects, the District intends to primarily fund these projects through a mixture of direct rate funding and use of reserves. Consequently, the District does not anticipate issuing additional debt during the 8-year forecast period. However, the District can issue COPs or short-term financing to fund capital-related projects. The District does have contractual covenants within the existing COP indenture agreements, which require minimum coverage ratios of 1.25 times. The coverage ratio is calculated as the ratio of net annual revenues available for debt service payments to total annual debt service requirements.

The District is projected to maintain a minimum bond coverage ratio of 2.52 times over the 8-year forecast period.

Table 6 describes the District's outstanding debt obligations as of December 2012.

Table 6 Outstanding Certificates of Participation Debt as of December 2012 Wastewater Rate and Revenue Study Orange County Sanitation District			
	Principal Amount	Outstanding Balance	Final Maturity
2007A COP	\$95,180,000	\$92,845,000	2/1/2030
2007B COP	\$300,000,000	\$279,250,000	2/1/2037
2008A COP	\$77,165,000	\$25,710,000	8/1/2013
2008B COP	\$27,800,000	\$26,550,000	8/1/2016
2009A COP	\$200,000,000	\$191,265,000	8/1/2038
2010A COP	\$80,000,000	\$80,000,000	2/1/2040
2010C COP	\$147,595,000	\$147,595,000	2/1/2044
2011A Refunding COP	\$100,645,000	\$100,645,000	2/1/2026
2012A Refunding COP	\$66,395,000	\$66,395,000	2/1/2033
2012B Refunding COP	\$140,151,132	\$140,151,132	2/1/2026

3.2.3 Reserves

The District maintains eight separate categories for its reserve funds. Table 7 delineates the various reserve requirements per the District Reserve Policy for FY 2013/14. Currently, the District's projected FY 2012/13 reserve balance of \$610 million is in excess of the reserve target. In order to mitigate revenue increases due to an increase in capital R&R expenditures, District staff plans to appropriately draw down existing reserves by \$140 million through the study period. It should be noted that, over the 8-year study period, the reserve policy level requirement naturally decreases by roughly \$36 million. While the District is projected to end the study period with nearly \$22 million in excess of the reserve

target, this is only possible with adjustments or reductions to the reserve policy level. Even with reserve target reductions, there are years when the District's projected reserve balances fall short of the policy target. The District is projected to have sufficient reserves, and, in case of future unknowns, maintains the ability to delay capital improvements and/or adjust rates in the future.

Table 7 FY 2013/14 Projected Reserve Requirements (Millions of Dollars)	
Wastewater Rate and Revenue Study	
Orange County Sanitation District	
Cash Flow Requirements Reserve	
Operating Expenses	\$74.4
Certificate of Participation Payments	98.5
Operating Contingencies Reserve	14.9
Capital Improvement Plan Reserve	93.6
Catastrophe and Self Insurance	57.0
Capital Rehabilitation and Replacement	60.9
Debt Service Required Reserves	130.2
Less: Adjustment to Reserves	0.0
Total	\$530.1
<u>Notes:</u>	
FY 2013/14 Projected Reserve Requirements	

- *The Cash Flow Requirements Reserve* was established to fund O&M and COPs debt-service expenses for the first half of the fiscal year, prior to the receipt of the first installment of the property-tax allocation and user rates, which are collected as a separate line item on the property tax bill. The level of this reserve is established as the sum of an amount equal to 6 months of O&M expense and the total of COPs debt-service expenses due in the subsequent fiscal year.
- *The Operating Contingency Reserve* was established to provide for non-recurring expenditures that were not anticipated when the annual budget and user rates were adopted. The level of this reserve is equal to 10 percent of the District's annual operating budget.
- *The Capital Improvement Reserve* was established to fund annual increments of the CIP with a target level at one-half of the average annual CIP through FY 2020/21. Levels higher and lower than the target can be expected while the long-term financing and CIPs are being finalized.
- *The Catastrophic Loss, or Self-Insurance Reserve*, is established for property damage including fire, flood and earthquake, general liability, and workers'

compensation. The level of reserve in this fund is maintained at a level to fund the District's non-reimbursed costs, which are estimated to be \$57 million.

- *The Capital Replacement/Renewal Reserve* was established to provide 30 percent of the funding to rehabilitate or replace the current collection, treatment, and disposal facilities. The current replacement value of these facilities is estimated to be approximately \$6.26 billion. The initial reserve level for this fund was established at \$50 million and is augmented by interest earnings and a portion of the annual user rate charges in order to meet projected needs through the year 2030.
- *Debt Service Reserves* are controlled by a trustee, pursuant to the provisions of COPs issues, and is not available for the general needs of the District.
- *The Rate Stabilization Reserve* accumulates all available funds that exceed the targets for all other reserves. The Rate Stabilization Reserve is a separate fund from the Rate Stabilization Account established under the Trust Agreement. These funds are applied to future years' needs and must be maintained at specified levels. There is currently no established target for this reserve.
- *Adjustments* to the total reserves reflect the ability of one reserve to support the requirements of other reserves. Not all reserves will be fully utilized at any given point.

3.3 Findings and Conclusions

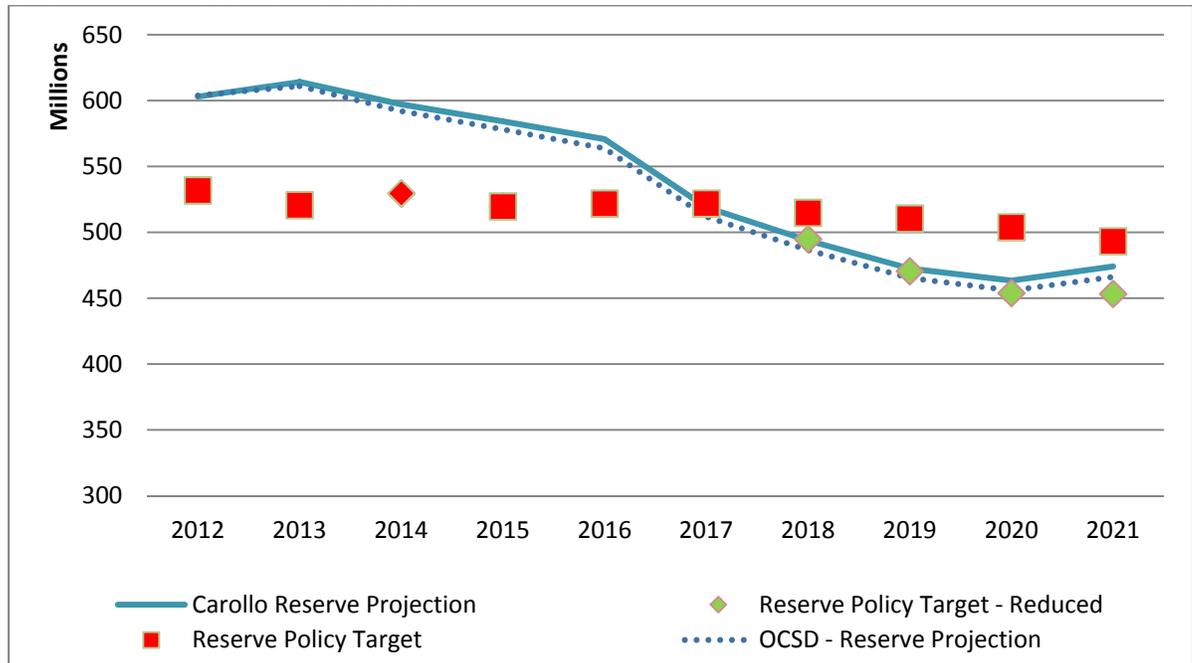
The results of the revenue requirements are summarized in Table 8. Annual rate increases are shown on a percentage basis. The surplus presented in Table 8 demonstrates the District's financial health as related to the Cash Flow and Bond Coverage Tests. Please note, however, the surplus is prior to CIP expenditures.

The District will utilize a combination of rate increases and a draw down of reserves over the next 8 years. As initially projected by District staff and confirmed by Carollo, rate increases are projected to be lower than previously implemented increases. With an initial increase of 4.8 percent in FY 2013/14, followed by annual 2.4-percent increases, the District will use nearly \$140 million of existing reserves to mitigate capital-related increases and draw reserves slightly below its reduced policy target levels. However, at the end of the projected 8-year rate period, the District is projected to have reserve levels above the targeted reserve policy. Additionally, as discussed above, the proposed rate adjustments are required to cash fund ongoing system R&R costs, rather than to meet operational cash flow or bond coverage requirements. Due to the nature of the forecasted CIP, the District maintains financial flexibility with the ability to modify or delay capital improvements.

Table 8 Cash Flow Summary (Millions of Dollars) Wastewater Rate and Revenue Study Orange County Sanitation District									
Ref	Description	FY 2013/ 2014	FY 2014/ 2015	FY 2015/ 2016	FY 2016/ 2017	FY 2017/ 2018	FY 2018/ 2019	FY 2019/ 2020	FY 2020/ 2021
Revenues									
1	General User Fees	284.8	292.6	300.7	309.0	317.5	326.3	335.3	344.5
2	Permitted User Fees	11.0	11.3	11.5	11.8	12.1	12.4	12.7	13.0
3	Property Taxes (5%/year)	64.0	67.2	70.6	74.1	77.8	81.7	85.8	90.1
4	New COP Issues	-	-	-	-	-	-	-	-
5	Interest Revenues (2%)	15.0	17.5	17.1	16.1	15.0	16.6	18.3	18.4
6	Connection Fees	7.8	8.7	9.5	10.1	10.9	10.8	11.4	12.0
7	Other Revenues	23.7	24.8	24.9	28.4	13.9	13.4	21.4	13.3
8	Revenues	406.3	422.0	434.3	449.6	447.2	461.3	485.0	491.4
(These values are post-rate increase)									
Requirements									
9	O&M Expenditures	148.8	157.3	165.0	169.6	173.9	182.3	191.0	200.2
10	Capital Improvement Plan	156.3	161.4	149.2	169.8	143.9	126.6	108.4	62.5
11	Rehabilitation and Replacement	18.1	28.2	45.3	68.8	65.3	86.0	107.1	130.3
12	COP Service (5.0%, 30 years)	98.5	85.8	86.1	90.9	87.0	85.4	85.5	85.3
	Coverage-Driven Requirements	-	-	-	-	-	-	-	-
13	Other Requirements	1.7	2.2	2.2	2.2	2.2	2.2	2.2	2.2
14	Requirements	423.4	434.9	447.8	501.3	472.4	482.5	494.2	480.6
15	Revenues - Requirements	(17.1)	(12.9)	(13.5)	(51.7)	(25.2)	(21.2)	(9.2)	10.8
Accumulated Funds									
16	Beginning of Year	614.2	597.1	584.3	570.7	519.0	493.8	472.5	463.3
17	End of Year	597.1	584.3	570.7	519.0	493.8	472.5	463.3	474.1
18	Reserve Policy	529.5	519.7	521.8	521.9	494.9	470.5	453.9	453.3
18a	Over (Under) Reserve Policy	67.6	64.5	48.9	(2.9)	(1.1)	2.0	9.4	20.8

The chart below illustrates the reserve balance projection over the 8-year forecast period, including the District's policy target balance and the adjusted policy target.

Chart 1 Reserve Balances



If cost escalation, operating expenditures, or capital needs exceed projected levels prior to FY 2020/21, the District may be required to begin a new Proposition 218 process to increase rates above currently projected levels or reduce CIP levels. The District would similarly be required to begin a new Proposition 218 process if revenues do not materialize as projected. These increased revenues include anticipated annual tax revenue increases based on improved economic conditions within western Orange County beginning FY 2014/15.

4.0 RATE STRUCTURE ANALYSIS

4.1 Introduction

User rates are developed to equitably allocate costs to users to operate, service debt, and perform rehabilitations and replacements for wastewater collection and treatment systems. There are two different approaches to the rate-structure analysis. The first option is to adjust rates on the same percentage basis across the board for all users. The second option is to develop unit costs for each billable constituent (flow, BOD, and TSS) and allocate the unit costs according to estimated customer usage. The overall procedure used to develop user rate charges for the second option is as follows:

- **Revenue Needs:** Define the annual revenue that must be recovered from user rates and permit users.

- **Functional Allocation:** Determine the percentage allocation of O&M and capital costs to the billable constituents (flow, BOD, and TSS), based upon the existing allocation methodology.
- **Unit Costs:** Develop unit costs for each billable constituent by dividing the total cost allocated to that constituent by the total wastewater flow or loadings of that constituent.
- **Customer Category Rates:** Develop rates for each customer category by applying unit costs to estimated flows and related loadings for each category.

The District collects user rates from property owners through the annual property tax bill distributed by the County throughout the District, except in Revenue Area No. 14. Pursuant to the IRWD Agreement, the District receives payments from the IRWD, which directly collects fees from customers through a monthly billing procedure in Revenue Area No. 14.

In February 2008, the Board adopted Ordinance No. OCSD-35, which increased the SFR rate annually for 5 years (2008-2012). These increases were necessary in order to meet the District's cash flow needs due to the addition of disinfection treatment and other operating requirements.

Table 9 provides a historical perspective of approved residential rate increases.

Table 9 Regional User Rate Charges Revenue Program and Rate Update Orange County Sanitation District		
Fiscal Year	Annual Single Family Residence Rate	Percentage Increase
2008/09	\$201.00	10.5%
2009/10	\$221.00	10.0%
2010/11	\$224.00	10.4%
2011/12	\$267.00	9.4%
2012/13	\$294.00	10.1%

Notes:
Source: Ordinance No. OCSD-35.

- *Commercial User Rates.* The user rates for commercial categories are based on a multiplier of the SFR charge, as shown in Appendix B.
- *Industrial User Rates.* The District charges industrial user rates to customers discharging high-strength or high-volume wastes into the sewer systems. Customers subject to industrial user rates are billed directly by the District. The fee charged to each customer is based on the customer's sewage volume, the concentration of BOD, and TSS.

4.2 Revenue Needs

The revenue needs are defined as the amount of revenues that must be recovered through user rates and permit user charges in order to cover annual expenditures, less any offsetting revenues. Offsetting revenues can include interest earnings, IRWD and SAWPA payments, and other non-operating revenues.

Expenditures and offsetting revenues for FY 2013/14 are as follows:

Table 10 Expenditures and Off-Setting Revenues (Millions of Dollars) Wastewater Rate and Revenue Study Orange County Sanitation District	
Expenditures	FY 2013/2014
<i>Ongoing Operating Expenses</i>	
Operating Expenses	148.8
<i>Other Operating Expenses</i>	
Self Insurance	1.7
Debt Service	98.5
Replacement Funding	0.0
Rate Funded Capital Improvements	143.7
Bond Coverage Requirements	0.0
Policy Driven Rate Increases	0.0
Less Off-Setting Revenues	
Revenues from other Districts	(17.9)
Other Operating Revenues	(15.0)
Non-Operating Revenues	(64.0)
Local Sewer Operating Revenue	(2.3)
Self-Insurance	(1.7)
Total Revenue Needs	291.6

In FY 2013/14, \$291.6 million must be recovered through user rates and permit user charges to cover the District's annual operating expenditures, debt service, and capital improvements funded through annual rate revenues. Additionally, \$17 million of reserves will be used to fund capital expenditures.

4.3 Functional Allocation

To develop user rates, unit rates per unit of flow, BOD, and TSS are applied to standard flow and loading factors developed for most customer categories. Users with unusually high flows and/or strength of wastewater, known as "Permit Users," are charged based on measured wastewater flows and strengths.

Table 11 presents a summary of the allocation percentage basis.

Table 11 Allocation Percentage Basis Wastewater Rate and Revenue Study Orange County Sanitation District			
Description	Flow	BOD	TSS
Treatment Expenditures	25%	31%	44%
Plant-in-Service	44%	42%	14%
Debt Service ⁽¹⁾	38%	41%	21%
CIP	44%	34%	22%
Future CIP (2013-2021)	45%	29%	26%
All Others ⁽²⁾	36%	33%	31%

Notes:

(1) Debt service is the weighted average of debt incurred prior to 2008 and debt incurred between 2009 and 2013. The debt factors reflect the types of projects via allocation factors that were funded with the specific debt.

(2) The weighted average of assignable cost factors are applied to non-assignable costs.

Table 12 illustrates how projected FY 2013/14 expenditures and offsetting revenues are allocated to flow, BOD, and TSS, based on the allocation percentages listed above.

Table 12 Functional Allocation of Costs Wastewater Rate and Revenue Study Orange County Sanitation District					
Expenditures		Functional Allocation			
		Flow	BOD	TSS	
Ongoing Operating Expenses (in million \$)					
Operating Expenses	\$148.8	25%	31%	44%	As Treatment Expenditures
Other Operating Expenses					
Self-Insurance	1.7	45%	29%	26%	As Future CIP (2013-2021)
New Debt Service	0.0	45%	29%	26%	As Future CIP (2013-2021)
Existing Debt Service	98.5	38%	41%	21%	As Debt Service
Replacement Funding	0.0	44%	34%	14%	As Plant-In-Service
Rate Funded Capital Improvements	143.7	45%	29%	26%	As Future CIP (2013-2021)
Bond Coverage Requirements	0.0	45%	29%	26%	As Future CIP (2013-2021)
Policy-Driven Rate Increases	0.0	36%	33%	31%	As All Others
Less Off-Setting Revenues					
Revenues from other Districts	(17.9)	36%	33%	31%	As All Others
Other Operating Revenues	(15.0)	36%	33%	31%	As All Others
Non-Operating Revenues	(64.0)	36%	33%	31%	As All Others
Local Sewer Fee	(2.3)	36%	33%	31%	As All Others
Self-Insurance	(1.7)	36%	33%	31%	As All Others
Subtotals	\$291.6	\$103.5	\$96.5	\$91.7	

The District's existing O&M expenditures are more heavily weighted toward BOD and TSS than flow. Costs allocated to flow only make up 25 percent of the total operating expenses, with the remaining 75 percent split between 31 percent for BOD and 44 percent for TSS. This is because the largest O&M expenses (aeration air for secondary treatment, solids handling, and chemical costs) are allocated more toward BOD and TSS than flow.

The District's existing debt-service costs are weighted 38 percent to flow, 41 percent to BOD, and 21 percent to TSS. The heavier weighting to BOD is because the debt service is more heavily weighted to the recently completed secondary treatment projects, which are allocated to BOD.

Although the District's O&M and debt service costs are more heavily weighted towards BOD and TSS, the majority of the rate-funded capital costs are related to flow. Based on the District's CIP for the next 8 years, 45 percent of costs will be related to flow, 29 percent to BOD, and 26 percent to TSS. This is because a large portion of the District's future projects are for the collection system costs, which are allocated to flow.

When the allocations to flow, BOD, and TSS for O&M, debt service, and rate-funded capital costs are combined, the District's total allocation is 35.5 percent to flow, 33.1 percent to BOD, and 31.4 percent to TSS. From the previous analysis of 31.7 percent (flow), 34.0 percent (BOD), and 34.4 percent (TSS), the updated allocations illustrate a shift in costs towards flow and away from BOD and TSS. This migration is expected as the District has shifted into an R&R cycle that emphasizes the District's investment in flow-related capital.

As the resulting allocation impact is less than +/-5 percent from the previous cost-of-service analysis, the existing allocation remains a reasonable cost-of-service basis; however, a continued cost allocation emphasis towards flow is expected, as the R&R cycle progresses, which may lead to a greater cost-of-service impact in the future.

4.4 Unit Costs

Based on the cost-of-service analysis and proposed 4.8-percent revenue increase, the District's unit rates are expected to be \$1,395.03 (flow), \$595.63 (BOD), and \$586.69 (TSS). These unit costs reflect the adjusted functional allocation of 35.5 percent (flow), 33.1 percent (BOD), and 31.4 percent (TSS).

Should the District remain with the existing functional allocation and apply the proposed 4.8 percent increase across the board to the existing unit costs, the proposed rates would be \$1,284.74 (flow), \$610.67 (BOD), and \$649.55 (TSS). These rates reflect the existing allocation of 31.7 percent (flow), 34.0 percent (BOD), and 34.4 percent (TSS).

4.4.1 Residential and Commercial User Rates Calculation

Residential and commercial user rates are calculated on an EDU base charge. Each residential and commercial category has a defined flow and strength (BOD and TSS) assumption. To develop user rates, unit rates per unit of flow, BOD, and TSS are applied to standard flow and loading factors developed for most customer categories.

a) *EDU Defined Equivalents Calculations*

The number of existing users was determined using a fee-based approach. The number of EDUs was determined by taking the total revenue and dividing by the SFR rate of the same year. The projected number of customers served by the District for the FY 2013/14, identified in EDUs, is 933,141.

Table 13 presents flow and load information from the District's plants for FY 2011/12.

Table 13 Total Flow and Load Information Wastewater Rate and Revenue Study Orange County Sanitation District			
Description	Flow (mgd)	BOD Load (ppd)	TSS Load (ppd)
OCSD Users	201	443,500	515,400

The flows and loadings per EDU estimated to be treated by the District in FY 2013/14 are shown in Table 14.

Table 14 Flow and Load per EDU (FY 2013/14) Wastewater Rate and Revenue Study Orange County Sanitation District			
Description	Flow (flow/EDU [gpd])	BOD Concentration (BOD/EDU [mg/L])	TSS Concentration (TSS/EDU [mg/L])
EDU Equivalent Calculations	210	254	256

b) *Total Annual Flow and Loads Calculation*

Based on these flows and loadings, the totals are shown in Table 15. The totals, based on the assumed EDU factors, vary from what is measured at the District's plants. This is not uncommon, as EDUs are an average and static representation of the District's user base. This could be a short-term anomaly or reflect a long-term trend in user behaviors (i.e., conservation). It is recommended that the District continue to monitor the total projection (based on EDUs) and realized flows and loadings at the plant. Should the spread persist, the District may want to implement a sampling program to update the existing EDU assumption.

Table 15 Total Annual Flow and Loads (FY 2013/14) Wastewater Rate and Revenue Study Orange County Sanitation District			
Description	Flow (1,000 gal)	BOD Load (lbs)	TSS Load (lbs)
Customer Information	74,500,000	162,600,000	157,000,000
Total Annual Flow and Loads			

c) *Unit Cost Calculation*

The unit cost was calculated by taking the cost allocations for flow, BOD, and TSS, and dividing it by the total annual flow and loads. Table 16 presents the unit cost per flow, BOD, and TSS.

Table 16 Unit Cost Calculation (FY 2013/14) Wastewater Rate and Revenue Study Orange County Sanitation District			
	Flow	BOD	TSS
Cost Allocation	\$103.5 million	\$96.5 million	\$91.7 million
÷	Total Flow (1,000 gal)	Total BOD (lbs)	Total TSS (lbs)
Total Annual Flow and Loads	74,500,000	162,600,000	157,000,000
=	\$/1,000 gals	\$/lb BOD	\$/lb TSS
Unit Costs	\$1.395	\$0.596	\$0.587

4.5 Customer Category Rates

The SFR user rate is based on typical flow and loadings for an average 3-bedroom home and serves as the base rate to calculate rates for other users. Users are charged a percentage of the SFR rate as specified in Ordinance No. OCSD-35. These use factors are based on the average flow and strength characteristics for the type of property, charged on a per-1,000-square-foot basis.

e.g., 1: Multi-family residential with factor 0.7
Annual cost: **\$308.00 X 0.7 = \$215.60**

e.g., 2: Neighborhood shopping center with factor 1.39
Annual cost: **\$308.00 X 1.39 = \$428.12**

e.g., 3: Take-out restaurant with factor 3.0
Annual cost: **\$308.00 X 3.0 = \$924.00**

As detailed earlier in the report, the District has realized a nearly 16-percent decline in discharge volume over the past decade, resulting in various cost-of-service implications. While across-the-board increases are appropriate for residential and commercial customers due to non-material impacts on rates, it is important to make specific adjustments for

industrial customers as their discharge characteristics vary greatly and, accordingly, may have a material impact.

Although the existing rate structure is reasonable, the District has not updated its flow and loading assumptions for residential or commercial customers in some time. In order to do so, the District would need an extensive sampling program. As no better data or existing standards are available, there is not a strong basis for changing the customer flow and loading assumptions at this time. However, this could create a continued or growing cost-of-service gap.

In addition to the possible change in customer flow and loading assumptions, the District's equivalency factors have not been recalibrated to reflect the new cost-of-service allocations. As the District's functional allocation ratios have changed between rate analyses, the unit cost allocated to flow, BOD, and TSS move independently rather than proportionately across the board.

4.5.1 Industrial User Rates

The District's industrial users are charged for wastewater services based on measured flow, BOD, and TSS. As with residential and commercial customers, industrial customers' user rates are derived from base unit costs. Unlike residential and commercial customers, for whom the usage is not individually metered, wastewater metering and samples are available for industrial customers.

Table 17 below presents the District's current FY 2012/13 and proposed FY 2013/14 industrial unit charges.

Table 17 Current and Proposed Industrial User Sewer Service Charges Wastewater Rate and Revenue Study Orange County Sanitation District			
	\$/1,000 gals	\$/lbs BOD	\$/lbs TSS
Unit Costs (FY 2013/14)	\$1.395	\$0.596	\$0.587
Unit Costs (FY 2012/13)	\$1.226	\$0.583	\$0.620
Notes:			
(1) Charges are based on "net cost-of-service" prior to individual tax credits.			

The FY 2013/14 unit costs above reflect the full impact of the cost-of-service analysis. When compared to the FY 2012/13 unit costs, the results of the functional cost allocation are noticeable. As the residential and commercial rates are blended and based on a static EDU factor, the impact on specific users is non-material; however, the impact to individual industrial users will depend on their specific metered flows and sampling data. Specifically, with the greater shift to flow, industrial users with higher flow volumes will see a larger increase, in excess of the proposed 4.8 percent increase in FY 2013/14.

To mitigate the potential impacts of the rate adjustment on some industrial users, the unit cost increases in the first year will be limited to 10 percent in FY 2013/14, the first year of the new rate schedule. A similar, but reduced, cap of 7 percent will be applied in FY 2014/15. Correspondingly, some users in the same industrial category will have their rates adjusted slightly to maintain revenue neutrality. In FY 2013/14, the impact of this strategy will be approximately \$60,000, or 0.44 percent, of the District's \$13 million total industrial fee revenue. This rate-smoothing policy ensures annual revenue neutrality to the District.

The proposed unit charges and increases are illustrated in Table 18.

Table 18 Projected Industrial User Sewer Service Charges Wastewater Rate and Revenue Study Orange County Sanitation District				
Fiscal Year	\$/1,000 gals	\$/lbs BOD	\$/lbs TSS	Percentage Increase
2013/14	\$1.395	\$0.596	\$0.587	4.8%
2014/15	\$1.429	\$0.610	\$0.601	2.4%
2015/16	\$1.463	\$0.625	\$0.615	2.4%
2016/17	\$1.498	\$0.640	\$0.630	2.4%
2017/18	\$1.534	\$0.655	\$0.645	2.4%
2018/19	\$1.571	\$0.671	\$0.661	2.4%
2019/20	\$1.608	\$0.687	\$0.676	2.4%
2020/21	\$1.647	\$0.703	\$0.693	2.4%

4.5.2 Local Sewer Service Fees

The District currently owns and operates local sewers in a few areas. The District provides maintenance service by contracting some tasks with private companies. In the remainder of the service area, local sewers are provided and maintained by cities or special districts and the costs of local sewers are borne by the residents being served.

In 2008, the District implemented a local sewer service fee in order to equitably recover the cost of maintaining the local sewers. The District currently provides local sewer service to over 27,000 EDUs. In FY 2012/13, O&M expenses accounted for \$2.3 million, or 35 percent, of the local sewer funds total expenses.

In addition to operations, the District implemented a local sewer capital replacement sinking fund approach in order to have sufficient monies on hand to fully fund the necessary capital projects. The original sinking fund was established to annually generate \$4.6 million based on the asset management needs identified by the 2008 GHD local sewer study. Because the District has ceded control of some of its local sewer service area to other jurisdictions,

reducing the number of served EDUs, deposits to the sinking fund were roughly \$3.8 million in FY 2011/12.

Since 2008, the District, through advances in the Asset Management Plan, has continued to refine the identified needs, timing, and costs for the local sewer service area. Most recently, a change in the replacement assumption for all pipes 8 inches or less (75 percent of the area) has increased the original costs and compressed the projected timing of the projects, resulting in a significant increase in funding. Given the change in the funding requirements, the District would be required to collect nearly \$12.8 million annually in order to fully fund the identified projects.

The updated asset management capital needs assessment is based largely on a desktop analysis, accounting for the age of the pipes rather than current known physical deficiencies. Moreover, significant capital investments are not projected to begin until 2035.

The District's local sewer services fees are among the highest in Orange County, because of the District's proactive approach to setting aside future capital funding to cash rather than debt-fund replacement needs. The updated asset management plan provides a strong foundation for the District to monitor and project overall system reinvestment needs. However, the expected replacement timeline and possible fluctuations in actual costs and technology are uncertain. Because of this uncertainty and the long-term nature of the capital needs, it is appropriate for the District to continue to collect annual sinking fund contributions and monitor the physical needs of the system over time. However, increasing local sewer fees threefold in FY 2013/14, based on the updated asset management plan it is conservative in nature, as this is a desktop analysis. Additionally, the District could also use debt financing to supplement cash set aside, if required. Consequently, it is recommended that the District continue with its proactive capital funding set-aside program, increasing the annual capital contribution and monitoring the actual physical condition of the local sewer system. During the next rate adjustment cycle beginning in FY 2021/22, it will be critical for the District to reexamine the funding requirements based on better-known information at that time.

It is recommended that the District increase local sewer service fees by 4.8 percent in FY 2013/14 and 2.4 percent thereafter through FY 2020/21, commensurate to the regional user-fee increases. The proposed rates and increases are illustrated in Table 19.

Table 19 Projected Local Sewer Service User Rate Wastewater Rate and Revenue Study Orange County Sanitation District		
Fiscal Year	Annual EDU Rate	Percentage Increase
2013/14	\$226.50	4.8%
2014/15	\$232.00	2.4%

Table 19 Projected Local Sewer Service User Rate Wastewater Rate and Revenue Study Orange County Sanitation District		
Fiscal Year	Annual EDU Rate	Percentage Increase
2015/16	\$237.75	2.4%
2016/17	\$243.50	2.4%
2017/18	\$249.50	2.4%
2018/19	\$255.50	2.4%
2019/20	\$261.75	2.4%
2020/21	\$268.25	2.4%

It should be noted that roughly 15 percent of the annual local sewer revenues are remitted to City of Tustin for the maintenance of the local sewers within the City's operational area.

4.6 Findings and Conclusions

Carollo has concluded that the staff rate recommendations are reasonable based on industry practice and our understanding of the District. Per Carollo's review of staff cash-flow models and user-rate recommendations, an adopted user rate of **\$308.00** per EDU per year for FY 2013/14, based upon a 4.8-percent across-the-board increase is appropriate. Also reasonable are the subsequent year adjustments of 2.4 percent annually.

The proposed rates and increases are illustrated in Table 20.

Table 20 Projected Regional User Rate Wastewater Rate and Revenue Study Orange County Sanitation District		
Fiscal Year	Annual Single Family Residence Rate	Percentage Increase
2013/14	\$308.00	4.8%
2014/15	\$315.50	2.4%
2015/16	\$323.00	2.4%
2016/17	\$330.75	2.4%
2017/18	\$338.75	2.4%
2018/19	\$347.00	2.4%
2019/20	\$355.25	2.4%
2020/21	\$363.75	2.4%

In addition to the rates presented above, the following recommendations are deemed appropriate and reasonable.

- Increase the Local Sewer Service User Rate concurrently with the regional user rate.
- Update the industrial rates based on unit costs developed through this revenue program, using a 3-year transition period.
- During the forecast period, the District is projected to reduce reserves to its policy target levels. In FY 2016/17, prior to reducing the reserve target, the District will fall approximately \$2.9 million below its target. In addition, the District is forecasted to fall short of the reserve policy in FY 2017/18 by roughly \$1 million. After FY 2017/18, the District is projected to exceed the revised target levels. Furthermore, the District is projected to replenish reserves in the latter years of the forecast period. Slightly higher, inflationary rate increases would mitigate the drawing down of reserves.
- As the District anticipates reducing reserve levels to fund major capital rehabilitative projects over the forecasted 8-year time period, all recommendations should be reviewed and updated periodically to confirm continued compliance with the District's Reserve Policy.
- We would recommend that the District consider implementing a loadings criteria (sampling) for rate adjustments, rather than merely basing it on water meter information. The current District ordinance allows sampling information to be required under Article II – Section 2.03B.

PROJECT CALCULATIONS



ORANGE COUNTY SANITATION DISTRICT
RATE STUDY ANALYSIS
Summary Cash Flow Projections

Ref	Description	FY 2012 2013	FY 2013 2014	FY 2014 2015	FY 2015 2016	FY 2016 2017	FY 2017 2018	FY 2018 2019	FY 2019 2020	FY 2020 2021
Revenues:										
1	General User Fees	267,584,659	284,816,552	292,634,021	300,694,456	308,984,950	317,518,127	326,279,443	335,280,963	344,529,064
2	Permitted User Fees	10,502,000	11,006,096	11,270,242	11,540,728	11,817,706	12,101,331	12,391,762	12,689,165	12,993,705
3	Property Taxes (5% yr)	64,025,000	64,025,000	67,226,250	70,587,563	74,116,941	77,822,788	81,713,927	85,799,623	90,089,605
4	New COP Issues	-	-	-	-	-	-	-	-	-
5	Interest Revenues (2%)	12,054,000	14,954,392	17,458,613	17,068,730	16,104,440	14,967,038	16,619,424	18,349,826	18,380,101
6	Connection Fees	7,703,000	7,768,000	8,677,000	9,463,000	10,137,000	10,856,000	10,845,000	11,421,000	12,028,000
7	Other Revenues	28,492,908	23,712,254	24,777,387	24,933,296	28,445,465	13,903,046	13,436,261	21,418,164	13,341,255
8	Revenues	<u>390,361,566</u>	<u>406,282,294</u>	<u>422,043,513</u>	<u>434,287,772</u>	<u>449,606,501</u>	<u>447,168,329</u>	<u>461,285,818</u>	<u>484,958,740</u>	<u>491,361,729</u>
(These values are post-rate increase)										
Requirements:										
9	Oper & Mtce Exp	155,856,620	148,756,416	157,250,448	165,011,571	169,574,316	173,948,395	182,296,826	191,045,925	200,214,922
10	Capital Improvement Program	133,884,000	156,317,000	161,406,000	149,169,000	169,789,000	143,905,600	126,551,856	108,356,043	62,513,544
11	Repl, Rehab & Refurb	3,371,000	18,104,000	28,238,000	45,267,000	68,819,000	65,328,000	86,033,000	107,109,000	130,317,000
12	COP Service (5.0%, 30 yrs)	85,183,002	98,450,106	85,802,517	86,144,867	90,945,792	87,004,925	85,430,300	85,457,317	85,338,680
Coverage Driven Requirements										
13	Other Requirements	1,729,100	1,728,900	2,212,000	2,212,000	2,212,000	2,212,000	2,212,000	2,212,000	2,212,000
14	Requirements	<u>380,023,722</u>	<u>423,356,422</u>	<u>434,908,965</u>	<u>447,804,439</u>	<u>501,340,109</u>	<u>472,398,920</u>	<u>482,523,982</u>	<u>494,180,285</u>	<u>480,596,146</u>
15	Revenues-Requirements	10,337,844	(17,074,128)	(12,865,452)	(13,516,667)	(51,733,608)	(25,230,591)	(21,238,164)	(9,221,545)	10,765,583
Accumulated Funds:										
16	Beginning of Year	<u>603,852,090</u>	<u>614,189,934</u>	<u>597,115,807</u>	<u>584,250,354</u>	<u>570,733,687</u>	<u>519,000,080</u>	<u>493,769,489</u>	<u>472,531,325</u>	<u>463,309,780</u>
17	End of Year	<u>614,189,934</u>	<u>597,115,807</u>	<u>584,250,354</u>	<u>570,733,687</u>	<u>519,000,080</u>	<u>493,769,489</u>	<u>472,531,325</u>	<u>463,309,780</u>	<u>474,075,363</u>
18	Reserve Policy	<u>520,681,000</u>	<u>529,518,000</u>	<u>519,709,000</u>	<u>521,829,000</u>	<u>521,937,000</u>	<u>494,878,000</u>	<u>470,527,000</u>	<u>453,910,000</u>	<u>453,265,000</u>
18a	Over (Under) Reserve Policy	<u>93,508,934</u>	<u>67,597,807</u>	<u>64,541,354</u>	<u>48,904,687</u>	<u>(2,936,920)</u>	<u>(1,108,511)</u>	<u>2,004,325</u>	<u>9,399,780</u>	<u>20,810,363</u>
Excess (Shorfall) in Reserves		93,508,934	67,597,807	64,541,354	48,904,687	(2,936,920)	(1,108,511)	2,004,325	9,399,780	20,810,363



ORANGE COUNTY SANITATION DISTRICT
RATE STUDY ANALYSIS
Summary Cash Flow Projections

Sewer Service User Fees:

19	Avg SFR Annual User Fee	\$ 294.00	\$ 308.00	\$ 315.50	\$ 323.00	\$ 330.75	\$ 338.75	\$ 347.00	\$ 355.25	\$ 363.75
20	Percentage Change	10.11%	4.80%	2.40%	2.40%	2.40%	2.40%	2.40%	2.40%	2.40%
21	Equivalent Dwelling Units	966,728	969,231	971,833	974,536	977,294	980,106	982,927	985,756	988,594
22	SFR Connection Fee	\$3,595	\$3,775	\$3,964	\$4,162	\$4,370	\$4,589	\$4,818	\$5,059	\$5,312
23	<u>Outstanding COPs</u>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Reserve Policy

24	50% This Year Operating	77,928,310	74,378,208	78,625,224	82,505,786	84,787,158	86,974,197	91,148,413	95,522,963	100,107,461
25	10% This Year Operating	15,585,662	14,875,642	15,725,045	16,501,157	16,957,432	17,394,839	18,229,683	19,104,593	20,021,492
26	100% This Year AUG COP Svc.	85,183,002	98,450,106	85,802,517	86,144,867	90,945,792	87,004,925	85,430,300	85,457,317	85,338,680
27	50% average CIP bal to 2020	99,857,560	94,158,157	91,326,313	83,829,008	75,899,975	64,619,184	56,043,513	53,104,597	53,104,597
28	Short term CIP, GWRS	-	-	-	-	-	-	-	-	-
29	DSR @ 10% Outstanding COPs	133,851,448	130,228,848	126,044,344	123,020,065	119,830,948	116,012,399	112,421,298	108,859,991	105,120,795
30	SFI @ \$57mm INPUT	57,000,000	57,000,000	57,000,000	57,000,000	57,000,000	57,000,000	57,000,000	57,000,000	57,000,000
31	Repl & Refurb @ 2%/yr Adjustment	59,800,000	60,996,000	62,215,920	63,460,238	64,729,443	66,024,032	67,344,513	68,691,403	70,065,231
32	Total	529,205,982	530,086,961	516,739,363	512,461,122	510,150,748	475,029,577	447,617,719	437,740,864	450,758,256

COP Ratios

33	Sr Lien Coverage, Min 1.25	2.64	2.52	2.96	2.99	2.94	2.99	3.11	3.28	3.24
34	Additional Bonds, 1.25	2.64	2.52	2.96	2.99	2.94	2.99	3.11	3.28	3.24



ORANGE COUNTY SANITATION DISTRICT
RATE STUDY ANALYSIS
ASSUMPTIONS

ASSUMPTIONS

Beginning Year of Model	FYE 2012	<i>(don't change this)</i>
Debt Service Coverage Requirement - Senior	125%	<i>of annual debt service on all senior debt. Per Bond Covenant.</i>
Debt Service Coverage Requirement - Junior	100%	<i>of annual debt service on all junior debt - pg. 21 2006 Official Statement</i>
Residential and Commercial EDUs	613,365	66.5%
Commercial EDUs	308,762	33.5%
Disney Land EDUs		<i>included in Commercial EDU Count</i>
Industrial EDUs	39,800	62,831 - Previous EDU count
Current EDUs	961,927	<i>(EDU values calculated further below)</i>
Residential Percentage	63.76%	
Commercial Percentage	32.10%	
Industrial Percentage	4.14%	

Annual Connection Fee Escalation

1 Annual Cost Inflation Added

ECONOMIC ESCALATORS

	FY 2013 2014	FY 2014 2015	FY 2015 2016	FY 2016 2017	FY 2017 2018	FY 2018 2019	FY 2019 2020	FY 2020 2021
General Cost Inflation	-2.0%	5.0%	5.0%	5.0%	4.5%	4.5%	4.5%	4.5%
Construction Cost Inflation	-2.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
Customer Demand Growth	0.27%	0.28%	0.29%	0.30%	0.30%	0.30%	0.30%	0.30%
Fund Earnings	2.5%	3.0%	3.0%	3.0%	3.0%	3.5%	4.0%	4.0%
Labor Cost Inflation	-2.0%	6.0%	4.8%	4.8%	4.8%	4.8%	4.8%	4.8%
Variable O&M Inflation	-2.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%
Cust. Growth + Variable O&M	-1.7%	5.3%	5.3%	5.3%	4.8%	4.8%	4.8%	4.8%
No Annual Increases	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
One Time Expenditure/Revenue	-100.0%	-100.0%	-100.0%	-100.0%	-100.0%	-100.0%	-100.0%	-100.0%
OCS D population growth	0.27%	0.28%	0.29%	0.30%	0.30%	0.30%	0.30%	0.30%
JO Revenues	0.0%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
Property Tax Revenue Growth	0.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
3% Inflation + Growth + Rate increase	8.1%	5.7%	5.7%	5.7%	5.7%	5.7%	5.7%	5.7%
Urban Runoff growth	0.00%	0.00%	12.30%	12.30%	12.30%	12.30%	12.30%	9.86%



ORANGE COUNTY SANITATION DISTRICT
RATE STUDY ANALYSIS
Capital Funding & Fund Reserves

CAPITAL FUNDING

REPLACEMENT/SYSTEMWIDE IMPROVEMENTS

Capital Expenditures	FY 2012 2013	FY 2013 2014	FY 2014 2015	FY 2015 2016	FY 2016 2017	FY 2017 2018	FY 2018 2019	FY 2019 2020	FY 2020 2021
R&R / System-Wide Improvements	\$ 119,972,243	\$ 130,755,708	\$ 143,494,371	\$ 173,493,260	\$ 207,021,870	\$ 185,647,034	\$ 200,945,716	\$ 208,145,598	\$ 188,626,207
Expansion Projects	17,282,757	43,665,292	46,149,629	20,942,740	31,586,130	23,586,566	11,639,140	7,319,445	4,204,337
Total CIP Expenditures	\$ 137,255,000	\$ 174,421,000	\$ 189,644,000	\$ 194,436,000	\$ 238,608,000	\$ 209,233,600	\$ 212,584,856	\$ 215,465,043	\$ 192,830,544
Local Sewer Capital Replacement	3,861,780	4,115,983	4,192,568	4,273,591	4,352,109	4,434,565	4,513,936	4,597,013	4,683,690
Total Capital Expenditures	\$ 141,116,780	\$ 178,536,983	\$ 193,836,568	\$ 198,709,591	\$ 242,960,109	\$ 213,668,165	\$ 217,098,792	\$ 220,062,056	\$ 197,514,234

(11/12 CIP total from Mikes Cash Flow Budget)

(12/13+ CIP total from Burror's Est)

(R&R and Expansion break downs are based on breakdown of current CIP)

Available Revenues (Capital)	FY 2012 2013	FY 2013 2014	FY 2014 2015	FY 2015 2016	FY 2016 2017	FY 2017 2018	FY 2018 2019	FY 2019 2020	FY 2020 2021
IRWD Equity Payment	\$ 2,228,000	\$ 2,454,000	\$ 2,714,000	\$ 2,541,000	\$ 2,802,000	\$ 1,950,000	\$ 1,288,000	\$ 684,000	\$ 773,000
Local Sewer Capital Funding	\$ 3,861,780	\$ 4,115,983	\$ 4,192,568	\$ 4,273,591	\$ 4,352,109	\$ 4,434,565	\$ 4,513,936	\$ 4,597,013	\$ 4,683,690
CFCCs	7,703,000	7,768,000	8,677,000	9,463,000	10,137,000	10,856,000	10,845,000	7,319,445	4,204,337
Grants	-	-	-	8,381,000	-	-	8,381,000	-	-
Developer Contributions	-	-	-	-	-	-	-	-	-
Use of Non-Revenue Bond Debt Proceeds	-	-	-	-	-	-	-	-	-
Use of COP Proceeds	-	-	-	-	-	-	-	-	-
Use of Capital Reserves	127,324,000	164,199,000	178,253,000	174,051,000	208,917,228	150,456,935	121,847,285	103,687,394	80,799,392
Rate Funded Capital	-	-	-	-	16,751,772	45,970,665	70,223,571	103,774,203	107,053,815
Total Available Revenues	\$ 141,116,780	\$ 178,536,983	\$ 193,836,568	\$ 198,709,591	\$ 242,960,109	\$ 213,668,165	\$ 217,098,792	\$ 220,062,056	\$ 197,514,234

Reserves	FY 2012 2013	FY 2013 2014	FY 2014 2015	FY 2015 2016	FY 2016 2017	FY 2017 2018	FY 2018 2019	FY 2019 2020	FY 2020 2021
Use of Reserves									

Bond Issues	FY 2012 2013	FY 2013 2014	FY 2014 2015	FY 2015 2016	FY 2016 2017	FY 2017 2018	FY 2018 2019	FY 2019 2020	FY 2020 2021
COPs									

Alternate Loans [Traditional Structure]									
- Debt Service Payments Begin (Fiscal Year Ending)									
Alternate Loans [Level Principal Payments]									

Available Revenues	FY 2012 2013	FY 2013 2014	FY 2014 2015	FY 2015 2016	FY 2016 2017	FY 2017 2018	FY 2018 2019	FY 2019 2020	FY 2020 2021
- Grants/Annexation Fees/ GWRS Reimb	-	-	-	8,381,000	-	-	8,381,000	-	-
- Developer Contributions	-	-	-	-	-	-	-	-	-



ORANGE COUNTY SANITATION DISTRICT
RATE STUDY ANALYSIS
Capital Funding & Fund Reserves

RESERVE REQUIREMENT

	FY 2012 2013	FY 2013 2014	FY 2014 2015	FY 2015 2016	FY 2016 2017	FY 2017 2018	FY 2018 2019	FY 2019 2020	FY 2020 2021
Operating Fund									
Cash Flow Reserve									
1 - 50% Operating Expenditures	\$ 77,928,310	\$ 74,378,208	\$ 78,625,224	\$ 82,505,786	\$ 84,787,158	\$ 86,974,197	\$ 91,148,413	\$ 95,522,963	\$ 100,107,461
1 - Annual Debt Service	85,183,002	98,450,106	85,802,517	86,144,867	90,945,792	87,004,925	85,430,300	85,457,317	85,338,680
Operating Contingency									
1 - 10% Operating Expenditures	15,585,662	14,875,642	15,725,045	16,501,157	16,957,432	17,394,839	18,229,683	19,104,593	20,021,492
Capital Improvement Reserve									
0 - 50% Annual Average CIP	99,857,560	94,158,157	91,326,313	83,829,008	75,899,975	64,619,184	56,043,513	53,104,597	53,104,597
Self-Insurance									
1 - 57,000,000	57,000,000	57,000,000	57,000,000	57,000,000	57,000,000	57,000,000	57,000,000	57,000,000	57,000,000
Debt Service Reserve									
1 - 10% of Outstanding COPs	133,851,448	130,228,848	126,044,344	123,020,065	119,830,948	116,012,399	112,421,298	108,859,991	105,120,795
- less: Reserve for Debt Retirement*									
0 Capital Replacement Reserve	59,800,000	60,996,000	62,215,920	63,460,238	64,729,443	66,024,032	67,344,513	68,691,403	70,065,231
1 Rate Stabilization Reserve	-	-	-	-	-	-	-	-	-
0 Adjustments	-	-	-	-	-	(20,000,000)	(40,000,000)	(50,000,000)	(40,000,000)
Ending Fund Balance	\$ 529,205,982	\$ 530,086,961	\$ 516,739,363	\$ 512,461,122	\$ 510,150,748	\$ 475,029,577	\$ 447,617,719	\$ 437,740,864	\$ 450,758,256



ORANGE COUNTY SANITATION DISTRICT
RATE STUDY ANALYSIS
Debt Service

TOTAL DEBT SERVICE

	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
	2014	2015	2016	2017	2018	2019	2020	2021
Total Debt Service								
Principal Payments	\$ 41,845,037	\$ 30,242,789	\$ 31,891,179	\$ 38,185,488	\$ 35,911,012	\$ 35,613,062	\$ 37,391,966	\$ 39,178,064
Interest Payments	<u>56,605,069</u>	<u>55,559,728</u>	<u>54,253,689</u>	<u>52,760,305</u>	<u>51,093,913</u>	<u>49,817,238</u>	<u>48,065,352</u>	<u>46,160,616</u>
Total Annual Payments	\$ 98,450,106	\$ 85,802,517	\$ 86,144,867	\$ 90,945,792	\$ 87,004,925	\$ 85,430,300	\$ 85,457,317	\$ 85,338,680
Added Reserve Requirement	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

COP Debt Service

Principal Payments	\$ 41,845,037	\$ 30,242,789	\$ 31,891,179	\$ 38,185,488	\$ 35,911,012	\$ 35,613,062	\$ 37,391,966	\$ 39,178,064
Interest Payments	<u>56,605,069</u>	<u>55,559,728</u>	<u>54,253,689</u>	<u>52,760,305</u>	<u>51,093,913</u>	<u>49,817,238</u>	<u>48,065,352</u>	<u>46,160,616</u>
Total Annual Payments	\$ 98,450,106	\$ 85,802,517	\$ 86,144,867	\$ 90,945,792	\$ 87,004,925	\$ 85,430,300	\$ 85,457,317	\$ 85,338,680

Outstanding COPs	\$ 1,302,288,480	\$ 1,260,443,443	\$ 1,230,200,654	\$ 1,198,309,475	\$ 1,160,123,988	\$ 1,124,212,976	\$ 1,088,599,913	\$ 1,051,207,948
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EXISTING DEBT SERVICE

	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
	2014	2015	2016	2017	2018	2019	2020	2021
2012C CAN								
3 Principal Payments	\$ 2,255,037	\$ 2,367,789	\$ 2,486,179	\$ 2,610,488	\$ 2,741,012	\$ 2,878,062	\$ 3,021,966	\$ 3,173,064
4 Interest Payments	<u>6,585,000</u>	<u>6,472,248</u>	<u>6,353,859</u>	<u>6,229,550</u>	<u>6,099,025</u>	<u>5,961,975</u>	<u>5,818,072</u>	<u>5,666,973</u>
Total Annual Payments	\$ 8,840,037	\$ 8,840,037	\$ 8,840,037	\$ 8,840,037	\$ 8,840,037	\$ 8,840,037	\$ 8,840,037	\$ 8,840,037

2007A Refunding

5 Principal Payments	\$ 235,000	\$ 245,000	\$ 255,000	\$ 265,000	\$ 275,000	\$ 285,000	\$ 295,000	\$ 4,800,000
6 Interest Payments	<u>4,133,761</u>	<u>4,124,194</u>	<u>4,114,227</u>	<u>4,103,861</u>	<u>4,093,094</u>	<u>4,081,927</u>	<u>4,070,361</u>	<u>3,980,978</u>
Total Annual Payments	\$ 4,368,761	\$ 4,369,194	\$ 4,369,227	\$ 4,368,861	\$ 4,368,094	\$ 4,366,927	\$ 4,365,361	\$ 8,780,978

2007B

7 Principal Payments	\$ 6,145,000	\$ 6,450,000	\$ 6,775,000	\$ 7,110,000	\$ 7,470,000	\$ 7,840,000	\$ 8,235,000	\$ 8,645,000
8 Interest Payments	<u>13,476,566</u>	<u>13,162,962</u>	<u>12,826,634</u>	<u>12,471,025</u>	<u>12,108,025</u>	<u>11,726,817</u>	<u>11,360,900</u>	<u>10,988,646</u>
Total Annual Payments	\$ 19,621,566	\$ 19,612,962	\$ 19,601,634	\$ 19,581,025	\$ 19,578,025	\$ 19,566,817	\$ 19,595,900	\$ 19,633,646

2008A Refunding

9 Principal Payments	\$ 19,195,000	-	-	-	-	-	-	-
10 Interest Payments	<u>47,188</u>	-	-	-	-	-	-	-
Total Annual Payments	\$ 19,242,188	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -



**ORANGE COUNTY SANITATION DISTRICT
RATE STUDY ANALYSIS**

2008B Refunding																	
11	Principal Payments	\$	490,000	\$	8,270,000	\$	8,500,000	\$	8,815,000	-	-	-	-				
12	Interest Payments		<u>754,110</u>		<u>630,980</u>		<u>389,825</u>		<u>132,225</u>		-		-				
	Total Annual Payments	\$	1,244,110	\$	8,900,980	\$	8,889,825	\$	8,947,225	\$	-	\$	-				
2009A																	
13	Principal Payments	\$	3,675,000	\$	3,855,000	\$	4,050,000	\$	4,250,000	\$	4,465,000	\$	4,690,000	\$	4,925,000	\$	5,170,000
14	Interest Payments		<u>9,109,425</u>		<u>8,999,175</u>		<u>8,825,700</u>		<u>8,704,200</u>		<u>8,576,700</u>		<u>8,353,450</u>		<u>8,118,950</u>		<u>7,872,700</u>
	Total Annual Payments	\$	12,784,425	\$	12,854,175	\$	12,875,700	\$	12,954,200	\$	13,041,700	\$	13,043,450	\$	13,043,950	\$	13,042,700
2010A RO																	
15	Principal Payments	-	-	-	-	-	-	-	-	-	-	-	-				
16	Interest Payments		<u>2,897,639</u>														
	Total Annual Payments	\$	2,897,639	\$	2,897,639	\$	2,897,639	\$	2,897,639	\$	2,897,639	\$	2,897,639	\$	2,897,639	\$	2,897,639
2010C																	
17	Principal Payments	-	-	-	-	-	-	-	-	-	-	-	-				
18	Interest Payments		<u>6,523,780</u>														
	Total Annual Payments	\$	6,523,780	\$	6,523,780	\$	6,523,780	\$	6,523,780	\$	6,523,780	\$	6,523,780	\$	6,523,780	\$	6,523,780
2011A																	
19	Principal Payments	\$	9,850,000	\$	9,055,000	\$	9,825,000	\$	15,135,000	\$	20,960,000	-	-	-			
20	Interest Payments		<u>6,154,300</u>		<u>5,825,450</u>		<u>5,398,725</u>		<u>4,774,725</u>		<u>3,872,350</u>		<u>3,348,350</u>		<u>3,348,350</u>		<u>3,348,350</u>
	Total Annual Payments	\$	16,004,300	\$	14,880,450	\$	15,223,725	\$	19,909,725	\$	24,832,350	\$	3,348,350	\$	3,348,350	\$	3,348,350
2012B Refunding																	
21	Principal Payments	\$	-	\$	-	\$	-	\$	-	\$	-	\$	19,920,000	\$	20,915,000	\$	17,390,000
22	Interest Payments		<u>3,187,400</u>		<u>2,191,400</u>		<u>1,145,650</u>										
	Total Annual Payments	\$	3,187,400	\$	3,187,400	\$	3,187,400	\$	3,187,400	\$	3,187,400	\$	23,107,400	\$	23,106,400	\$	18,535,650
2012A Refunding																	
23	Principal Payments	-	-	-	-	-	-	-	-	-	-	-	-				
24	Interest Payments		<u>3,735,900</u>														
	Total Annual Payments	\$	3,735,900	\$	3,735,900	\$	3,735,900	\$	3,735,900	\$	3,735,900	\$	3,735,900	\$	3,735,900	\$	3,735,900



ORANGE COUNTY SANITATION DISTRICT
RATE STUDY ANALYSIS
Revenues and O&M Expenditures

		FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
		2014	2015	2016	2017	2018	2019	2020	2021	2021
OPERATING REVENUES										
User Revenues										
Permitted User Fees	No Annual Increases	10,502,000	11,006,096	11,270,242	11,540,728	11,817,706	12,101,331	12,391,762	12,689,165	
General Sewer Service User Fees	OCSD population growth	273,247,019	287,164,692	294,909,409	302,878,097	311,077,613	319,499,106	328,148,586	337,032,225	
Local Sewer Service Fee Adjustment										
Revenue/Rate Adjustments	OCSD population growth	(7,000,000)	(7,019,600)	(7,039,957)	(7,060,725)	(7,081,907)	(7,103,153)	(7,124,462)	(7,145,835)	
IRWD Assessments	IRWD Flow growth + rate incre	12,428,160	13,179,400	13,500,600	8,491,000	3,306,020	3,496,660	3,696,760	3,906,810	
SAWPA Assessments	SAWPA Flow growth + rate incre	4,682,720	4,682,720	4,682,720	4,682,720	4,682,720	4,682,720	4,682,720	4,682,720	
Miscellaneous Receipts	No Annual Increases	1,524,000	1,524,000	1,524,000	1,524,000	1,524,000	1,524,000	1,524,000	1,524,000	
Interest	General Cost Inflation	14,954,392	17,458,613	17,068,730	16,104,440	14,967,038	16,619,424	18,349,826	18,380,101	
[Other]	Customer Demand Growth	-	-	-	-	-	-	-	-	
[Other]	Customer Demand Growth	-	-	-	-	-	-	-	-	
[Other]	Customer Demand Growth	-	-	-	-	-	-	-	-	
Urban Runoff Revenues	Customer Demand Growth	-	-	-	-	-	-	-	-	
O & M Assessment Service Fees (Sunse	Customer Demand Growth	-	-	-	-	-	-	-	-	
Operating Revenue Subtotal		\$ 310,338,291	\$ 327,995,922	\$ 335,915,744	\$ 338,160,261	\$ 340,293,190	\$ 350,820,089	\$ 361,669,192	\$ 371,069,185	
LOCAL SEWER SERVICE REVENUES										
Local Sewer Operating Revenues	General Cost Inflation	2,300,105	2,392,110	2,487,794	2,587,306	2,690,798	2,798,430	2,910,367	3,026,782	
Local Sewer Capital Replacement Fundi	[Calculated]	4,115,983	4,192,568	4,273,591	4,352,109	4,434,565	4,513,936	4,597,013	4,683,690	
Local Sewer Remittance (15%)	[Calculated]	(962,413)	(987,702)	(1,014,208)	(1,040,912)	(1,068,804)	(1,096,855)	(1,126,107)	(1,156,571)	
Local Sewer Service Subtotal		\$ 5,453,675	\$ 5,596,976	\$ 5,747,177	\$ 5,898,503	\$ 6,056,558	\$ 6,215,511	\$ 6,381,273	\$ 6,553,901	
NON-OPERATING REVENUES										
Property Tax Allocation	Property Tax Revenue Growth	\$ 64,025,000	\$ 67,226,250	\$ 70,587,563	\$ 74,116,941	\$ 77,822,788	\$ 81,713,927	\$ 85,799,623	\$ 90,089,605	
Redevelopment Agency Pass Thru	General Cost Inflation	-	-	-	-	-	-	-	-	
Non-Operating Revenue Subtotal	General Cost Inflation	\$ 64,025,000	\$ 67,226,250	\$ 70,587,563	\$ 74,116,941	\$ 77,822,788	\$ 81,713,927	\$ 85,799,623	\$ 90,089,605	
INTRADISTRICT REVENUES										
Annual Intradistrict Joint Equity Purchas	One Time Expenditure/Revenue	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Intradistrict Revenue Subtotal	Customer Demand Growth	\$ -								
SELF INSURANCE REVENUES										
Workers' Comp SFI	No Annual Increases	\$ 796,000	\$ 1,018,423	\$ 1,018,423	\$ 1,018,423	\$ 1,018,423	\$ 1,018,423	\$ 1,018,423	\$ 1,018,423	
General Liability SFI	No Annual Increases	932,900	1,193,577	1,193,577	1,193,577	1,193,577	1,193,577	1,193,577	1,193,577	
Self Insurance Revenue Subtotal	General Cost Inflation	\$ 1,728,900	\$ 2,212,000							
CAPITAL REVENUES										
Capital Facilities Capacity Charge	[Calculated]	\$ 7,768,000	\$ 8,677,000	\$ 9,463,000	\$ 10,137,000	\$ 10,856,000	\$ 10,845,000	\$ 11,421,000	\$ 12,028,000	
Capital Assessment (IRWD)	[Calculated]	2,454,000	2,714,000	2,541,000	2,802,000	1,950,000	1,288,000	684,000	773,000	
Sale of Capacity Rights, SAWPA & SSB	One Time Expenditure/Revenue	-	-	-	8,381,000	-	-	8,381,000	-	
Other Revenue Subtotal	One Time Expenditure/Revenue	\$ 10,222,000	\$ 11,391,000	\$ 12,004,000	\$ 21,320,000	\$ 12,806,000	\$ 12,133,000	\$ 20,486,000	\$ 12,801,000	
TOTAL REVENUES		\$ 391,767,867	\$ 414,422,147	\$ 426,466,484	\$ 441,707,704	\$ 439,190,536	\$ 453,094,527	\$ 476,548,089	\$ 482,725,691	



ORANGE COUNTY SANITATION DISTRICT
RATE STUDY ANALYSIS
Revenues and O&M Expenditures

		FY 2013 2014	FY 2014 2015	FY 2015 2016	FY 2016 2017	FY 2017 2018	FY 2018 2019	FY 2019 2020	FY 2020 2021
OPERATING REQUIREMENTS									
Salaries & Wages									
Salaries & Wages	Labor Cost Inflation	\$ 63,117,251	\$ 66,904,286	\$ 70,082,239	\$ 73,411,145	\$ 76,898,175	\$ 80,550,838	\$ 84,377,003	\$ 88,384,911
Total Salaries & Wages	Labor Cost Inflation	\$ 63,117,251	\$ 66,904,286	\$ 70,082,239	\$ 73,411,145	\$ 76,898,175	\$ 80,550,838	\$ 84,377,003	\$ 88,384,911
Employee Benefits									
OCERS Retirement	Labor Cost Inflation	\$ 19,009,799	\$ 20,150,387	\$ 21,107,531	\$ 22,110,138	\$ 23,160,370	\$ 24,260,487	\$ 25,412,861	\$ 26,619,971
Group Insurance	Labor Cost Inflation	8,886,658	9,419,857	9,867,301	10,335,997	10,826,957	11,341,238	11,879,947	12,444,244
Tuition Reimb & Educ Devel	Labor Cost Inflation	422,432	447,778	469,047	491,327	514,665	539,112	564,719	591,544
Uniform Rental	Labor Cost Inflation	41,273	43,749	45,827	48,004	50,284	52,673	55,174	57,795
Workers Compensation	Labor Cost Inflation	923,684	979,105	1,025,612	1,074,329	1,125,360	1,178,814	1,234,808	1,293,461
Unemployment Insurance	Labor Cost Inflation	22,744	24,109	25,254	26,453	27,710	29,026	30,405	31,849
EMT Supplemental	Labor Cost Inflation	28,038	29,720	31,132	32,611	34,160	35,782	37,482	39,262
Total Employee Benefits	Labor Cost Inflation	\$ 29,334,628	\$ 31,094,705	\$ 32,571,704	\$ 34,118,860	\$ 35,739,505	\$ 37,437,132	\$ 39,215,396	\$ 41,078,127
Administrative Expenses									
Memberships	General Cost Inflation	\$ 509,134	\$ 534,591	\$ 561,320	\$ 589,386	\$ 615,908	\$ 643,624	\$ 672,587	\$ 702,854
Office Exp - Supplies	General Cost Inflation	80,026	84,027	88,228	92,640	96,809	101,165	105,717	110,475
Postage	General Cost Inflation	233,597	245,277	257,541	270,418	282,587	295,303	308,592	322,479
Books & Publications	General Cost Inflation	42,871	45,014	47,265	49,628	51,861	54,195	56,634	59,182
Forms	General Cost Inflation	1,216	1,276	1,340	1,407	1,471	1,537	1,606	1,678
Small Computer Items	General Cost Inflation	441,157	463,214	486,375	510,694	533,675	557,690	582,787	609,012
Minor Furniture & Fixtures	General Cost Inflation	101,417	106,488	111,812	117,403	122,686	128,207	133,976	140,005
Total Administrative Expenses	General Cost Inflation	\$ 1,409,417	\$ 1,479,888	\$ 1,553,882	\$ 1,631,576	\$ 1,704,997	\$ 1,781,722	\$ 1,861,899	\$ 1,945,685
Printing & Publication									
Repro-In-House	General Cost Inflation	\$ 367,885	\$ 386,280	\$ 405,594	\$ 425,873	\$ 445,038	\$ 465,064	\$ 485,992	\$ 507,862
Printing-Outside	General Cost Inflation	104,289	109,504	114,979	120,728	126,161	131,838	137,771	143,970
Notices & Ads	General Cost Inflation	14,333	15,049	15,802	16,592	17,339	18,119	18,934	19,786
Photo Processing	General Cost Inflation	2,745	2,882	3,026	3,178	3,321	3,470	3,626	3,789
Total Printing & Publication	General Cost Inflation	\$ 489,252	\$ 513,715	\$ 539,401	\$ 566,371	\$ 591,858	\$ 618,491	\$ 646,323	\$ 675,408
Training & Meetings									
Meetings	General Cost Inflation	\$ 223,804	\$ 234,994	\$ 246,744	\$ 259,081	\$ 270,739	\$ 282,923	\$ 295,654	\$ 308,959
Training	General Cost Inflation	1,167,830	1,226,221	1,287,532	1,351,909	1,412,745	1,476,318	1,542,753	1,612,176
Total Training & Meetings	General Cost Inflation	\$ 1,391,633	\$ 1,461,215	\$ 1,534,276	\$ 1,610,989	\$ 1,683,484	\$ 1,759,241	\$ 1,838,407	\$ 1,921,135



ORANGE COUNTY SANITATION DISTRICT
RATE STUDY ANALYSIS
Revenues and O&M Expenditures

		FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
		2014	2015	2016	2017	2018	2019	2020	2021
Operating Materials & Supplies									
Chemical Coagulants	Cust. Growth + Variable O&M	\$ 6,793,844	\$ 7,152,559	\$ 7,530,930	\$ 7,929,692	\$ 8,310,318	\$ 8,709,213	\$ 9,127,255	\$ 9,565,363
Odor Control	Cust. Growth + Variable O&M	8,231,935	8,666,581	9,125,044	9,608,215	10,069,409	10,552,741	11,059,272	11,590,117
Disinfection	Cust. Growth + Variable O&M	1,175,725	1,237,804	1,303,283	1,372,292	1,438,162	1,507,194	1,579,539	1,655,357
Chemicals-Cogen. Ops.	Cust. Growth + Variable O&M	23,593	24,839	26,153	27,538	28,859	30,245	31,696	33,218
Miscellaneous Chemicals	Cust. Growth + Variable O&M	38,437	40,467	42,607	44,863	47,017	49,274	51,639	54,117
Gasoline, Diesel & Oil	Cust. Growth + Variable O&M	624,933	657,930	692,734	729,415	764,427	801,119	839,573	879,872
Tools	Cust. Growth + Variable O&M	371,877	391,512	412,223	434,051	454,885	476,719	499,602	523,583
Safety Equipment/tools	Cust. Growth + Variable O&M	775,409	816,350	859,535	905,047	948,490	994,017	1,041,730	1,091,733
Solv, Paints, & Jan. Supplies	Cust. Growth + Variable O&M	99,681	104,944	110,496	116,347	121,931	127,784	133,917	140,346
Lab Chemicals & Supplies	Cust. Growth + Variable O&M	610,119	642,333	676,313	712,123	746,305	782,128	819,670	859,014
Misc. Operating Supplies	Cust. Growth + Variable O&M	183,004	192,667	202,859	213,600	223,853	234,598	245,859	257,660
Property Tax Fees	Cust. Growth + Variable O&M	1,357	1,428	1,504	1,583	1,659	1,739	1,823	1,910
Total Operating Materials & Supplies	Cust. Growth + Variable O&M	\$ 18,929,915	\$ 19,929,414	\$ 20,983,681	\$ 22,094,766	\$ 23,155,315	\$ 24,266,770	\$ 25,431,575	\$ 26,652,291
Contractual Services									
Solids Removal	Cust. Growth + Variable O&M	\$ 20,024,686	\$ 21,081,990	\$ 22,197,227	\$ 23,372,570	\$ 24,494,454	\$ 25,670,187	\$ 26,902,356	\$ 28,193,669
Other Waste Disposal	Cust. Growth + Variable O&M	942,251	992,002	1,044,479	1,099,784	1,152,574	1,207,898	1,265,877	1,326,639
Groundskeeping	Cust. Growth + Variable O&M	198,576	209,060	220,120	231,775	242,900	254,560	266,778	279,584
Janitorial	Cust. Growth + Variable O&M	479,000	504,291	530,968	559,083	585,919	614,043	643,517	674,406
Outside Lab Services	General Cost Inflation	145,797	153,087	160,742	168,779	176,374	184,311	192,604	201,272
Oxygen Plant Oper	General Cost Inflation	561,739	589,826	619,318	650,284	679,546	710,126	742,082	775,475
County Service Fee	General Cost Inflation	548,789	576,228	605,040	635,292	663,880	693,755	724,974	757,597
Temporary Services	General Cost Inflation	302,633	317,765	333,653	350,336	366,101	382,576	399,792	417,782
Security Services	General Cost Inflation	372,532	391,159	410,717	431,253	450,659	470,939	492,131	514,277
Other	General Cost Inflation	2,061,378	2,164,446	2,272,669	2,386,302	2,493,686	2,605,902	2,723,167	2,845,710
Less IRWD Adjustment	General Cost Inflation	-	-	-	(3,585,000)	(7,500,000)	(7,837,500)	(8,190,188)	(8,558,746)
Total Contractual Services	General Cost Inflation	\$ 25,637,382	\$ 26,979,856	\$ 28,394,932	\$ 26,300,457	\$ 23,806,093	\$ 24,956,794	\$ 26,163,090	\$ 27,427,665
Professional Services									
Legal	General Cost Inflation	\$ 494,389	\$ 519,109	\$ 545,064	\$ 572,318	\$ 598,072	\$ 624,985	\$ 653,109	\$ 682,499
Audit & Accounting	General Cost Inflation	271,782	285,371	299,639	314,621	328,779	343,575	359,035	375,192
Engineering	General Cost Inflation	379,885	398,879	418,823	439,764	459,554	480,233	501,844	524,427
Enviro Scientific Consult	General Cost Inflation	117,642	123,524	129,700	136,185	142,313	148,717	155,410	162,403
ERP Support	General Cost Inflation	-	-	-	-	-	-	-	-
Software Prgrm Consult	General Cost Inflation	448,999	471,449	495,022	519,773	543,163	567,605	593,147	619,839
Advocacy Efforts	General Cost Inflation	211,755	222,343	233,460	245,133	256,164	267,691	279,738	292,326
Industrial Hygiene Svcs	General Cost Inflation	49,017	51,468	54,042	56,744	59,297	61,966	64,754	67,668
Labor Negotiation Svc	General Cost Inflation	112,250	117,862	123,755	129,943	135,791	141,901	148,287	154,960
Other	General Cost Inflation	908,969	954,417	1,002,138	1,052,245	1,099,596	1,149,078	1,200,786	1,254,822
	General Cost Inflation	-	-	-	-	-	-	-	-
Total Professional Services		\$ 2,994,688	\$ 3,144,423	\$ 3,301,644	\$ 3,466,726	\$ 3,622,729	\$ 3,785,752	\$ 3,956,110	\$ 4,134,135



ORANGE COUNTY SANITATION DISTRICT
RATE STUDY ANALYSIS
Revenues and O&M Expenditures

		FY 2013 2014	FY 2014 2015	FY 2015 2016	FY 2016 2017	FY 2017 2018	FY 2018 2019	FY 2019 2020	FY 2020 2021
Research & Monitoring									
Environmental Monitoring	General Cost Inflation	\$ 274,968	\$ 288,716	\$ 303,152	\$ 318,310	\$ 332,634	\$ 347,602	\$ 363,244	\$ 379,590
Air Quality Monitoring	General Cost Inflation	91,172	95,731	100,518	105,543	110,293	115,256	120,443	125,862
Research	General Cost Inflation	436,255	458,068	480,971	505,019	527,745	551,494	576,311	602,245
	General Cost Inflation	-	-	-	-	-	-	-	-
Total Research & Monitoring		\$ 802,395	\$ 842,515	\$ 884,641	\$ 928,873	\$ 970,672	\$ 1,014,352	\$ 1,059,998	\$ 1,107,698
Repairs & Maintenance									
Materials & Services	Construction Cost Inflation	\$ 8,883,648	\$ 9,327,831	\$ 9,794,222	\$ 10,283,933	\$ 10,798,130	\$ 11,338,036	\$ 11,904,938	\$ 12,500,185
Service Maint. Agreements	Construction Cost Inflation	2,068,858	2,172,301	2,280,916	2,394,961	2,514,709	2,640,445	2,772,467	2,911,090
	Construction Cost Inflation	-	-	-	-	-	-	-	-
Total Repairs & Maintenance		\$ 10,952,506	\$ 11,500,131	\$ 12,075,138	\$ 12,678,895	\$ 13,312,839	\$ 13,978,481	\$ 14,677,405	\$ 15,411,276
Utilities									
Telephone	General Cost Inflation	\$ 303,908	\$ 319,103	\$ 335,058	\$ 351,811	\$ 367,643	\$ 384,187	\$ 401,475	\$ 419,542
Diesel For Generators	General Cost Inflation	19,607	20,587	21,617	22,698	23,719	24,786	25,902	27,067
Natural Gas	Cust. Growth + Variable O&M	411,897	433,645	456,585	480,761	503,838	528,022	553,367	579,929
Electricity	Cust. Growth + Variable O&M	6,046,924	6,366,202	6,702,974	7,057,897	7,396,676	7,751,716	8,123,798	8,513,741
Water	General Cost Inflation	1,280,089	1,344,094	1,411,298	1,481,863	1,548,547	1,618,232	1,691,052	1,767,150
	General Cost Inflation	-	-	-	-	-	-	-	-
Total Utilities		\$ 8,062,426	\$ 8,483,632	\$ 8,927,533	\$ 9,395,030	\$ 9,840,422	\$ 10,306,943	\$ 10,795,595	\$ 11,307,428
Other Operating Costs									
Outside Equip Rental	General Cost Inflation	\$ 5,441	\$ 5,713	\$ 5,999	\$ 6,299	\$ 6,582	\$ 6,878	\$ 7,188	\$ 7,511
Insurance Premiums	General Cost Inflation	34,312	36,028	37,829	39,721	41,508	43,376	45,328	47,368
In-Lieu Insurance Premium	General Cost Inflation	1,274,452	1,338,175	1,405,084	1,475,338	1,541,728	1,611,106	1,683,606	1,759,368
Freight	General Cost Inflation	87,369	91,737	96,324	101,140	105,691	110,448	115,418	120,611
Misc. Operating Expense	General Cost Inflation	184,511	193,737	203,424	213,595	223,207	233,251	243,747	254,716
Uncollectible Accounts	General Cost Inflation	-	-	-	-	-	-	-	-
Regulatory Operating Fees	General Cost Inflation	683,303	717,468	753,341	791,008	826,603	863,801	902,672	943,292
	General Cost Inflation	-	-	-	-	-	-	-	-
Total Other Operating Costs		\$ 2,269,388	\$ 2,382,857	\$ 2,502,000	\$ 2,627,100	\$ 2,745,320	\$ 2,868,859	\$ 2,997,958	\$ 3,132,866
General Manager									
Contingency	General Cost Inflation	\$ 364,493	\$ 382,718	\$ 401,854	\$ 421,947	\$ 440,934	\$ 460,776	\$ 481,511	\$ 503,179
Prior year reappropriation	General Cost Inflation	364,493	382,718	401,854	421,947	440,934	460,776	481,511	503,179
	General Cost Inflation	-	-	-	-	-	-	-	-
Total General Manager		\$ 728,987	\$ 765,436	\$ 803,708	\$ 843,893	\$ 881,868	\$ 921,553	\$ 963,022	\$ 1,006,358



ORANGE COUNTY SANITATION DISTRICT
RATE STUDY ANALYSIS
Revenues and O&M Expenditures

		FY 2013 2014	FY 2014 2015	FY 2015 2016	FY 2016 2017	FY 2017 2018	FY 2018 2019	FY 2019 2020	FY 2020 2021
Other Non-Operating									
Other Interest Expense	General Cost Inflation	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Loss on obsolete inventory	General Cost Inflation	2,461	2,584	2,713	2,849	2,977	3,111	3,251	3,397
Other Non-Oper Expense	General Cost Inflation	90,947	95,494	100,269	105,282	110,020	114,971	120,145	125,551
Capital Grants-Member Agencies	General Cost Inflation	-	-	-	-	-	-	-	-
Eq Sale to 7 or 14	One Time Expenditure/Revenue	-	-	-	-	-	-	-	-
Total Other Non-Operating		\$ 93,408	\$ 98,078	\$ 102,982	\$ 108,131	\$ 112,997	\$ 118,082	\$ 123,395	\$ 128,948
Cost Allocation:									
Cost Allocation	General Cost Inflation	\$ (17,456,859)	\$ (18,329,702)	\$ (19,246,188)	\$ (20,208,497)	\$ (21,117,879)	\$ (22,068,184)	\$ (23,061,252)	\$ (24,099,009)
	General Cost Inflation	-	-	-	-	-	-	-	-
Total Cost Allocation:		\$ (17,456,859)	\$ (18,329,702)	\$ (19,246,188)	\$ (20,208,497)	\$ (21,117,879)	\$ (22,068,184)	\$ (23,061,252)	\$ (24,099,009)
Adjustments:									
Local Sewer Maintenance	[From Local Sewer]	\$ 2,300,105	\$ 2,392,110	\$ 2,487,794	\$ 2,587,306	\$ 2,690,798	\$ 2,798,430	\$ 2,910,367	\$ 3,026,782
Local Sewer Capital Replacement	[From Local Sewer]	4,115,983	4,192,568	4,273,591	4,352,109	4,434,565	4,513,936	4,597,013	4,683,690
Total Adjustments:		\$ 2,300,105	\$ 5,988,357	\$ 6,761,385	\$ 6,939,415	\$ 7,125,363	\$ 7,312,366	\$ 7,507,380	\$ 7,710,472
Replacement Funding:									
[Other]	[INPUT]	-	-	-	-	-	-	-	-
[Other]	[INPUT]	-	-	-	-	-	-	-	-
Total Replacement Funding:		\$ -							
Self Insurance									
District's Share	No Annual Increases	\$ 1,728,900	\$ 2,212,000	\$ 2,212,000	\$ 2,212,000	\$ 2,212,000	\$ 2,212,000	\$ 2,212,000	\$ 2,212,000
Other	General Cost Inflation	-	-	-	-	-	-	-	-
Total Self Insurance		\$ 1,728,900	\$ 2,212,000						
Operating Expenditures									
Operating Expenses		\$ 148,756,416	\$ 157,250,448	\$ 165,011,571	\$ 169,574,316	\$ 173,948,395	\$ 182,296,826	\$ 191,045,925	\$ 200,214,922
Miscellaneous Capital		-	-	-	-	-	-	-	-
Replacement Funding		-	-	-	-	-	-	-	-
Local Sewer Capital Replacement		6,416,089	6,584,678	6,761,385	6,939,415	7,125,363	7,312,366	7,507,380	7,710,472
Self Insurance		1,728,900	2,212,000	2,212,000	2,212,000	2,212,000	2,212,000	2,212,000	2,212,000
Total Operating Expenditures		\$ 156,901,404	\$ 166,047,126	\$ 173,984,957	\$ 178,725,731	\$ 183,285,758	\$ 191,821,192	\$ 200,765,305	\$ 210,137,394



ORANGE COUNTY SANITATION DISTRICT
RATE STUDY ANALYSIS
REVENUE REQUIREMENTS

CASH FLOW SUFFICIENCY TEST

	FY 2013 2014	FY 2014 2015	FY 2015 2016	FY 2016 2017	FY 2017 2018	FY 2018 2019	FY 2019 2020	FY 2020 2021
Revenues								
User Charges	\$ 295,383,899	\$ 310,537,308	\$ 318,847,015	\$ 322,055,821	\$ 325,326,152	\$ 334,200,664	\$ 343,319,367	\$ 352,689,084
Other Operating Revenues	14,954,392	17,458,613	17,068,730	16,104,440	14,967,038	16,619,424	18,349,826	18,380,101
Non-Operating Revenues	64,025,000	67,226,250	70,587,563	74,116,941	77,822,788	81,713,927	85,799,623	90,089,605
Intra-District Revenues	-	-	-	-	-	-	-	-
Local Sewer Service Operating Revenues	2,300,105	2,126,577	2,487,794	2,587,306	2,690,798	2,798,430	2,910,367	3,026,782
Self-Insurance	1,728,900	2,212,000	2,212,000	2,212,000	2,212,000	2,212,000	2,212,000	2,212,000
Total Revenues	\$ 378,392,297	\$ 399,560,748	\$ 411,203,101	\$ 417,076,507	\$ 423,018,776	\$ 437,544,446	\$ 452,591,183	\$ 466,397,571
Expenditures								
<i>Ongoing Operating Expenses</i>								
Operating Expenses	\$ 148,756,416	\$ 157,250,448	\$ 165,011,571	\$ 169,574,316	\$ 173,948,395	\$ 182,296,826	\$ 191,045,925	\$ 200,214,922
<i>Other Operating Expenses</i>								
Self-Insurance	1,728,900	2,212,000	2,212,000	2,212,000	2,212,000	2,212,000	2,212,000	2,212,000
Debt Service	98,450,106	85,802,517	86,144,867	90,945,792	87,004,925	85,430,300	85,457,317	85,338,680
Miscellaneous Capital	-	-	-	-	-	-	-	-
Replacement Funding	-	-	-	-	-	-	-	-
Rate Funded Capital Improvements	-	-	-	16,751,772	45,970,665	70,223,571	103,774,203	107,053,815
Subtotal Expenditures	\$ 248,935,422	\$ 245,264,965	\$ 253,368,439	\$ 279,483,880	\$ 309,135,985	\$ 340,162,697	\$ 382,489,446	\$ 394,819,417
Total Expenditures	\$ 248,935,422	\$ 245,264,965	\$ 253,368,439	\$ 279,483,880	\$ 309,135,985	\$ 340,162,697	\$ 382,489,446	\$ 394,819,417
Operating Expenditure Surplus (Deficiency)	\$ 129,456,875	\$ 154,295,783	\$ 157,834,662	\$ 137,592,627	\$ 113,882,790	\$ 97,381,749	\$ 70,101,737	\$ 71,578,155



ORANGE COUNTY SANITATION DISTRICT
RATE STUDY ANALYSIS
REVENUE REQUIREMENTS

BOND COVERAGE TEST

	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
	2014	2015	2016	2017	2018	2019	2020	2021
Allowable Revenues								
Operating Revenues	\$ 295,383,899	\$ 310,537,308	\$ 318,847,015	\$ 322,055,821	\$ 325,326,152	\$ 334,200,664	\$ 343,319,367	\$ 352,689,084
Other Operating Revenues	14,954,392	17,328,811	16,927,174	15,952,806	14,804,646	16,419,897	18,109,675	18,127,186
Non-Operating Revenues	64,025,000	67,226,250	70,587,563	74,116,941	77,822,788	81,713,927	85,799,623	90,089,605
Intra-District Revenues	-	-	-	-	-	-	-	-
Local Sewer Service Revenues	2,300,105	2,126,577	2,487,794	2,587,306	2,690,798	2,798,430	2,910,367	3,026,782
Self-Insurance	1,728,900	2,212,000	2,212,000	2,212,000	2,212,000	2,212,000	2,212,000	2,212,000
Capital Revenues	2,454,000	2,714,000	2,541,000	11,183,000	1,950,000	1,288,000	9,065,000	773,000
SCFCC Revenues	(157,684)	23,510	25,979	28,055	29,859	(556,550)	(586,543)	(617,744)
Total Revenues	\$ 380,688,613	\$ 402,168,456	\$ 413,628,525	\$ 428,135,928	\$ 424,836,243	\$ 438,076,368	\$ 460,829,489	\$ 466,299,913
Expenditures								
Ongoing Operating Expenses	\$ 150,485,316	\$ 159,462,448	\$ 167,223,571	\$ 171,786,316	\$ 176,160,395	\$ 184,508,826	\$ 193,257,925	\$ 202,426,922
COP Debt Coverage Requirement ¹	123,062,632	107,253,147	107,681,084	113,682,240	108,756,157	106,787,875	106,821,647	106,673,350
Junior Lien Debt Coverage Requirement ²	-	-	-	-	-	-	-	-
Total Expenditures	\$ 273,547,948	\$ 266,715,595	\$ 274,904,655	\$ 285,468,557	\$ 284,916,551	\$ 291,296,701	\$ 300,079,572	\$ 309,100,272
Bond Coverage Surplus (Deficiency)	\$ 107,140,665	\$ 135,452,861	\$ 138,723,870	\$ 142,667,371	\$ 139,919,691	\$ 146,779,667	\$ 160,749,917	\$ 157,199,641

(1) Debt coverage requirement must equal "at least the sum of 125% of the Maximum Annual Debt Service on all Bonds, Parity Obligations and Contracts outstanding after the issuance of such Parity Obligations..."

(2) Policy driven coverage objective of 2.0x.



ORANGE COUNTY SANITATION DISTRICT
RATE STUDY ANALYSIS
Functional Allocation & Rate Calculation

Input Year

2014

PLANT-IN EXPENDITURES

Allocation of Plant-in-Service	Original Cost	Functional Cost Allocation			As All Others ¹	Notes:
		Flow	BOD	TSS		
Land	\$ 19,217,000				100%	As All Others
Construction in Progress	1,258,267,000	34.9%	52.9%	12.2%	0%	As CIP - Cost to Date
Sewage Collection System	346,959,000	90%	10%	0%	0%	As Collection
Sewage Treatment System	639,790,000	33%	41%	26%	0%	As CIP - Treatment Projects
Effluent Disposal	44,136,000	100%	0%	0%	0%	As Effluent Disposal
Solids Disposal	356,000	0%	45%	55%	0%	As Solids Disposal
General and Administrative Facilities	88,660,000				100%	As All Others
Assets Acquired in Excess of Book Value	3,537,000				100%	As All Others
Subtotals:	\$ 2,400,922,000	\$ 1,005,912,804	\$ 962,360,889	\$ 321,234,307	\$ 111,414,000	*As of June 30, 2011
Re-Allocation of "As All Others":		48,950,591	46,831,230	15,632,179		
Total Allocation:		\$ 1,054,863,394	\$ 1,009,192,119	\$ 336,866,486		
Percentage Allocation:		44%	42%	14%		



ORANGE COUNTY SANITATION DISTRICT
RATE STUDY ANALYSIS
Functional Allocation & Rate Calculation

Unit Process Expenditures
 \$ 135,941,826

Allocation of Operating Expenses	% of Costs	Year of Costs		Functional Cost Allocation			As All Others ¹	Notes:
		2014		Flow	BOD	TSS		
ONGOING O&M EXPENDITURES								
Preliminary Treatment - Plant #1	2.6%	\$ 3,485,087	75%	5%	20%	0%	as headworks allocation 95/96	
Primary Treatment - Plant #1	3.1%	4,195,026	15%	25%	60%	0%	as primary sedimentation allocation 95/96	
Secondary Treatment - Plant #1	1.7%	2,370,871	0%	100%	0%	0%	as secondary sedimentation 95/96	
Effluent Disposal - Plant #1	0.0%	44,786	100%	0%	0%	0%	as effluent disposal 95/96	
Solids Handling - Plant #1								
- Solids Handling	2.7%	3,734,380	0%	25%	75%	0%	as solids handling 95/96	
- Solids Disposals	6.8%	9,194,394	0%	45%	55%	0%	as solids disposal 95/96	
Co-Generation Facilities - Plant #1	3.0%	4,011,074	0%	25%	75%	0%	as digestion eq & op 95/96	
Utility Units - Plant #1	0.6%	813,867				100%	as all others	
Electrical Distribution - Plant #1	0.5%	660,805				100%	as all others	
Miscellaneous Buildings - Plant #1	2.2%	2,991,611				100%	as all others	
Preliminary Treatment - Plant #2	1.1%	1,471,736	75%	5%	20%	0%	as headworks allocation 95/96	
Primary Treatment - Plant #2	2.6%	3,573,061	15%	25%	60%	0%	as primary sedimentation allocation 95/96	
Secondary Treatment - Plant #2	1.2%	1,617,406	0%	100%	0%	0%	as secondary sedimentation 95/96	
Oxygen Generation Facility (Air Product)	0.3%	356,681	0%	100%	0%	0%	as assumed for BOD	
Effluent Disposal - Plant #2	0.3%	408,258	100%	0%	0%	0%	as effluent disposal 95/96	
Solids - Plant #2								
- Solids Handling	3.4%	4,593,651	0%	20%	80%	0%	as solids handling 95/96	
- Solids Disposals	6.6%	8,947,569	0%	45%	55%	0%	as solids disposal 95/96	
Central Generation Facility - Plant #2	3.3%	4,452,178				100%	as all others	
Utility Units - Plant #2	1.2%	1,680,569				100%	as all others	
Electrical Distribution - Plant #2	0.2%	330,050				100%	as all others	
Miscellaneous Buildings - Plant #2	0.5%	627,152				100%	as all others	
External Location	0.0%	136				100%	as all others	
Nerissa	0.1%	153,762				100%	as all others	
North County Yard	0.1%	116,248				100%	as all others	
Revenue Area 13	0.0%	9,349	90%	5%	5%	0%	as collection & diversion 95/96	
Revenue Area 1	0.0%	66,783	90%	5%	5%	0%	as collection & diversion 95/96	
Revenue Area 2	0.4%	539,822	90%	5%	5%	0%	as collection & diversion 95/96	
Revenue Area 3	2.7%	3,665,919	90%	5%	5%	0%	as collection & diversion 95/96	
Revenue Area 14	0.8%	1,040,261	90%	5%	5%	0%	as collection & diversion 95/96	
Revenue Area 5	1.3%	1,742,427	90%	5%	5%	0%	as collection & diversion 95/96	
Revenue Area 6	0.1%	108,815	90%	5%	5%	0%	as collection & diversion 95/96	
Revenue Area 7	1.0%	1,351,152	90%	5%	5%	0%	as collection & diversion 95/96	
Revenue Area 11	1.1%	1,552,210	90%	5%	5%	0%	as collection & diversion 95/96	
Joint Revenue Areas	39.5%	53,691,722				100%	as collection & diversion 95/96	
Non Area Specific	9.1%	12,343,009				100%	as collection & diversion 95/96	
subtotals:	100%	\$ 135,941,826						
			\$ 14,404,938	\$ 18,057,634	\$ 25,618,144	\$ 77,861,109		
Re-Allocation of "As All Others":			19,310,789	24,207,474	34,342,846			
Total Allocation:			\$ 33,715,727	\$ 42,265,109	\$ 59,960,991			
Percentage Allocation:			25%	31%	44%			

(1) "As All Others" costs are re-allocated based on functional cost allocation to billable constituents



ORANGE COUNTY SANITATION DISTRICT
RATE STUDY ANALYSIS
Functional Allocation & Rate Calculation

Expenditures	FY 2013 2014	Functional Allocation				
		Flow	BOD	TSS		
<i>Ongoing Operating Expenses</i>						
Operating Expenses	\$ 148,756,416	25%	31%	44%	0%	As Treatment Expenditures
<i>Other Operating Expenses</i>						
Self-Insurance	1,728,900	45%	29%	26%	0%	Future CIP (2013-2021)
New Debt Service	-	45%	29%	26%	0%	Future CIP (2013-2021)
Existing Debt Service (1)	98,450,106	38%	41%	21%	0%	Debt Service Weighted Average
Miscellaneous Capital	-	44%	34%	22%	0%	As CIP
Replacement Funding	-	44%	42%	14%	0%	As Plant-in-Service
Rate Funded Capital Improvements	-	45%	29%	26%	0%	Future CIP (2013-2021)
Bond Coverage (above Cash Flow Needs)	-	44%	34%	22%	0%	As CIP
Policy Driven Rate Increases (Decreases)	143,635,302	45%	29%	26%	0%	Future CIP (2013-2021)
Less Off-Setting Revenues						
Revenues from other Districts and Urban Runoff	(17,932,202)				100%	As all others
Other Operating Revenues	(14,954,392)				100%	As all others
Non-Operating Revenues	(64,025,000)				100%	As all others
Intra-District Revenues	-				100%	As all others
Local Sewer Operating Revenue	(2,300,105)				100%	As all others
Self-Insurance	(1,728,900)				100%	As all others
Subtotals:	\$ 291,630,124	\$ 139,255,917.5	\$ 129,872,610	\$ 123,442,197	\$ (100,940,600)	
Re-Allocation of "As All Others":		(35,806,480)	(33,393,777)	(31,740,343)		
Total Allocation:	\$ 291,630,124	\$ 103,449,437	\$ 96,478,833	\$ 91,701,854		
Percentage Allocation:		35.5%	33.1%	31.4%		

(1) Existing debt service allocation is the weighted average of debt service payments related to existing versus newly incurred debt.

RATE CALCULATION

	Flow	BOD	TSS
Cost Allocation	\$ 103,449,437	\$ 96,478,833	\$ 91,701,854
Customer Information	Total Flow (1,000 gal) 74,155,945	Total B.O.D. (lbs) 161,978,049	Total T.S.S. (lbs) 156,303,931
Unit Costs	\$ / 1,000 gals \$1.3950	\$ / lbs B.O.D \$0.5956	\$ / lbs TSS \$0.5867
Equivalent Dwelling Unit	Gal/Day 210	B.O.D. (mg/l) 254	T.S.S. (mg/l) 256
	1,000 Gal/Yr. 77	B.O.D. (lbs) / Yr. 162	T.S.S. (lbs) / Yr. 163
Total	Flow	BOD	TSS
Annual Charge per EDU	\$ 299.40	\$ 106.73	\$ 96.78
		\$ 95.89	

USER CATEGORIES



ORANGE COUNTY SANITATION DISTRICT

RATE STUDY ANALYSIS

USER RATE CATEGORIES

FY 2013/2014

EDU Annual Rate \$308.00

Use Codes	Description	Percentage of SFR	
		Per 1,000 SF or Unit	User Rates
1	VACANT LAND	0%	\$0.00
5	COMMON AREA PARCEL	0%	\$0.00
6	"HOLD" PARCEL	0%	\$0.00
8	EQUIV TO VACANT	0%	\$0.00
121	PARCEL OF MINIMAL OR NO VALUE	0%	\$0.00
122	SUBSURFACE PARCELS	0%	\$0.00
124	OIL/MINERAL RIGHTS	0%	\$0.00
125	MINERAL RIGHTS EQUIPMENT	0%	\$0.00
126	VACANT COMMON AREA-IMP ALLOC	0%	\$0.00
201	HOME OWNERS EXEMPTION ADD'N	0%	\$0.00
666	UNASSIGNED VACANT	0%	\$0.00
222	OFFICE CONDOS W/OUT INDIVIDUAL BTHRMS	0%	\$0.00
444	LA MIRADA TRACT (INCLUDES LOCAL FEE)	0%	\$0.00
777	SEPTIC TANK PROPERTY	0%	\$0.00
112	STEEL BUILDING	7%	\$21.56
113	MINI-WAREHOUSE	7%	\$21.56
58	NURSERIES (PLANTS)	10%	\$30.80
100	DRIVE-IN THEATER	10%	\$30.80
44	LUMBER/CONSTR MATL YARD	17%	\$52.36
71	PARKING GARAGE	17%	\$52.36
72	PAVED PARKING LOT	17%	\$52.36
110	WAREHOUSE - SINGLE TENANT	17%	\$52.36
111	WAREHOUSE - MULTI TENANT	17%	\$52.36
115	RECREATIONAL VEHICLE STORAGE	17%	\$52.36
116	TRUCK TERMINAL	17%	\$52.36
33	CHURCH BUILDINGS	20%	\$61.60
94	DEPARTMENT STORE	23%	\$70.84
95	DISCOUNT STORE	23%	\$70.84
96	UNATTACHED SINGLE STORE	23%	\$70.84
97	STRIP STORE	23%	\$70.84
36	FINANCIAL BUILDINGS	27%	\$83.16
74	RECREATION VEHICLE PARK	27%	\$83.16
40	HEALTH CLUB	29%	\$89.32
68	HIGH RISE OFFICE	30%	\$92.40
21	AUTOMOBILE DEALERSHIP	41%	\$126.28
22	AUTO REPAIR SHOP	41%	\$126.28
23	AUTOMOTIVE SERVICE	41%	\$126.28
24	USED CAR LOT	41%	\$126.28
39	GOLF COURSE	41%	\$126.28
57	MOTORCYCLE/SMALL VEHICLE BLDG	41%	\$126.28
65	SINGLE OFFICE BLDGS TO 3 STORIES	41%	\$126.28
66	SMALL OFFICE CENTER	41%	\$126.28
67	OFFICE COMPLEX	41%	\$126.28
69	CONVERTED RESIDENCE TO OFFICE	41%	\$126.28
83	AUTOMOTIVE SERVICE STATION	41%	\$126.28
84	MARINE SERVICE STATION	41%	\$126.28
86	COMBIN:SERVICE STN/CONVIENCE MKT	41%	\$126.28



ORANGE COUNTY SANITATION DISTRICT

RATE STUDY ANALYSIS

USER RATE CATEGORIES

FY 2013/2014

EDU Annual Rate \$308.00

Use Codes	Description	Percentage of SFR	
		Per 1,000 SF or Unit	User Rates
7	MOBILEHOME	50%	\$154.00
55	MOBILE HOME PARK	50%	\$154.00
107	LIGHT INDUSTRIAL - SINGLE TENANT	50%	\$154.00
108	LIGHT INDUSTRIAL - MULTI TENANT	50%	\$154.00
109	RESEARCH AND DEVELOPMENT	50%	\$154.00
114	INDUSTRIAL PARK	50%	\$154.00
37	FRATERNAL BUILDINGS	51%	\$157.08
101	UNATTACHED THEATER	51%	\$157.08
26	AIRPORT AND RELATED	53%	\$163.24
45	MARINAS	53%	\$163.24
88	CONVENIENCE SHOPPING CENTER	53%	\$163.24
3	TWO OR MORE SFR	70%	\$215.60
10	DUPLEX ONLY	70%	\$215.60
11	TRIPLEX ONLY	70%	\$215.60
12	04-UNITS ONLY	70%	\$215.60
13	5 TO 16 UNITS	70%	\$215.60
14	17 TO 25 UNITS	70%	\$215.60
15	26-40 UNITS ONLY	70%	\$215.60
16	41-99 UNITS ONLY	70%	\$215.60
17	100 OR MORE UNITS	70%	\$215.60
18	A MIX OF FORMS	70%	\$215.60
56	MOTELS AND MOTOR HOTELS	70%	\$215.60
63	LOW RISE RETIREMENT BUILDING	70%	\$215.60
64	HIGH RISE RETIREMENT BUILDING	70%	\$215.60
81	PRE-SCHOOLS, NURSERY OR CARE	82%	\$252.56
82	PRIVATE SCHOOLS	82%	\$252.56
98	STORE WITH OFFICES OR LIV QTR	82%	\$252.56
99	STORE W/ OFFICE UPSTAIRS	82%	\$252.56
118	GOVERNMENTAL USE	82%	\$252.56
19	SFR WITH 1 OR 2 RENTALS	85%	\$261.80
34	DORMITORY	97%	\$298.76
42	HOSPITAL	97%	\$298.76
43	HOTEL	97%	\$298.76
000	CONVERSION-RURAL	100%	\$308.00
2	ONE RESIDENCE	100%	\$308.00
4	MISC IMPROVEMENT	100%	\$308.00
85	COMBIN: SERV STN/RESTAURANT	100%	\$308.00
103	CHEMICAL TANK AND BULK STORAGE	100%	\$308.00
104	FOOD PROCESSING PLANT	100%	\$308.00
105	COLD STORAGE PLANT	100%	\$308.00
106	FACTORY	100%	\$308.00



ORANGE COUNTY SANITATION DISTRICT

RATE STUDY ANALYSIS

USER RATE CATEGORIES

FY 2013/2014

EDU Annual Rate \$308.00

Use Codes	Description	Percentage of SFR	
		Per 1,000 SF or Unit	User Rates
119	PUBLIC UTILITY	100%	\$308.00
120	WATER MUTUAL OR COMPANY	100%	\$308.00
888	CONVERSION-COMPOSITE PROP	100%	\$308.00
32	CEMETERY & RELATED	101%	\$311.08
38	FUNERAL HOME	101%	\$311.08
60	NURSING HOME	102%	\$314.16
61	CONVALESCENT HOSPITALS	102%	\$314.16
62	CONVERTED RES USED AS NURSING	102%	\$314.16
28	BOWLING ALLEYS	112%	\$344.96
92	SKATING RINKS	112%	\$344.96
50	SINGLE MEDICAL BLDGS TO 3 STORIES	124%	\$381.92
51	SMALL MEDICAL CENTER	124%	\$381.92
52	MEDICAL CENTER COMPLEX	124%	\$381.92
53	HIGH RISE MEDICAL	124%	\$381.92
54	CONVERTED RESIDENCE TO MEDICAL	124%	\$381.92
89	NEIGHBORHOOD SHOPPING CENTER	139%	\$428.12
20	AMUSEMENT PARKS	144%	\$443.52
35	ENTERTAINMENT CENTER	144%	\$443.52
73	RECREATION	144%	\$443.52
30	COIN OPERATED CAR WASH	151%	\$465.08
47	SUPERMARKET	151%	\$465.08
48	CONVENIENCE MARKET	151%	\$465.08
224	NIGHTCLUB	200%	\$616.00
90	COMMUNITY SHOPPING CENTER	226%	\$696.08
76	RESTAURANT - TAKE OUT	300%	\$924.00
77	RESTAURANT - COFFEE SHOP	600%	\$1,848.00
78	RESTAURANT - DINNER HOUSE	600%	\$1,848.00
79	RESTAURANT - CONVERSION FROM SFR	600%	\$1,848.00
29	CONVENTIONAL CAR WASH	796%	\$2,451.68
223	LAUNDROMAT	1800%	\$5,544.00

ORDINANCE NO. OCSD-38

AN ORDINANCE OF THE BOARD OF DIRECTORS OF ORANGE COUNTY SANITATION DISTRICT ESTABLISHING LOCAL SANITARY SEWER SERVICE CHARGES FOR CUSTOMERS RECEIVING LOCAL SANITARY SEWER SERVICE IN FORMER REVENUE AREA 7

ADOPTING TABLE A RE RESIDENTIAL LOCAL SEWER SERVICE FEES AND TABLE B RE PROPERTY USE CLASSIFICATIONS FOR LOCAL SEWER SERVICE CHARGES FOR COMMERCIAL OR INDUSTRIAL USERS

WHEREAS, for purposes of improved efficiency and effectiveness of the District's operations, it is the intent, by the adoption of this Ordinance, to establish local sanitary sewer service charges for customers receiving local sanitary sewer service in former Revenue Area 7.

NOW, THEREFORE, the Board of Directors of the Orange County Sanitation District does hereby ORDAIN:

Section I. Fees and Charges Ordinance – Adopted

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ARTICLE I:	<u>RECITAL OF FINDINGS</u>
	Section 1.01, Findings – Declaration of Intent
ARTICLE II:	<u>LOCAL SANITARY SEWER SERVICE CHARGES</u>
	Section 2.01, Purpose and Scope
	Section 2.02, Annual Local Sanitary Sewer Service Charge
	Section 2.03
	A. Exemptions
	B. Application for Rebate
	C. Application for Refund
	D. Limitation Period
	E. Determination
	F. Administrative Fee
	Section 2.04, Annual Charge Based on Fiscal Year
	Section 2.05, Method of Collection
Table A	Annual Local Sewer Service Charges for Residential Users
Table B	Annual Local Sewer Service Charges Property Use Classifications

ARTICLE III: MISCELLANEOUS

Section 3.01, Application of Ordinance

Section 3.02, Exceptions

ARTICLE I

RECITAL OF FINDINGS

Section 1.01. Findings – Declaration of Intent. The Board of Directors of the District hereby adopts the following Findings supporting the amounts of charges and fees adopted pursuant to this Ordinance.

A. That the District previously was organized into nine “Revenue Areas” representing distinct geographic regions within the District’s jurisdiction. Revenue Area 7 included unincorporated areas of Orange County and a portion of the City of Tustin.

B. That since the mid-1960s, the District has maintained the local sewers of approximately 18,000 parcels located in former Revenue Area 7 and that the District charges an annual regional sewer user fee to its customers, which appears as a special assessment on the annual property tax bill, but does not currently bill its customers in former Revenue Area 7 for the local sewer service it provides.

C. That, currently, dedicated ad valorem taxes are insufficient to meet the total expenditure needs to maintain the local collection system in former Revenue Area 7 and regional user fee revenues have been used to meet shortfalls.

D. That the District has completed a study to determine a fair and equitable local sewer use fee that will support the cost of operating and maintaining the local sewers in former Revenue Area 7.

E. That the revenues derived under the provisions of this Ordinance will be used for the acquisition, construction, reconstruction, maintenance, and operation of the local sewer system facilities of the District; together with costs of administration.

F. That the owners or occupants of properties upon which all fees and charges established by this Ordinance are levied, discharge wastewater to the local sewer system operated and maintained by OCSD.

G. That the Local Sanitary Sewer Service Charges established and levied by this Ordinance are to allow the District to recover the reasonable costs to provide a service to individual properties which have been improved for any of numerous types of uses. The basis for the respective charge is the request of the owner of property or a

structure thereon, for the benefit of him/her/itself, or the occupants of the property, to receive a service based upon the connection to the local sewer line maintained by the District.

H. That the Local Sanitary Sewer Service Charges established by this Ordinance are not imposed as a condition of approval of a development project, as defined in California Government Code Section 66001, and do not exceed the estimated reasonable cost to provide the sewer service for which the fee is levied, as provided in Government Code Sections 66013 and 66016 and California Constitution Article XIID.

I. That the Local Sanitary Sewer Service Charges adopted herein will not foreseeably result in an expansion of facilities to provide for growth outside the existing service area. The adoption of these Local Sanitary Sewer Service Charges will not result in any specific project, nor result in a direct physical change in the environment.

J. That the Local Sanitary Sewer Service Charges adopted herein are established upon a rational basis between the fees charged each customer and the service and facilities provided to each customer of the local sewer service area of the District.

K. That all fees and charges established herein have been approved by the District's Board of Directors at a noticed public meeting, all in accordance with applicable provisions of law.

L. That the adoption of this Ordinance is statutorily exempt under the California Environmental Quality Act pursuant to the provisions of Public Resources Code Section 21080(b)(8) and California Code of Regulations Section 15273(a).

ARTICLE II

LOCAL SEWER SERVICE CHARGES

Section 2.01. Purpose and Scope. The purpose of this Ordinance is to establish Local Sanitary Sewer Service Charges required to be paid by property owners for the services and facilities furnished by the District in connection with the local sewage collection system. Revenues derived under the provisions of this Ordinance shall be used for the acquisition, construction, reconstruction, maintenance, and operation of the local sewer system together with costs of administration.

Section 2.02. Annual Local Sewer Service Charge.
Commencing with the effective date of this Ordinance, the owner of each parcel of real property located within the local sewer service area operated and maintained by the District which is improved with structures designed for residential, commercial, or industrial use and which, at the request of the owner or the owner's predecessor-in-interest, is connected to the District's system, shall pay an annual Local Sewer Service Charge based on the respective class of users, in the sum or sums, as set forth in Tables A and B of this Ordinance, below. The annual Local Sewer Service Charges for residential users are set forth in Table A. The applicable single family residential rate shown in Table A is multiplied by the applicable percentage figure shown on Table B with respect to the particular use classification to arrive at the annual Local Sewer Service Charge rate per 1,000 square feet for the commercial or industrial user. The annual Local Sewer Service Charges for commercial or industrial users are dependent upon the respective classifications of property use, determined by reference to Table B.

Section 2.03.

A. Exemptions. It is the intent of the District that the legal owner(s) of parcels of real property, otherwise subject to the levy and payment of the Local Sewer Service Charges, as prescribed herein, be relieved, in whole or in part, from the payment of said charges, in certain circumstances and under conditions prescribed herein, and be entitled to either a rebate or a refund with respect to charges paid, as more specifically set forth in Subparagraphs 2.03B and 2.03C below, provided an inequity is established or a billing error is proven, as specified in Subparagraphs B or C.

B. Application for Rebate. Any property owner may apply to the District for a rebate of Local Sewer Service Charges paid to the District by establishing that an unfair valuation of the property has been made by the District. An applicant for a rebate must establish, by proof satisfactory to the General Manager of the District, or his designee, that an inequity exists between the amount of the charge paid and the amount of wastewater discharged to the District's system, resulting in an unfair valuation. Satisfactory proof shall establish that either:

- (1) The principal water use is agricultural or horticultural; or

(2) The property is devoted to any other use wherein the amount of wastewater discharged to the District's system is significantly less on a regular basis than the amount that would normally be expected to be discharged by the class of property in question.

Satisfactory proof shall include, but not be limited to, documentation showing actual water usage for each billing cycle during the entire period for which the rebate is sought.

The amount of any rebate shall not reduce the charge payable by any property owner, whose property is connected to the District's system, to less than the single family residential charge shown on the applicable Table attached hereto.

C. Application for Refund. Any property owner may apply to the District for a refund of Local Sewer Service Charges paid to the District by establishing that the amount paid was pursuant to an error in the amount billed or the amount paid. The applicant for a refund must submit proof satisfactory to the General Manager of the District, or his designee, that a billing error has been made by the District, or the County Tax Collector. Such proof shall include, but not be limited to, proof that:

- (1) The owner's parcel of property is not connected to the District's system; or
- (2) The property has not been classified in the proper property use classification code; or
- (3) A clerical error has been made.

D. Limitations Period. Applications for refunds shall be deemed to be governed by the provisions of California Revenue & Taxation Code Sections 5096 and 5097. Applications for rebates shall be deemed a claim and be governed by the provisions of California Government Code Sections 935 et seq., and shall be presented to the District as provided in the Government Tort Claims Act, Government Code Sections 915 et seq., not later than four (4) years after the submission of the roll to the County Auditor/Controller, and the claim for rebate may only be made with respect to amounts paid or payable under such property tax bill. A claim for rebate is not deemed a claim for refund, and California Revenue & Taxation Code Sections 5096 and 5097 are not applicable.

E. Determination. All applications for rebates or refunds of the Local Sewer Service Charge will be determined by the General Manager of the District, or his designee, who, based on the submitted proof, may grant a full or partial rebate or refund.

F. Administrative Fee. At the time of filing the application for rebate or refund, the property owner shall pay District an administrative fee for the processing of

such application. The amount of the fee shall be equal to the total of all fees and charges imposed on the District by any other public entity, such as the Orange County Tax Collector, the Orange County Auditor, or the Orange County Recorder, in connection with the rebate or refund.

Section 2.04. Annual Charge. The Local Sewer Service Charges established by this Ordinance shall be as set forth in Tables A and B, attached hereto, and shall remain in effect until such time as the rates adopted herein are changed by District Ordinance. There shall be no proration of such charges in any fiscal year.

Section 2.05. Method of Collection.

A. Pursuant to the authority granted by California Health & Safety Code Section 5473, and except as otherwise provided in Subparagraph 2.05B below, all local sewer service charges established herein shall be collected on the County Tax Roll in the same manner, by the same persons, and at the same time as, together with, and not separately from, its general taxes. The County Tax Collector is authorized and hereby ordered to make said collections in accordance with the terms and conditions of agreements between the County of Orange and the District.

B. In the event District determines that, due to billing or payment error, or to inequity in the amount billed, a property owner has underpaid annual Local Sewer Service Charges payable to District, District, within four (4) years after the date of mailing of the tax bill, may:

(1) collect the amount of any deficiency directly on the County Tax Roll;

(2) off-set the amount of any deficiency against any amounts that District determines is owing, by District, to the property owner, as a rebate or refund under this Ordinance; or

(3) submit, directly to the property owner, a bill for the amount of any deficiency, which shall be due and payable within thirty (30) days of the invoice date and which, if not paid, shall become a lien on said property.

TABLE A

ANNUAL LOCAL SEWER SERVICE FEES
RESIDENTIAL USERS

YEAR	2008-09	2009-10	2010-11	2011-12	2012-13
SFR*	\$199.00	\$204.00	\$208.00	\$212.00	\$216.00
MFR	\$139.30	\$142.80	\$145.60	\$148.40	\$151.20

SFR = SINGLE FAMILY RESIDENTIAL

MFR = MULTI FAMILY RESIDENTIAL

* The SFR fee is the minimum local sewer service charge any user must pay.

TABLE B

ANNUAL LOCAL SEWER SERVICE CHARGES

PROPERTY USE CLASSIFICATIONS FOR
COMMERCIAL OR INDUSTRIAL USERS

<u>Assessor Use Code</u>	<u>Description</u>	<u>Percentage of SFR Per 1,000 SF or Unit</u>
1	VACANT LAND PARCEL	0%
5	COMMON AREA PARCEL	0%
6	"HOLD" PARCEL	0%
8	EQUIV TO VACANT	0%
121	PARCEL OF MINIMAL OR NO VALUE	0%
122	SUBSURFACE PARCELS	0%
124	OIL/MINERAL RIGHTS	0%
125	MINERAL RIGHTS EQUIPMENT	0%
126	VACANT COMMON AREA-IMP ALLOC	0%
201	HOME OWNERS EXEMPTION ADD'N	0%
666	UNASSIGNED VACANT	0%
777	SEPTIC TANK PROPERTY	0%
112	STEEL BUILDING	5%
113	MINI-WAREHOUSE	5%
58	NURSERIES (PLANTS)	9%
100	DRIVE-IN THEATER	9%
110	WAREHOUSE - SINGLE TENANT	11%
111	WAREHOUSE - MULTI TENANT	11%
115	RECREATIONAL VEHICLE STORAGE	11%
116	TRUCK TERMINAL	11%
44	LUMBER/CONSTR MATL YARD	18%
71	PARKING GARAGE	18%
72	PAVED PARKING LOT	18%
33	CHURCH BUILDINGS	20%
94	DEPARTMENT STORE	22%
95	DISCOUNT STORE	22%
96	UNATTACHED SINGLE STORE	22%
97	STRIP STORE	22%
74	RECREATION VEHICLE PARK	23%
225	UNITED STATES POST OFFICE	28%
107	LIGHT INDUSTRIAL SINGLE TENANT	30%

TABLE B (CONTINUED)

**ANNUAL LOCAL SEWER SERVICE
CHARGES****PROPERTY USE CLASSIFICATIONS FOR
COMMERCIAL OR INDUSTRIAL USERS**

108	LIGHT INDUSTRIAL - MULTI TENANT	30%
109	RESEARCH AND DEVELOPMENT	30%
114	INDUSTRIAL PARK	30%
40	HEALTH CLUB	33%
88	CONVENIENCE SHOPPING CENTER	36%
36	FINANCIAL BUILDINGS	39%
68	HIGH RISE OFFICE	39%
21	AUTOMOBILE DEALERSHIP	39%
22	AUTO REPAIR SHOP	39%
23	AUTOMOTIVE SERVICE	39%
24	USED CAR LOT	39%
39	GOLF COURSE	39%
57	MOTORCYCLE/SMALL VEHICLE BLDG	39%
83	AUTOMOTIVE SERVICE STATION	39%
84	MARINE SERVICE STATION	39%
86	COMBIN:SERVICE STN/CONVIENCE MKT	39%
65	SINGLE OFFICE BLDGS TO 3 STORIES	40%
66	SMALL OFFICE CENTER	40%
67	OFFICE COMPLEX	40%
69	CONVERTED RESIDENCE TO OFFICE	40%
85	COMBIN: SERV STN/RESTAURANT	42%
48	CONVENIENCE MARKET	44%
37	FRATERNAL BUILDINGS	49%
101	UNATTACHED THEATER	49%
7	MOBILEHOME	50%
55	MOBILE HOME PARK	52%
26	AIRPORT AND RELATED	56%
45	MARINAS	56%
32	CEMETERY & RELATED	56%

TABLE B (CONTINUED)

ANNUAL LOCAL SEWER SERVICE CHARGES**PROPERTY USE CLASSIFICATIONS FOR COMMERCIAL OR INDUSTRIAL USERS**

38	FUNERAL HOME	56%
3	TWO OR MORE SFR	70%
10	DUPLEX ONLY	70%
11	TRIPLEX ONLY	70%
12	04-UNITS ONLY	70%
13	5 TO 16 UNITS	70%
14	17 TO 25 UNITS	70%
15	26-40 UNITS ONLY	70%
16	41-99 UNITS ONLY	70%
17	100 OR MORE UNITS	70%
18	A MIX OF FORMS	70%
19	SFR WITH 1 OR 2 RENTALS	71%
4	MISC IMPROVEMENT	71%
28	BOWLING ALLEYS	71%
92	SKATING RINKS	71%
118	GOVERNMENTAL USE	79%
81	PRE-SCHOOLS, NURSERY OR CARE	80%
82	PRIVATE SCHOOLS	80%
98	STORE WITH OFFICES OR LIV QTR	80%
99	STORE W/ OFFICE UPSTAIRS	80%
47	SUPERMARKET	84%
89	NEIGHBORHOOD SHOPPING CENTER	92%
34	DORMITORY	99%
61	CONVALESCENT HOSPITALS	99%
42	HOSPITAL	100%
2	ONE RESIDENCE	100%
103	CHEMICAL TANK AND BULK STORAGE	100%
104	FOOD PROCESSING PLANT	100%
105	COLD STORAGE PLANT	100%

TABLE B (CONTINUED)

ANNUAL LOCAL SEWER SERVICE
CHARGESPROPERTY USE CLASSIFICATIONS FOR
COMMERCIAL OR INDUSTRIAL USERS

106	FACTORY	100%
119	PUBLIC UTILITY	100%
120	WATER MUTUAL OR COMPANY	100%
888	CONVERSION-COMPOSITE PROP	100%
60	NURSING HOME	103%
62	CONVERTED RES USED AS NURSING	103%
63	LOW RISE RETIREMENT BUILDING	108%
64	HIGH RISE RETIREMENT BUILDING	108%
43	HOTEL	109%
56	MOTELS AND MOTOR HOTELS	109%
50	SINGLE MEDICAL BLDGS TO 3 STORIES	118%
51	SMALL MEDICAL CENTER	118%
52	MEDICAL CENTER COMPLEX	118%
53	HIGH RISE MEDICAL	118%
54	CONVERTED RESIDENCE TO MEDICAL	118%
20	AMUSEMENT PARKS	138%
35	ENTERTAINMENT CENTER	138%
73	RECREATION	138%
224	NIGHTCLUB	146%
90	COMMUNITY SHOPPING CENTER	149%
76	RESTAURANT - TAKE OUT	212%
30	COIN OPERATED CAR WASH	252%
77	RESTAURANT - COFFEE SHOP	424%
78	RESTAURANT - DINNER HOUSE	424%
79	RESTAURANT - CONVERSION FROM SFR	424%
29	CONVENTIONAL CAR WASH	1425%
223	LAUNDROMAT	1563%

NOTE: Multiply the Table A Single Family Residential Rate by the percentage figure above in order to determine the rate per 1,000 square feet for the commercial or industrial user.

MISCELLANEOUS

Section 3.01. Application of Ordinance. The provisions of this Ordinance shall be in addition to the provisions of the District's Wastewater Discharge Regulations for use of District's sewage facilities, including provisions for payment of charges or fees related thereto; District's ordinance establishing Sanitary Sewer Service Charges; District's ordinance establishing Fees Concerning Annexations of Territory to the District; and any other District Ordinances and Resolutions not in conflict herewith.

Section 3.02. Exceptions. The provisions of this Ordinance shall apply to all owners of properties within the local sewer service area maintained by the District, including those properties otherwise deemed exempt from payment of taxes or assessments by provisions of the State Constitution or statute, including properties owned by other public agencies or tax-exempt organizations, except as expressly provided herein.

The Board of Directors of the Orange County Sanitation District does further hereby ORDAIN:

Section II. Severability. If any provision of this Ordinance, or the application to any person or circumstances is held invalid by order of Court, the remainder of the Ordinance, or the application of such provision to other persons or other circumstances, shall not be affected.

Section III. Effective Date. This Ordinance shall take effect July 25, 2008.

Section IV. Certification and Publication. The Clerk of the Board shall certify to the adoption of this Ordinance, and shall cause a summary to be published in a newspaper of general circulation as required by law.

PASSED AND ADOPTED by a vote of not less than two-thirds of the Board of Directors of the Orange County Sanitation District at a Regular Meeting held June 25, 2008.



 Chair, Board of Directors
 Orange County Sanitation District

ATTEST:



 Clerk of the Board



 Bradley R. Hogan
 General Counsel

SEWER SYSTEM MANAGEMENT PLAN
for
East Orange County Water District

Volume I

January 2015

Prepared by:

EAST ORANGE COUNTY WATER DISTRICT
185 N. MCPHERSON ROAD
ORANGE, CALIFORNIA 92869

**EAST
ORANGE
COUNTY**

DISTRICT

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NOTE: APPENDICES ARE LOCATED IN VOLUME II OF THIS PLAN.

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ABBREVIATIONS / ACRONYMS

BMP	Best Management Practice
BREA	Business Risk Exposure Analysis
CASC	Countywide Area Spill Control
CCTV	Closed-Circuit Television
CIP	Capital Improvement Plan or Capital Improvement Program
CIWQS	California Integrated Water Quality System
CMMS	Computerized Maintenance Management System
CWEA	California Water Environment Association
EOCWD	East Orange County Water District
ECAP	Environmental Compliance Awareness Program
EDAC	Engineering Department Advisory Council
EDMS	Electronic Document Management System
EMB	Electronic Map Book
EOMM	Electronic Operations and Maintenance Manual
ERP	Emergency Response Plan
FOG	Fats, Oils, and Grease
FSE	Food Service Establishment
FTP	File Transfer Protocol
GIS	Geographical Information Systems
GRD	Grease Removal Device
I/I	Inflow / Infiltration
IERP	Integrated Emergency Response Plan
LRO	Legally Responsible Official
MRP	Monitoring and Reporting Program
NASSCO	National Association of Sewer Service Companies
NPDES	National Pollutant Discharge Elimination System
O&M	Operation and Maintenance
OCHCA	Orange County Health Care Agency
OCSD	Orange County Sanitation District
OMaP	Operations Manuals and Procedures
Order	SWRCB Order No. 2006-0003-DWQ adopted May 2, 2006
PMP	Preventive Maintenance Program
R&R	Rehabilitation and Replacement
RWQCB	Regional Water Quality Control Board
SAWPA	Santa Ana Watershed Project Authority
SOP	Standard Operating Procedure
SSO	Sanitary Sewer Overflow and any sewer spill or overflow of sewage
SSMP	Sewer System Management Plan
SWRCB	State Water Resources Control Board
WDR	Waste Discharge Requirements also referred to as the General Waste Discharge Requirements of the State of California

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EXECUTIVE SUMMARY

The East Orange County Water District is required to comply with the State Water Resources Control Board Order No. 2006-0003-DWQ adopted May 2, 2006, entitled Statewide General Waste Discharge Requirements for Sanitary Sewer Systems.” Information on the State’s SSO Reduction Program can be found at: http://www.waterboards.ca.gov/water_issues/programs/sso/index.shtml.

The purpose of the Order is to prevent SSOs or sewer spills by establishing a statewide Monitoring and Reporting Program and requiring each local or regional sewer agency to create and implement their own Sewer System Management Plan based on the mandatory requirements of the Order.

The MRP requires each local or regional sewer agency to appoint a legally responsible official and establish a monitoring and reporting organization to monitor and report all SSOs in accordance with the requirements of the Order and to have the LRO certify the SSO report using the California Integrated Water Quality System website in the timeframe required by the Order. If no SSOs occur during the course of any given month, the LRO is required to fill out, certify and send via the CIWQS website a “No Spill Certification” documenting that there were no SSOs for the month reported.

To comply with the essence of this Order:

- EOCWD has enrolled and applied for coverage and agrees to comply with all conditions and provisions of this Order.
- EOCWD shall take all feasible steps to eliminate SSOs. In the event that an SSO does occur, EOCWD shall take all feasible steps to contain and mitigate the impacts of an SSO.
- In the event of an SSO, EOCWD shall take all feasible steps to prevent untreated or partially treated wastewater from discharging from storm drains into flood control channels or waters of the United States by blocking the storm drainage system and by removing the wastewater from the storm drains.
- EOCWD shall report all SSOs in accordance with Section G of the WDR.
- EOCWD shall properly, manage, operate, and maintain all parts of its sanitary sewer system, and shall ensure that the system operators (including employees, contractors, or other agents) are adequately trained and possess adequate knowledge, skills, and abilities.
- EOCWD shall allocate adequate resources for the operation, maintenance, and repair of its sanitary sewer system, and a proper rate structure, accounting mechanisms, and auditing procedures to ensure an adequate measure of revenues and expenditures. These procedures are in compliance with applicable laws and regulations and comply with generally acceptable accounting practices.
- EOCWD shall provide adequate capacity to convey base flows and peak flows, including flows related to wet weather events.

This SSMP is organized similarly to paragraph D (Provisions) of the Order. Each section begins with a summary of the Order requirements, followed by these subsections:

- Compliance Summary – A description of how compliance was achieved;
- Compliance Documents – A listing of source documents that support compliance and the location of these documents; and,
- Roles and Responsibilities – A listing of relevant staff roles and responsibilities.

The SSMP has 11 mandatory elements in chapters 2 through 12. Chapter 1 discusses the prohibitions and provisions of the WDR.

- **Chapter 1 – Prohibitions and Provisions:** This chapter describes the sewage discharge prohibitions and provisions as stated in the “Statewide General Waste Discharge Requirements for Sanitary Sewer Systems.”
- **Chapter 2 – Goal:** The goal is to prevent and/or reduce SSOs and mitigate the effect of any SSOs that do occur. The goal requires a plan and schedule to properly manage, operate, and maintain all parts of the sanitary sewer collection system.
- **Chapter 3 – Organization:** The SSMP must identify the LRO or authorized representative as described in the Order. It must list and identify the organization responsible for operating and maintaining the sanitary sewer collection system including names and telephone numbers for management, administrative and maintenance positions and the chain of communication for reporting SSOs.
- **Chapter 4 – Legal Authority:** Each Enrollee must demonstrate through legally binding procedures such as ordinances, agreements, etc. that it possesses the necessary legal authority to do what is required by the Order.
- **Chapter 5 – Operation and Maintenance Program:** The SSMP must include those elements that are required by the Order that are appropriate and applicable to the sewer agency’s system.
- **Chapter 6 – Design and Performance Provisions:** The SSMP must demonstrate that the sewer agency has and appropriately uses design and construction standards and specifications for the installation of new sewer systems, rehabilitation and repair of existing sewer systems and has procedures and standards for inspecting and testing the installation of new sewers, pumps, etc. and for rehabilitation and repair projects.
- **Chapter 7 – Overflow Emergency Response Plan:** Each Enrollee shall develop and implement an overflow emergency response plan that identifies measures to protect public health and the environment and meets the minimum requirements of the Order.
- **Chapter 8 – FOG Control Program:** Each Enrollee shall evaluate its sewer system and determine if a Fats, Oils and Grease control program is needed. The FOG control plan, if needed, must meet all the requirements of the Order.

- **Chapter 9 – System Evaluation and Capacity Assurance Plan:** The Enrollee shall prepare and implement a Capital Improvement Plan that will provide adequate hydraulic capacity for the sewer collection system required by the Order.
- **Chapter 10 – Monitoring, Measurement, and Program Modifications:** The Enrollee shall maintain relevant information to establish and prioritize SSMP activities, monitor the implementation and measure the effectiveness of the SSMP activities, and provide assessment of the performance and/or modification of the SSMP activities as required by the Order.
- **Chapter 11 – SSMP Program Audits:** The Enrollee shall conduct periodic internal audits appropriate to the size of the sewer system and the number of SSOs. At a minimum, these audits must occur every two years as required by the Order.
- **Chapter 12 – Communication Program:** The Enrollee shall communicate on a regular basis with the public on the development, implementation, and performance of its SSMP. The communication system shall provide the public the opportunity to provide input to the sewer agency and shall also create a plan of communication with other local sewer agencies that may be tributary or satellite to the sewer agency's sewer collection system.

This revision, which follows an SSMP audit (October 17, 2010), addresses many of the audit findings and recommended changes, as well as modifications to reflect EOCWD's current organizational practices and structure. Some of the more significant changes include:

- Expanded description of the Renewal and Replacement Process (Chapter 5 and Appendix J),
- Revised Asset Management Improvement Program (Appendix H)
- Presentation of a concise program organization (Chapter 3 and Appendix C),
- Further explanation of the Fats, Oil, and Grease Program, and the relationship with member cities and agencies (Chapter 8 and Appendices G2 and G3),
- Addition of procedures related to sewer maps and data maintenance (Appendices K1, K2, and K3),
- The addition of several methods to calculate SSOs (Appendix R),
- Added language on program monitoring and measurement (Chapter 10),
- Clarification of the requirements of the auditor and timing of the next audit (Chapter 11 and Appendices X1 and X2),
- Updates to the Communication process due to changes in EOCWD's website (Chapter 12 and Appendix V), and
- Inclusion of audit closeout memo (Appendix Y).

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CHAPTER 1 – PROHIBITIONS AND PROVISIONS

This chapter describes the sewage discharge prohibitions and provisions as stated in the “Statewide General Waste Discharge Requirements for Sanitary Sewer Systems.”

1.1 Prohibitions

To meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, EOCWD is required to comply with the following prohibitions:

- Any SSO that results in a discharge of untreated or partially treated wastewater to waters of the United States is prohibited, and
- Any SSO that results in a discharge of untreated or partially treated wastewater that creates a nuisance as defined in California Water Code Section 13050(m) is prohibited.

1.2 Provisions

As stated in the Order, EOCWD agrees to meet the following provisions:

1. EOCWD must comply with all conditions in the Order. Any noncompliance with the Order constitutes a violation of the California Water Code and is grounds for enforcement action.
2. Nothing in the general WDR shall be:
 - (i) Interpreted or applied in a manner inconsistent with the Federal Clean Water Act, or supersede a more specific or more stringent state or federal requirement in an existing permit, regulation, or administrative/judicial order or Consent Decree;
 - (ii) Interpreted or applied to authorize a SSO that is illegal under either the Clean Water Act, an applicable Basin Plan prohibition or water quality standard, or the California Water Code;
 - (iii) Interpreted or applied to prohibit a Regional Water Board from issuing an individual National Pollutant Discharge Elimination System permit or WDR, superseding this general WDR, for a sanitary sewer system, authorized under the Clean Water Act or California Water Code; or
 - (iv) Interpreted or applied to supersede any more specific or more stringent WDR or enforcement order issued by a Regional Water Board.

3. EOCWD shall take all feasible steps to eliminate SSOs. In the event that an SSO does occur, EOCWD shall take all feasible steps to contain and mitigate the impacts of an SSO.
4. In the event of an SSO, EOCWD shall take all feasible steps to prevent untreated or partially treated wastewater from discharging from storm drains into flood control channels or waters of the United States by blocking the storm drainage system and by removing the wastewater from the storm drains.
5. EOCWD shall report SSOs in accordance with Section G of the general WDR.
6. When an SSO occurs, EOCWD shall take all feasible steps and necessary remedial actions to 1) control or limit the volume of untreated or partially treated wastewater discharged, 2) terminate the discharge, and 3) recover as much of the wastewater discharged as possible for proper disposal, including any wash down water.
EOCWD shall implement all remedial actions to the extent they may be applicable to the discharge and not inconsistent with an emergency response plan, including the following:
 - (i) Interception and rerouting of untreated or partially treated wastewater flows around the wastewater line failure.
 - (ii) Vacuum truck recovery of sanitary sewer overflows and washdown water.
 - (iii) Cleanup of SSO-related debris at the overflow site.
 - (iv) System modifications to prevent another SSO at the same location.
 - (v) Adequate sampling to determine the nature and impact of the release.
 - (vi) Adequate public notification to protect the public from exposure to the SSO.
7. EOCWD shall properly manage, operate, and maintain all parts of the sanitary sewer it owns and operates, and shall ensure that the system operators (including employees, contractors, or other agents) are adequately trained and possess adequate knowledge, skills, and abilities.
8. EOCWD shall allocate adequate resources for the operation, maintenance, and repair of its sanitary sewer system, by establishing a proper rate structure, accounting mechanisms, and auditing procedures to ensure an adequate measure of revenues and expenditures. These procedures must be in compliance with applicable laws and regulations and comply with generally accepted accounting practices.
9. EOCWD shall provide adequate capacity to convey base flows and peak flows, including flows related to wet weather events. Capacity shall meet or exceed the design criteria as defined in EOCWD's System Evaluation and Capacity Assurance Plan for all parts of the sanitary sewer system owned or operated by the EOCWD.

10. The Enrollee shall develop and implement a written SSMP and make it available to the State and/or Regional Water Board upon request. A copy of this document must be publically available at the Enrollee’s office and/or available on the internet. This SSMP must be approved by the Enrollee’s governing board at a public meeting.
11. In accordance with the California Business and Professions Code sections 6735, 7835, and 7835.1, all engineering and geologic evaluations and judgments shall be performed by or under the direction of registered professionals competent and proficient in the fields pertinent to the required activities. Specific elements of the SSMP that require professional evaluation and judgments shall be prepared by or under the direction of appropriately qualified professionals, and shall bear the professional(s)’ signature and stamp.

EOCWD has met all the mandatory elements of the SSMP as specified in the SSMP Time Schedule below.

<u>SSMP Task</u>	<u>Milestone Due/Completion Date</u>
Application for Permit Coverage	March 1, 2015
Reporting Program	March 1, 2015
SSMP Development Plan and Schedule	March 1, 2015
Goal and Organization Structure	March 1, 2015
Overflow Emergency Response Program	March 1, 2015
Legal Authority	March 1, 2015
Operation and Maintenance Program	March 1, 2015
Grease Control Program	March 1, 2015
Design and Performance	March 1, 2015
System Evaluation and Capacity Assurance Plan	March 1, 2015
Final SSMP, incorporating all of the SSMP requirements	March 1, 2015
Audit of EOCWD’s SSMP	April 1, 2016

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CHAPTER 2 – GOAL

This chapter describes the goal of the SSMP.

2.1 Purpose

The purpose of the Order is to prevent SSOs. EOCWD has prepared and will maintain the SSMP to support this purpose.

2.2 Goal

The goal of the SSMP is to provide a plan and schedule to properly manage, operate, and maintain all parts of the EOCWD sanitary sewer system to prevent SSOs and mitigate any SSOs that do occur.

A copy of the Order and the certified SSMP is available to personnel operating and maintaining the EOCWD sanitary sewer system. A copy of the Order is also included as **Appendix A** in Volume II of this SSMP. Pursuant to California Water Code Section 13267(b), EOCWD will also comply with the SSO “Monitoring and Reporting Program No. 2006-0003 DWQ” and all future revisions, included by reference in the Order. A copy of the MRP is included in **Appendix B** of Volume II.

2.3 About This Document

Volume I provides a general description of how EOCWD complies with the various provisions of the Order and provides references to supporting documents. Volume II contains specific information and supporting documents. Some supporting materials, such as the EOCWD Electronic Map Book, the electronic EOCWD Sewer Atlas, the EOCWD electronic Hydraulic Model, the EOCWD Design Guidelines, EOCWD Master Specifications and Standard Drawings, large format drawings, relational databases, and voluminous documents may not be physically included in the SSMP. In these cases, a reference is provided that indicates the type, owner, and location of these supporting materials.

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CHAPTER 3 – DESCRIPTION OF ORGANIZATION

This chapter describes the EOCWD organization and chain of communication.

3.1 Administrative and Maintenance Positions

The Order requires that the SSMP include the administrative and maintenance positions responsible for implementing measures in the SSMP program, including lines of authority by organization chart or similar document.

The manager of the EOCWD Collection Facilities O&M Division is the EOCWD authorized representative or legally responsible official listed on the Notice of Intent and is responsible for the certification of SSO reports involving the EOCWD sewer collection system.

3.1.1 Compliance Summary. EOCWD has provided sufficient staffing to operate the sewer system on a sustainable basis, and to comply with all requirements of this Order.

3.1.2 Compliance Documents. EOCWD has developed a Program Organizational Chart (**Appendix C**). Names with titles, SSMP responsibility, and phone numbers are included in the chart. On a routine basis, the chart is reviewed by EOCWD stakeholders and updated.

3.1.3 Roles and Responsibilities. Job descriptions for the positions listed in the organizational charts are available from Administration. Primary responsibility for the day-to-day management and O&M of the collection facility assets resides within the Operations Department, and the daily field activities are managed by the Collection Facilities O&M Division. In addition, specific SSMP roles and document responsibilities are described in **Appendix C**.

3.2 Chain of Communication.

The Order requires the SSMP to contain a chain of communication for SSO reporting, from receipt of a complaint or other information through reporting to the regulatory agencies.

3.2.1 Compliance Summary

EOCWD has a flow chart that shows the chain of communication for reporting SSOs. It starts with the receipt of a complaint or other information, and includes the name and title of the person responsible for reporting SSOs from receipt at EOCWD to the State of California CIWQS website, the Santa Ana Regional Water Quality Control Board, Orange County Health Care Agency, and if required, California Emergency Management Agency (Cal EMA).

The response flowchart is part of the SSO Reporting Guidelines developed to manage the reporting process, and exists as a supplemental guide to be used with the current EOCWD SSO Emergency Response Plan. This flow chart is also known as the EOCWD SSO Response Flow Chart.

3.2.2 Compliance Documents

The organizational/procedural flow charts can be found in the following appendices for contacts and information provided in the chain of communication flow chart for reporting SSOs.

Appendix P of the SSMP Volume II includes the EOCWD SSO Response Flow Chart. This flow chart contains the chain of communication for reporting SSOs in compliance with the Order.

Appendix Q of the SSMP Volume II includes the EOCWD SSO ERP. This plan is also required in compliance with Section D, paragraph 13 (vi) the Order.

3.2.3 Roles and Responsibilities

The roles and responsibilities of each position are described in detail in the documents listed above as well as in the appendices.

CHAPTER 4 – LEGAL AUTHORITY

This chapter describes the legal authority to implement the SSMP.

EOCWD must demonstrate, through sanitary sewer system use ordinances, service agreements, or other legally binding procedures, that it possesses the necessary legal authority to:

- (a) Prevent illicit discharges into its sanitary sewer system (examples may include infiltration and inflow), stormwater, chemical dumping, unauthorized debris and cut roots, etc.).

The inflow sources may include items such as sump pumps, roof leaders, yard and stairwell drains, satellite systems, or any other materials that adversely affect the performance of the collection system and/or the Waste Water Treatment Plant.
- (b) Require that sewers and connections be properly designed and constructed. EOCWD's Engineering Department develops and maintains construction standards for EOCWD pumping stations and collection system. These legally binding documents will also ensure that testing is conducted and baseline condition assessment completed for sewer system construction projects (air test, CCTV, pump station performance, etc.), and that procedures are in place to transfer the resulting test data to the end user. These should also require development and implementation of technical requirements and training standards for construction inspectors.
- (c) Ensure access for maintenance, inspection, or repairs for portions of the lateral owned or maintained by the Public Agency.
- (d) Limit the discharge of FOG and other debris that may cause blockages.

The FOG control program will be for commercial, industrial, and institutional users and will combine source and field control to reduce SSOs caused by the discharge of FOG to the collection system.
- (e) Enforce its sewer ordinances.

4.1 Compliance Summary

This SSMP complies with the Order requirements for legal authority under the following enacted ordinances/resolutions or agency policies.

- (a) **Ordinance No. EOCWD-15-1** “Establishing EOCWD Wastewater Discharge Regulations” effective July 1, 2015. Article 2 of Ordinance No. EOCWD-15-1 has general prohibitions, limits and requirements for discharge which apply to all users of the EOCWD sewer collection facilities. This Ordinance complies with and meets the minimum legal authority for EOCWD required by the General WDR.
- (b) **The WDR requires that EOCWD sewers and connections** be properly designed and constructed. The design and construction requirements for EOCWD sewers are kept and managed by the EOCWD Engineering Department. These include the

Engineering Design Guidelines, the CAD manual, the Master Specifications, Process Control Software Standards, Standard Drawings, and Instrumentation & Equipment Tagging Information. The construction, inspection and testing of new lateral connections and bypass piping facilities is governed by the permit and related construction standards, and legally enforced through EOCWD's connection permit program through the Engineering Department, as authorized by EOCWD's Charter. Documentation for these requirements is located at the permit counter in the Engineering Department at EOCWD Reclamation Plant No. 1.

- (c) **To ensure access for maintenance**, inspection, or repairs for portions of the lateral owned or maintained by the Public Agency EOCWD adopted Resolution No. EOCWD 15-170 "Adopting a Policy Regarding Maintenance of Unobstructed Access to District Easements" on July 1, 2015. While EOCWD does not permit direct lateral connection to its regional sewers, it has been EOCWD practice to accept responsibility for maintaining the first four feet of local satellite agency pipelines connecting to EOCWD sewers. EOCWD issues permits to property owners and contract for work according to EOCWD standards. Approved design and construction standards are situated in electronic files, and are also available on compact disc. A special standard derived from the master specifications is issued for property owner contractors and is available at the permit counter at EOCWD.
- (d) **To limit the discharge of FOG** and other debris that may cause blockages; EOCWD established two comprehensive policies regarding limitation of the discharge of FOG into the EOCWD sewer collection facilities. These are: (1) Ordinance No. EOCWD-15-2 "Adopting Fats, Oils, and Grease (FOG) Control Regulations applicable to Food Service Establishments", effective July 1, 2015; and (2) Ordinance No. EOCWD 15-171 "Establishing Fats, Oils, and Grease (FOG) Control Program Fees applicable to Food Service Establishments", effective July 1, 2015 necessary to limit FOG and debris entering into the EOCWD sewer collection system.
- (e) **In accordance with the enforcement provisions of its discharge ordinances, including EOCWD-15-2 and EOCWD-15-1**, EOCWD established and actively manages the source control function within the Environmental Compliance Division. This division of the EOCWD Engineering Department also enforces applicable sections of the State of California and United States of America state and federal laws relating to source control and violation of its sewer ordinances and resolutions.

4.2 Compliance Documents

The legal authority for enacting the SSMP programs and policies are included in the following documents:

- FOG Ordinance No. EOCWD-15-2 (**Appendix E1**)
- Wastewater Discharge Regulations Ordinance No. EOCWD-15-1 (**Appendix E2**)

- FOG Fee Resolution No. EOCWD 15-171 (**Appendix E3**)
- Legal authority, as outlined in EOCWD's Charter, is on file in the EOCWD Board Secretary's Office
- Construction contracts, standard testing and inspection requirements, Master Specifications section 02627 Manhole and Precast Vault Construction, other sections

4.3 Roles and Responsibilities

The roles and responsibilities for enforcement of the legal authority to enact the SSMP programs and policies is derived from acts of EOCWD's governing Board. Legal interpretation of the enabling state legislation giving authority to EOCWD is provided by EOCWD General Counsel.

During the course of implementing the FOG Source Control Program, programmatic changes are anticipated which may necessitate revision of FOG Ordinance No. EOCWD-15-2 and FOG Fee Resolution No. EOCWD 15-171. The EOCWD Environmental Compliance Division is responsible for periodically reviewing and updating these documents, as the need arises, to ensure that the legal authority is comprehensive and covers all aspects of the FOG Source Control Program.

Wastewater Discharge Regulations Ordinance No. EOCWD-15-1 is EOCWD's main ordinance for regulating sewer use and wastewater discharges in the satellite cities and sewerage agencies that drain to EOCWD's system. These include agreements with SAWPA and LA County Sanitation Districts, and controlling inflow and infiltration and illegal connections to the system. The EOCWD Environmental Compliance Division is responsible for maintaining and updating, or amending this ordinance.

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CHAPTER 5 – OPERATION AND MAINTENANCE PROGRAM

This chapter describes the EOCWD activities regarding management of engineering data, maps of the sanitary sewer system, operations and preventive maintenance, rehabilitation and replacement program, training programs, and equipment and replacement part inventories.

5.1 Mapping

EOCWD maintains electronic models of facilities and assets. The concept with roles and responsibilities is described in Facility Model Maintenance Management Plan (**Appendix K1**).

- EOCWD Sewer Atlas – This is an electronic facility model that includes all of the sewer lines, manholes, diversion structures, force mains, siphons, force main valves, and pump stations of the EOCWD collection system. The Sewer Atlas can be viewed with either a plain background or a photographic background with the streets and sewer lines superimposed over the background. Maintenance procedures for the Sewer Atlas are described in **Appendix K2**.
- Map Books and Electronic Map Book – Map Books are composed of a set of printed maps from the Sewer Atlas. The EMB is an on-line form of the Map Books and allows the user to link to adjacent maps and drawings.
- Electronic Document Management System – allows access to scanned image file of drawings generated from capital projects from the collection system.
- Enterprise-wide Geographical Information System – an on-going program linking various heretofore independent database functions and related information graphically, to more easily find and correlate such things as easement documents with the electronic mapping information and cataloging of useful and connected information.

When discrepancies are identified between the field conditions and electronic records, staff completes the Field Discrepancy Form (**Appendix K3**), and updates are made by the responsible party.

5.1.1 Compliance Summary. The asset inventory of all collection system assets is contained in EOCWD's GIS, which is maintained as a part of EOCWD's GIS program. A subset of the asset register is contained in the SEDARU program. The SEDARU resident assets are those assets that have or may have scheduled maintenance activities associated with them to ensure their performance level is maintained, and that they reach their expected useful lives. The assets contained in the GIS, SEDARU, and other asset-based data repositories (such as the Supervisory Control and Data Acquisition) are all connected by the use of unique identifiers known as structure ID's, which are associated with fixed process locations and equipment numbers. The collection system assets contained in SEDARU have various types of scheduled maintenance activities assigned to them; these activities may include any combination of investigation of problem, condition assessment, and preventive maintenance activities necessary to properly maintain the assets.

Every two years EOCWD issues an updated new Asset Management Plan that details asset management activities, and identifies asset management improvement strategies and projects being considered by EOCWD. The current Asset Management Plan is contained in **Appendix H**.

5.1.2 Compliance Documents. The documents supporting compliance with the requirements for mapping are as follows:

- Integrated Emergency Response Plan (copies located in the EOCWD Office,
- Electronic Map Book and EOCWD Sewer Atlas

Copies of drawings are available for staff use in the EDMS, and on physical stick files located in the Engineering Department. The Information Technology Department is responsible for maintaining the electronic version of all record drawings, EMB, and the Sewer Atlas.

5.1.3 Roles and Responsibilities. The annual budget document contains the chart that identifies the positions in general, and also those positions specifically responsible for EOCWD's collection system assets. ID Modeling is responsible for maintaining the EOCWD mapping systems. The Engineering Department is responsible for acquiring drawings during capital projects. The Operations Department identifies the management, supervision, and field positions that are responsible for identifying the various tasks required to support the proactive maintenance program for EOCWD assets. Program responsibilities are also presented in **Appendix C**.

5.2 Preventive Maintenance Program

EOCWD has an on-going preventive and corrective maintenance program, and is in the process of developing a comprehensive life-cycle asset management program. EOCWD has an ERP that includes procurement procedures and inventories for critical equipment under various scenarios. EOCWD's current reliability shows that the availability and stock levels of spare parts has been sufficient, and no changes are recommended at this time.

EOCWD has prepared the PMP document, which covers the assets managed in the sanitary sewer system, and is based on an approach that combines predictive, preventive, and corrective maintenance strategies and established BMPs. Copies of the PMP and Collection Facilities O&M Vehicle Inventory are included in Volume II **Appendices I1** and **I2**, respectively.

One component of the PMP development process is the resource gap analysis. EOCWD continually reviews resource needs through the annual budget process, the asset management program, rehabilitation and replacement program, and capacity evaluations. The PMP also contains a review of existing business and work practices; this review is on-going. The work is focused on validating existing or making improvements to the current data management, data analysis, and supporting decision-making processes. This will ensure that the maintenance divisions provide consistent, effective, and efficient maintenance support for EOCWD assets. In light of the expanded maintenance program requirements, the current performance management processes will be reviewed to determine continued alignment; maintenance reports will be modified as needed.

The criticality assessment of collection system assets is included in the PMP Project Plan. This assessment is in progress and will be integrated into the plan with the results being entered into SEDARU. The second phase is currently underway and will rate the criticality/condition of the collection system gravity pipes, and the final phase will be the rating of the criticality/condition of the gravity system manholes and other structures. The data from the second and third phases will be stored in SEDARU for gravity pipes and manholes.

5.2.1 Compliance Summary. The Collection Facilities O&M Division conducts various maintenance activities to maintain collection system assets. As part of the work order closeout process, all operational and structural condition information is recorded. This work history documentation is analyzed to identify potential operational failures which could result in spills. Maintenance tasks might be added, deleted, or altered based on the analysis findings. Tasks might be altered by modifying the task work content, adjusting task intervals and/or adjusting task times to compensate for the adverse conditions found. Work order closeout procedures are in place to ensure that all work history is memorialized. As part of the preventive maintenance program analysis process, observations related to grease build-up within the sewer collection facilities pipelines are reported to the Operations Department. The Operations Department is then responsible for further investigations to determine the cause of the identified grease build-ups, as further addressed in Chapter 8 (Fats, Oils, and Grease Control Program).

5.2.2 Compliance Documents. Documents that support compliance of this section include the following:

- Preventive Maintenance Program (**Appendix I1**)
- Collection Facilities O&M Vehicle Inventory (**Appendix I2**)
- CCTV and condition assessment records

5.2.3 Roles and Responsibilities. The annual budget contains the chart that identifies the positions responsible for the Collection Facilities O&M Division program in place to support EOCWD's collection system assets. The charts for the Collection Facilities O&M Division are updated and published each year as a part of the budget process. The charts for Collection O&M identify the management, supervision, and field positions that are responsible for identifying the various tasks required to support the proactive maintenance program for EOCWD assets. The budget information is posted on the EOCWD website and can be accessed at www.eocwd.com.

5.3 Rehabilitation and Replacement Plan

EOCWD has identified and prioritized structural deficiencies in the collection system and is in the process of implementing short-term and long-term rehabilitation actions to address each deficiency. This program will include regular CCTV inspection of sewer pipes and a system for assessing and ranking the condition of the line segments and other sewer nodes contained in the system. The rehabilitation and replacement plan will include a financial plan that properly funds the R&R of infrastructure assets. A memorandum on the R&R process is included in **Appendix J**.

5.3.1 Compliance Summary. The proactive maintenance task descriptions for all preventive maintenance, fault-finding inspections and condition monitoring tasks are contained in SEDARU as

part of the planned maintenance activity documentation, and they are printed with the activity work order documentation.

5.3.2 Compliance Documents. Documents that support compliance of this section include the following:

- Rehabilitation and Replacement Plan (**Appendix J**)

5.3.3 Roles and Responsibilities. The chart that identifies those positions responsible for the Collection Facilities O&M Division program to support EOCWD's Collection System Rehabilitation and Replacement program is contained in **Appendix J**.

5.4 Training Program

EOCWD regularly provides training for staff in collection system operations, maintenance, and monitoring, and requires that contractors' staffs are appropriately trained. This training is divided into two general parts: (1) Safety Training and (2) Technical Training.

5.4.1 Compliance Summary. EOCWD's staff currently participates in the CWEA certification program for collection workers, Grades I through IV. EOCWD also participates in NASSCO certification program for pipeline and manhole assessment. EOCWD provides on-going in-house technical, job skills, and safety training for its staff.

EOCWD has an SSO Response Training procedure for all collection system maintenance technologists. This training and the OCSD SSO response training facility at Reclamation Plant No. 1 is also available for use by their satellite agencies. EOCWD uses training programs and SOPs developed for line cleaning, vector truck operation, sewer grit removal and dumping, valve repair and replacement, pump station operation and maintenance, and other related tasks. SOP development and training are ongoing.

5.4.2 Compliance Documents. Technical training and supporting resources are centralized and managed by the Administration Department for EOCWD. All records and documentation are available for review in the Administration Department.

The Administration Department maintains and updates all internal procedures for tracking training needs for CWEA Technical Certification certificate holders for Collection Facilities employees. The Collection Facilities Maintenance Business Unit maintains its SOPs.

5.4.3 Roles and Responsibilities. The EOCWD Administration Department is responsible for maintaining and updating all EOCWD employee training records.

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CHAPTER 6 – DESIGN AND PERFORMANCE PROVISIONS

This chapter references the EOCWD Engineering Design Standards (Guidelines, Master Specifications, Standard Drawings, etc.) for new sanitary sewer systems, pump stations, and other appurtenances, and for the rehabilitation and repair of existing sewer systems.

6.1 Compliance Summary

Requirements for design, construction, inspection, quality assurance, and commissioning of new and rehabilitated facilities are available for viewing by downloading from the EOCWD FTP server on the internet. The sanitary sewer requirements are also available as an excerpt from the EOCWD Engineering Design Standards upon request at the EOCWD administrative office in Orange. The Standards are updated annually.

6.2 Compliance Documents

Documents used for design and performance evaluations include the following:

- EOCWD Master Specifications, Design Guidelines, and other EOCWD Design Standards;
- Standard Specifications for Public Works Construction (Greenbook);
- Codes and Standards of trade organizations (NFPA, ASTM, IEEE, etc.);
- Applicable federal, state and local laws and regulations, e.g.: CA Code of Regulations, Title 8 (Cal/OSHA), Title 24 (California Building Codes);
- Inspection reports, test reports, and contractor certifications

6.3 Roles and Responsibilities

The District Engineer manages the standards update and implementation processes. Proposed updates to the Standards can be based on recommendations made by EOCWD Project Managers who submit “lessons learned” during each project and/or are developed by designated editors to reflect the latest technology improvements, industry practices, and federal, state and local laws and regulations. In addition, any EOCWD employee may propose a change at any time.

Significant proposed changes to the Standards (e.g., new standards, significant philosophy changes, global updates, etc.) are submitted to the Engineering Committee for review / comment / approval.

CHAPTER 7 – OVERFLOW EMERGENCY RESPONSE PLAN

EOCWD has developed an overflow Emergency Response Plan that identifies measures to protect public health and the environment. In addition, EOCWD is part of the Countywide Area Spill Control (CASC) Program for additional support on containment and cleanup in the flood control channels.

7.1 Compliance Summary

EOCWD also maintains an SSO ERP which is updated as needed by the Operations Superintendent and reviewed and approved by the General Manager. SOPs are also updated by the Operations Superintendent for Emergency Response for SSOs and Spill Containment. SOPs for notification are updated as needed by the Operations staff and approved by the Operations Superintendent. The SSO ERP includes, but is not limited to the following items:

- (a) Proper notification procedures so that the primary responders and regulatory agencies are informed of all SSOs in a timely manner;
- (b) A program to ensure appropriate response to all overflows;
- (c) Procedures to ensure prompt notification to appropriate regulatory agencies and other potentially affected entities (e.g., health agencies, regional water boards, water suppliers, etc.) of all SSOs that potentially affect public health or reach the waters of the State. All SSOs are reported in accordance with the MRP, the California Water Code, other State Law, and other applicable Regional Water Board WDR or NPDES permit requirements;
- (d) Procedures to ensure that appropriate staff and contractor personnel are aware of and follow the ERP and are appropriately trained;
- (e) Procedures to address emergency operations, such as traffic and crowd control and other necessary response activities; and
- (f) A program to ensure that all reasonable steps are taken to contain and prevent the discharge of untreated and partially treated wastewater to waters of the United States and to minimize or correct any adverse impact on the environment resulting from the SSOs, including such accelerated or additional monitoring as may be necessary to determine the nature and impact of the discharge.

Note: SSO sampling, if conducted, is performed by the OCHCA. In some instances, OCHCA may request that EOCWD conduct sampling. The first responders from the Environmental Compliance Division carry equipment to collect samples if necessary.

OCSO maintains an SSO response training facility that safely simulates (by using potable water) an SSO on a typical city street and allows staff to prepare for the real event, from initial notification to SSO report documentation; this facility is open to EOCWD for training. **Appendix R** of Volume II contains guidance for calculating SSO volumes and training for the SSO simulation. Ongoing

training (first responders and shop tailgate meetings) occur monthly, and staff is trained in traffic control every two years.

7.2 Compliance Documents

The compliance documents are as follows:

- SSO Emergency Response Flow Chart (**Appendix P1**);
- Environmental Compliance SSO Response Procedure (**Appendix P2**);
- SSO Notification Procedures (**Appendix P3**);
- SSO Emergency Response Plan (**Appendix Q**);
- SOPs for SSO Emergency Response and Spill Containment;
- Risk Management Program (**Appendix S**)

7.3 Roles and Responsibilities

Information on the positions, roles, and responsibilities is included in the documents listed above and **Appendix C**.

CHAPTER 8 – FATS, OILS, AND GREASE (FOG) CONTROL PROGRAM

Prior to implementation of the FOG Control Program, OCSD contracted the services of a consultant to conduct a study to establish the building blocks for an effective FOG source control program. The study, known as the Phase I Report (available from OCSD's Environmental Compliance Division) was completed in July 2003 per the Regional Board 8 WDR Order. The report presented twelve potential building blocks along with a draft ordinance which eventually served as the blueprint for OCSD's FOG Control Program as well as the countywide FOG control effort executed through OCSD's satellite cities and sewer agencies.

In order to limit the discharge of FOG and other debris that may cause sewer collection system blockages or SSOs, and in compliance with the SWRCB Order No. 2006-0003-DWQ Order, adopted May 2, 2006, EOCWD has prepared and implemented the following elements into their FOG Control Program effort:

- (a) An implementation plan and schedule for a public education outreach program that promotes proper disposal of FOG;
- (b) A plan and schedule for the disposal of FOG generated within the sanitary sewer system service area. This may include a list of acceptable disposal facilities and/or additional facilities needed to adequately dispose of FOG generated within a sanitary sewer system service area;
- (c) The legal authority to prohibit discharges to the system and identify measures to prevent SSOs and blockages caused by FOG;
- (d) Requirements to install GRD (such as traps or interceptors) design standards for the GRDs, maintenance requirements, BMP requirements, record keeping and reporting requirements;
- (e) Authority to inspect grease producing facilities, enforcement authorities, and whether EOCWD has sufficient staff to inspect and enforce the FOG ordinance;
- (f) An identification of sanitary sewer system sections subject to FOG blockages and establish a cleaning maintenance schedule for each section (EOCWD's Collection Facilities O&M Division of the Facilities Support Services Department is responsible for maintenance scheduling); and
- (g) Development and implementation of source control measures, for all sources of FOG discharged to the sanitary sewer system, for each section identified in (f) above.

8.1 Compliance Summary

To address the WDR Order, EOCWD passed a FOG Ordinance (**Appendix E1**) to establish the legal authority to prohibit Food Service Establishments from discharging FOG to the sewer system. The Ordinance for Wastewater Discharge Regulations (**Appendix E2**) provides the uniform requirements for users of EOCWD's facilities. The resolution to establish fees for the FOG Program is included in **Appendix E3**. In addition, EOCWD assembled a model FOG source

control program using the building block components identified in the Phase I Report, and developed an enforcement management system to resolve noncompliance issues in a fair and consistent manner. For a detailed discussion of the program and its development see “Fats, Oils, and Grease Source Control Program and Enforcement Management System,” **Appendix F** and “Basis for Program Development, Program Components, and Policies,” **Appendix G1** in SSMP Volume II.

Based on recommendations from the Phase I report, OCSD also retained a contractor to conduct an additional study to field test three newer FOG control technologies (additives, nonconventional grease traps, and interceptor monitoring devices) to determine whether these technologies are effective and should be used in FOG control programs. The Phase II Report, published in March 2006, concluded that these technologies might be useful in instances where a below ground interceptor was not practical. However, all of the studied control technologies had their limitations and would require extensive maintenance and/or follow-up to remain effective over the long haul. To date, none have been incorporated into OCSD’s or EOCWD’s FOG control strategy.

EOCWD shares overlapping operational jurisdiction with the cities of Tustin and Orange and the County of Orange. In general, EOCWD owns and maintains the smaller laterals. Subsequently, EOCWD has focused its commercial and residential FOG control efforts in the Tustin area where it assumes principal responsibility.

As of May 2006, each satellite city or sewer agency was required to comply with the statewide Order. As a consequence, each satellite developed and implemented a FOG control program that suited its individual conditions and needs. Though the specifics vary, the programs generally follow the basic approach of prohibiting FOG discharges and mandating the use of kitchen BMPs at the FSEs in their jurisdictions. **Appendix G3** summarizes the program elements implemented by the various satellite cities and sewer agencies and provides a contact list for each agency and city.

EOCWD participates along with 13 other satellite cities and agencies in an agreement with OCHCA, to expand the normal FSE health inspection protocols to include FOG control elements. These inspections consist of providing FOG control literature to the FSEs as well as generating a list of noncompliance observations on a number of program elements including the presence of a garbage disposal, missing drain screens, grease disposal records, missing signage, improper FOG disposal, missing grease recycling container, and lack of BMP training records. OCHCA efforts on behalf of the participants do not include enforcement or follow-up for noncompliance, or grease trap monitoring.

The following cities and sewer agencies participate, along with EOCWD, in the OCHCA FSE inspection program as part of their FOG control strategy. The OCHCA inspection agreement is included in SSMP Volume II, **Appendix G2**.

Satellite cities and agencies not shown on this list manage their own FOG programs and are also subject to EOCWD’s Legal Authority provisions.

Anaheim	Orange	Villa Park
Buena Park	Placentia	Yorba Linda
East Orange County Water District	Santa Ana	Yorba Linda Water District**
Costa Mesa Sanitary District	Sunset Beach Sanitary District*	** (now owns all sewer assets in the city of Yorba Linda)
Fountain Valley	*(now part of Huntington Beach)	
La Habra		
Midway City Sanitary District		

8.2 Compliance Documents

- FOG Ordinance (**Appendix E1**)
- The Ordinance for Wastewater Discharge Regulations (**Appendix E2**)
- The resolution to establish fees for the FOG Program (**Appendix E3**)
- FOG Source Control Program and Enforcement Management System (**Appendix F**)
- FOG Source Control Program, Basis for Program Development, Program Components and Policies (**Appendix G1**)
- FOG Control Study, Phase I and Phase II Report (located in the Environmental Compliance Division)
- Agreement for Provision of Environmental Health Services Between County of Orange and Orange County Sanitation District (**Appendix G2**)

8.3 Roles and Responsibilities

EOCWD’s Collection Facilities Division has a program to identify sections of the collection system subject to blockages, and a schedule for trouble-spot cleaning as part of the preventive maintenance program. The review of existing FOG trouble-spot conditions is a continuous process conducted as part of the cleaning program. Trouble-spots that can be attributed to FOG are reported to the Operations Superintendent for assignment for investigation and mitigation. Procedures were collaboratively developed by the Collection Facilities and Environmental Compliance staff to ensure the timely reporting of trouble-spot modifications such as the discovery of a new FOG trouble-spot or a change in the maintenance frequency of an existing site. In turn, the Environmental Compliance Division forwards information related to the investigation and mitigation of FOG-related trouble-spots back to the Collections Facilities O&M Division so the appropriate adjustments can be made to the cleaning activities at that location.

EOCWD’s Environmental Compliance Division is responsible for reviewing and updating the FOG Source Control Program and Enforcement Management System as the program evolves.

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CHAPTER 9 – SYSTEM EVALUATION AND CAPACITY ASSURANCE PLAN

EOCWD has prepared and implemented a CIP that provides hydraulic capacity of key sewer system elements under peak flow conditions, as well as the appropriate design for storm or wet weather events. At a minimum, the plan includes the following:

- (a) **Evaluation:** The portions of the collection system that could experience or contribute to an SSO discharge caused by hydraulic deficiency have been identified by the OCSD Engineering Department's 2009 Facilities Master Plan, which was produced and adopted in December 2009 using the OCSD "Hydraulic Model" program. Included in the evaluation are estimates of peak flows (including from SSOs that escape from the system) associated with conditions similar to those causing overflow events, estimates of the capacity of key system components, hydraulic deficiencies (including components of the system with limiting capacity), and the major sources that contribute to the peak flows associated with overflow events.;
- (b) **Design Criteria:** Where design criteria do not exist or are deficient, undertake the evaluation identified in "a" above to establish appropriate design criteria;
- (c) **Capacity Enhancement Measures:** The steps needed to establish a short- and long-term CIP to address identified hydraulic deficiencies including prioritization, alternatives analysis, and schedules;
- (d) **Schedule:** EOCWD shall develop a schedule of completion dates for all portions of the CIP developed in (a-c) above. This schedule shall be reviewed and updated consistent with the SSMP review and update requirements as described in Section D.14.

9.1 Compliance Summary

EOCWD has an established CIP that includes the following:

- **Evaluation:** The portions of the collection system that could experience or contribute to an SSO discharge caused by hydraulic deficiency have been identified by the Engineering Department's 2009 Facilities Master Plan, which was produced and adopted in December 2009 using the EOCWD "Hydraulic Model" program. Included in the evaluation are estimates of peak flows (including from SSOs that escape from the system) associated with conditions similar to those causing overflow events, estimates of the capacity of key system components, hydraulic deficiencies (including components of the system with limiting capacity), and the major sources that contribute to the peak flows associated with overflow events.
- **Capacity Enhancement Measures:** EOCWD has established a short- and long-term CIP to address identified hydraulic deficiencies. The CIP includes project cost estimates, project prioritization, alternatives analysis, and construction schedules.

- **Plan Updates:** This CIP plan is updated annually by the Engineering Planning Division. The updates describe any significant changes in proposed actions and/or implementation schedules, and will include information on the performance of measures that have been implemented.

EOCWD has design standards and guidelines to ensure adequate capacity. EOCWD's CIP assures that older facilities are upgraded as needed to ensure adequate capacity through the system. These programs are formally addressed and described more extensively in the Capacity Evaluation Plan, which was submitted on April 24, 2009, and is included as **Appendix M**.

EOCWD works under annual and long-range plans that have proven effective. Indications of possible capacity problems seen by the Collections Facilities Division are brought to the attention of the District Engineer for further evaluation.

9.2 Compliance Documents

The documents used for system evaluation and capacity assurance are as follows:

- Monthly SSO Reports
- Source Control Annual Report
- Flow Data
- Annual Asset Management Plan
- System Evaluation and Capacity Assurance Plan (**Appendix M**)
- FY 2010 - 2012 Budget, adopted June 2010 (This document contains the sewer system's Capital Improvement Program.);
- EOCWD Facilities Master Plan, adopted December 2009 (This document contains the latest capacity evaluation for the sewer system.);
- Capital Improvements Plans (updated annually since 1948; these are contained in EOCWD's annual Budget Book, Section 8, Capital Improvement Program.)
- Computerized Maintenance Management System Database

9.3 Roles and Responsibilities

The CIP development, including capacity assurance, implementation, and update, are the responsibility of District Engineer. Information on the CIP budget process and the roles and responsibilities of each department are included in **Appendix U**.

CHAPTER 10 – MONITORING, MEASUREMENT, AND PROGRAM MODIFICATIONS

This chapter describes EOCWD measures and activities.

- (a) Maintain relevant information that can be used to establish and prioritize appropriate SSMP activities;
- (b) Monitor the implementation and, where appropriate, measure the effectiveness of each element of the SSMP;
- (c) Assess the success of the preventive maintenance program;
- (d) Update program elements, as appropriate, based on monitoring or performance evaluations; and
- (e) Identify and illustrate SSO trends, including: frequency, location, and volume.

10.1 Compliance Summary

OCSD has been reporting and keeping statistics on all SSOs for over a decade, and has been monitoring some nationwide statistics. Although some elements of the measurement portion of the program have not yet been developed, they will likely include an SSO-trending metric in the future.

EOCWD utilizes the State of California's CIWQS database and mapping to track and illustrate trends of SSOs. EOCWD identifies the root cause of an SSO, such as structural problems, capacity, type of debris, pumping facility component failure as these and other indicators are of value in monitoring the effectiveness of the program and making improvements. If necessary, projects will be developed to rehabilitate or replace system components based on sound asset management decisions.

EOCWD has identified desired levels of service in our Board-adopted Strategic Plan related to sewer spills, when they do occur:

- < 2.1 Sanitary sewer spills per 100 miles
- Contain sanitary sewer spills within 5 hours
- Respond to collection system spills within ½ hour

In addition, Safety goals are established for each employee and include required training, documentation of safety incidences in a timely manner, inspections of work areas on a quarterly basis, and regular reporting of near-miss incidents. All EOCWD staff are part of this program. In the event the safety metrics or EOCWD levels of service are altered, the Collection Facilities Division will utilize the most current goals.

EOCWD monitors the implementation effectiveness of the SSMP elements through review at EOCWD stakeholder meetings. EOCWD will also work to ensure that EOCWD remains in

compliance with the WDR and make changes and updates to its SSMP, as necessary, based on audit evaluations.

10.2 Compliance Documents

The documents used for monitoring, measurement, and program modification requirements are as follows:

- Sewer System Management Plan
- Flow Data
- EOCWD Asset Management Plan
- Monthly SSO Reports and Maps of Spills
- Current SEDARU database showing work planned, completed and findings
- EOCWD GIS

10.3 Roles and Responsibilities

The Environmental Compliance Division has responsibility for the SSO reporting process, record keeping, internal audits, and updating the reporting procedures. Other roles are as follows:

- Sewer Level of Service – Collection Facilities Division
- WDR Stakeholder Team
- WDR and SSMP Internal Audit Oversight
- EOCWD Asset Management Team

CHAPTER 11 – PROGRAM AUDITS

As part of the SSMP, the EOCWD shall conduct periodic internal audits, appropriate to the size of the system and the number of SSOs. At a minimum, these audits must occur every two years and a report must be prepared and kept on file. This audit shall focus on evaluating the effectiveness of the SSMP and the EOCWD's compliance with the SSMP requirements identified in this subsection (D.13), including identification of any deficiencies in the SSMP and steps to correct them.

Further clarification by the State Water Board about audit frequency includes:

The SSMP requires that each enrollee conduct an internal audit of their SSMP every two years due by the anniversary date that the enrollee's governing body approved the SSMP. It is permissible for an enrollee to conduct their internal audit earlier than their anniversary date. If an audit is conducted early the date that the audit is due is still based upon the anniversary date and not the date the last audit was completed.

Although the internal audit does not have to be submitted to the state it is recommended that it be placed in the enrollee's SSMP and may be requested by the SWRCB or the Regional Board at any time. In fact, the SWRCB is routinely requesting a copy of the internal audit to assist them in selecting possible enrollees for inspection and audit.

11.1 Compliance Summary

EOCWD has an internal audit program that covers the WDR and its elements. EOCWD's General Manager hires a third party auditor to conduct repeating agency-wide audits. Strategies to correct deficiencies, if identified, will be developed by EOCWD's WDR stakeholders.

EOCWD meets with their satellite cities and agencies and discusses collaborative auditing approaches, training, and lessons-learned, pending the availability of resources.

11.2 Compliance Documents

The documents used for audit evaluations include the following:

- EOCWD Environmental Auditing Program Procedures Manual (**Appendix X1**)
- EOCWD Internal Audit Finding Forms(**Appendix X2**)

11.3 Roles and Responsibilities

The positions, roles, and responsibilities of the audit staff are as follows:

EOCWD internal environmental audits are conducted following guidelines established in the "Environmental Audit Program Guidance Manual." Audits are conducted by 1) a certified environmental auditor or 2) an individual who can demonstrate sufficient expertise in the field being audited. The General Manager has the responsibility of hiring a third party to conduct the audits. Deficiencies identified as a result of the audit are brought to the attention of each responsible EOCWD stakeholder. Deficiencies and suggested corrective actions are identified, verified, and

documented by the third party auditor using the Audit Finding Form and posted on the EOCWD internal website under Environmental Compliance, ECAP, and Environmental Auditing. The WDR Subject Matter Expert is responsible for following up with WDR stakeholders to close the findings and document in the EOCWD internal website.

CHAPTER 12 – COMMUNICATION PROGRAM

EOCWD shall communicate on a regular basis with the public on the implementation and performance of its SSMP. The communication system shall provide the public the opportunity to provide input to EOCWD as the program is developed and implemented.

EOCWD shall also regularly communicate with agencies that are tributary and/or satellite to EOCWD's sanitary sewer collection system.

12.1 Compliance Summary

EOCWD will communicate on a regular basis with interested parties on the implementation and performance of this SSMP. The communication program allows interested parties to provide input as the program is developed and implemented.

EOCWD has complied with this requirement through hosting numerous meetings, presentations, workshops, utilizing EOCWD's website and social media tools as a resource for disseminating information. EOCWD staff and local city/agency staff meet routinely as part of the OCSD WDR Steering Committee and the OCSD WDR General Group.

12.2 Compliance Documents

Information regarding the WDR/SSMP can be found on EOCWD's website at the following address <http://www.eocwd.com>. Moreover, the website offers reports on documents available as viewable and/or downloadable documents: the entire site is searchable and reports can be accessed by utilizing the key word "WDR." A sample screen from the website is included as **Appendix V**.

12.3 Roles and Responsibilities

EOCWD's Public Affairs Division will continue with its commitment to communicate regularly with and allow input from interested parties on the development, implementation, and performance of its SSMP. EOCWD communicates with its constituents by continually updating and improving the information on the EOCWD website.

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SUMMARY OF WATER ASSETS & TRAINING SUPPORTING SEWER OPERATIONS

1. FIELD EQUIPMENT

- Backhoes (2)
- Dump Truck (1)
- Service Truck w/500 lb. winch
- Trailer mounted vacuum (assist with small spills/narrow streets – also used for potholing and small excavations)
- Jackhammers (2) – 90 lb.
- Pneumatic Compaction Tool (1)
- Portable Compressor (1) – 75 HP
- Clay Spade (1) – 40 lb
- Gas Powered Cut-Off Saw (1)
- Confined Space Ventilation Fan (1)
- Portable Generators (5 – (1) 3000W, (1) 6500W, (2) 150 KVA, (1) 125 KVA)
- Locating Equipment (Acoustic and Metallic)
- Sand, Base, Coldmix – stored on site

2. SAFETY EQUIPMENT

- Gas Detectors (2)
- Tripod w/winch (2)
- Safety Harness (3)
- 2-Way Radios (6)
- Ham (Amateur) Radios (5) (All field employees, Superintendent and General Manager have Ham Licenses)
- Traffic Control Signs/Paddles/Cones/Candlesticks (numerous)
- Arrow Board (Trailer Mounted with solar power and battery backup)
- Road Plates (3)
- Personal Protective Equipment (carried on every vehicle)

3. TRAINING

- Confined Space (scheduled for Confined Space Rescue Training)
- Shoring
- Backhoe Operation
- Traffic Control
- Field Ergonomics & Workplace Safety for Water & Wastewater
- Underground Service Alert
- Defensive Driver
- Cross Connection Control
- CPR/First Aid
- Alert OC (Emergency Preparedness/NIMS/SIMS)



September 3, 2013

Ms. Lisa Ohlund
 General Manager
 East Orange County Water District
 185 N McPherson Rd
 Orange, CA 92869

Subject: Orange County Sanitation District (OCWD) Collection Area 7

Dear Lisa,

This letter is written in reference to the investigation and evaluation of the subject mentioned sewer service area which includes lands within the City of Tustin, unincorporated areas of Orange County and portions of El Modena. Richard Brady & Associates (BRADY) performed a review the existing infrastructure, trouble areas, easement issues, and projected capital improvement program to detect “fatal flaws” if any within the system. We have reviewed all records provided by OCSD and offer the following:

The service area in question has been well maintained and is well documented. OCSD has maintained Collection Area 7 in a manner that meets or exceeds recognized industry standards. The system is well documented with current sewer service mapping, GIS and GPS layers for pipeline, manhole location, easements, syphon etc. The 170 mile collection system is gravity fed with pipelines ranging from 6” – 12” with the vast majority being 8” in diameter, as presented in Table 1 below.

Table 1: Pipeline Lengths and Diameters

Pipeline Diameter	Total Length (in feet)
6-inch	2,500
8-inch	850,000
10-inch	31,000
12-inch	26,000

The approximant breakdown of the collection system pipeline (per location) is as follows (please see attached map):

- 114 miles of pipe within Unincorporated Orange County
- 52 miles within the City of Tustin
- 4 miles within El Modena

The system is currently cleaned by outside contract service every 12 months which may be too frequent considering only one spill has been reported each of the past two years. Trouble areas, such as restaurants, strip-malls, and large housing areas are cleaned more frequently ranging from 5 weeks at one location but on an average quarterly which appears appropriate. Closed Circuit Cameras have been used to document the

Richard Brady & Associates

17011 Beach Blvd #900, Huntington Beach, CA 92647

714/375-6642

www.richardbrady.com

BRADY

entire service area. OCSD staff has repaired all locations that were discovered during CCTV inspection with no outstanding repairs noted.

Upon review of OCSD's annual CIP request, no projects were requested within this service district. We interviewed key OCSD staff and questioned why no projects were listed or requested; the clear answer was that "there is nothing needed at this time".

We also inquired as to whether there were any major construction projects, planned developments, or freeway projects that would cause any relocation or expansion of the system within the near future, staff was not aware of any. As a precaution, we also reviewed the Urban Water Management Plan for the City of Tustin and found no large projects or redevelopment planned that would affect this service area.

We have also conducted site visits via Google Earth of all documented trouble spots and find the majority of the locations where they would be expected, in high-density housing, restaurants, strip-malls or schools. One "trouble spot/location" merits further investigation, TS63, Crawford Cyn Rd. and Daniger Rd. This location requires cleaning every five weeks and is located within a residential community, mostly large single family homes with ranch size lots. This trouble location should be cleaned and CCTV'd with results of the inspection given to your agency before the collection system is considered for annexation. Our site visit shows a large amount of trees within this area that may be the reason for this trouble spot.

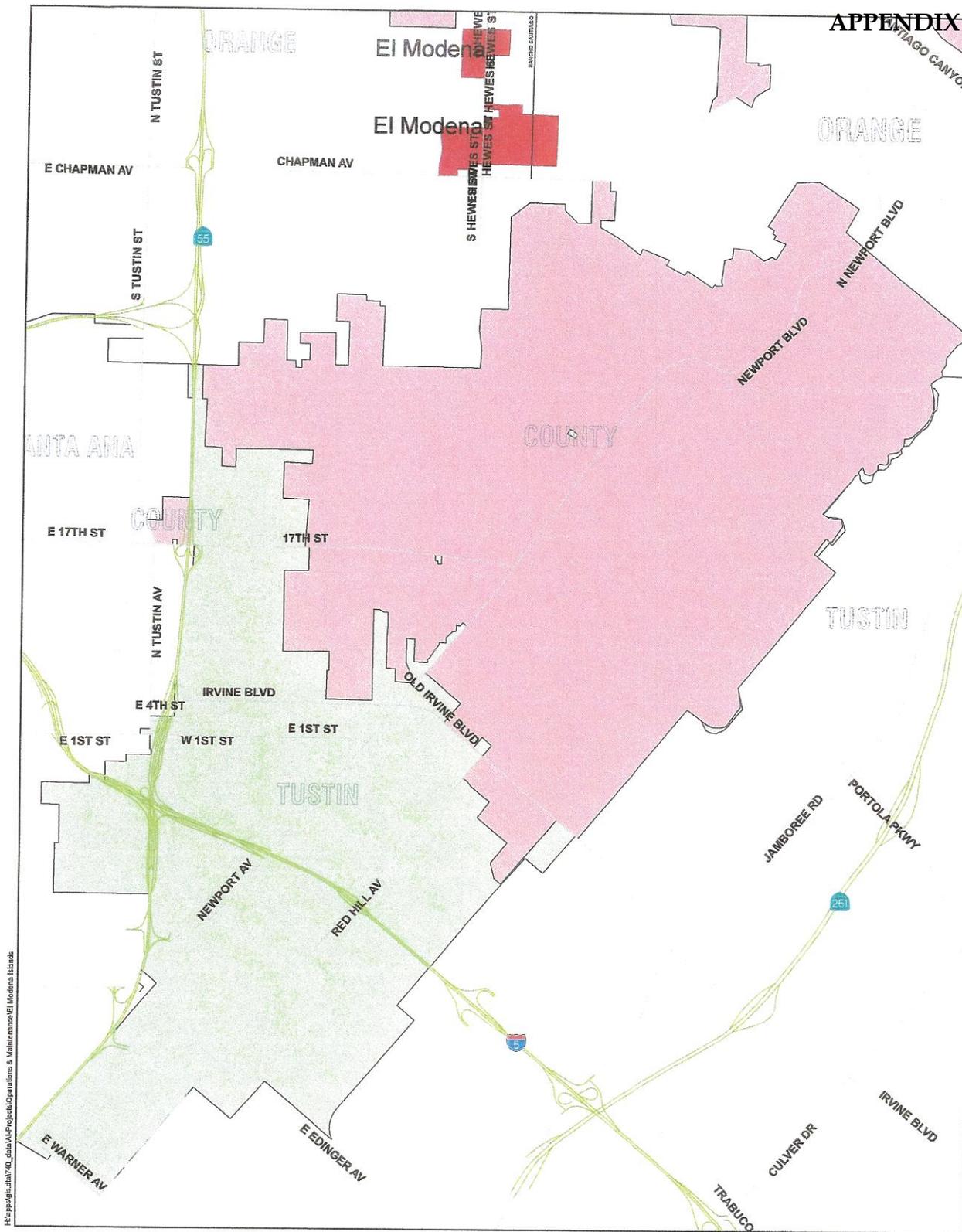
In closing, the collection system in question appears to be well constructed and maintained. If you have any questions or concerns, please do not hesitate to call me at (714) 375-6642.

Sincerely,



Howard Johnson
Vice President

Attachment(s):
Service Area Map
OCSD listing of Trouble Spots/Locations



MapProject_01a1700_data\GIS\Project\Operations & Maintenance\El Modena.bimns

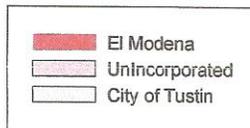
TUSTIN AND UNINCORPORATED AREAS IN SERVICE AREA 7



Disclaimer: Map prepared by Orange County Sanitation District. This map is intended for graphical representation only. No level of accuracy is claimed for the base mapping shown hereon and graphics should not be used to obtain coordinate values, bearings or distances. Portions of this derived product contain geographical information copyrighted by Thomas Brothers. All Rights Reserved.

Source: OCSD GIS Data, Thomas Brothers 2002.

Updated: 09/16/2009



TROUBLE SPOTS
Sign Book With Completed Date & Initial

TROUBLE SPOTS / LOCATION		Maint Code	Station	Map Page	Station	Freq (Wks)	Package	Size
CITY OF TUSTIN								
1	TS05) OLWYN TO REDHILL	CSUNT20T	SUN0315-0960	3847	SUN0315-0095	52	1222	8
2	TS07) MYRTLE TO NEWPORT SYCAMORE (Both Sides Of The Street)	CREDIT01T	RED0145-0060	4044	RED0115-0085	10	4680	8, 10
3	TS08) SYCAMORE REDHILL	CREDIT03T	RED0135-0045	4044	RED0135-0000	12	2633	8
4	TS09) CENTENNIAL TO NEWPORT	CSUNT701T	RED0267-0065	3845	RED0267-0000	12	2610	8
5	TS10) REDHILL EDINGER (Easement)	CREDIT04T	RED0125-0030	4245	RED0125-0000	8	282	8
6	TS11) HIDDEN HILLS / ROYAL OAK / FALLENLEAF	CHAT700T	HAT0080-0125	4246	HAT0080-0000	8	1249	8
7	TS12) REDHILL OCFCD	CREDIT20T	RED0125-0020	4145	RED0125-0000	52	912	8
8	TS14) ENDERLE YORBA TO PROSPECT	CREDIT00T	RED0380-0075	3645	RED0380-0000	7	3367	8
9	TS16) SAN JUAN REDHILL (Between Redhill & Tustin, E. Dr.)	CSUNT05T	SUN0315-0515	4047	SUN0315-0480	8	1620	8
10	TS17) TUSTIN EAST TO BROWNING	CHATU01T	HAT0180-0045	4047	HAT0180-0000	12	2154	8
11	TS18) REDHILL NISSON (Easement)	CSUNT06T	SUN0315-0270	4046	SUN0315-0015	8	969	8
12	TS19) TUSTIN VILLAGE WAY	CREDIT07T	RED0120-0705	3944	RED0120-0385	12	3338	8
13	TS22) EL CAMINO REAL TO REDHILL (By School)	CSUNT08T	SUN0315-0385	3946	SUN0315-3995	13	5297	8
14	TS24) FIRST PROSPECT	CREDIT10T	RED0275-0020	3846	RED0275-0000	13	600	8
15	TS25) OLD IRVINE TO REDHILL	CSUNT11T	SUN0315-1155	3847	SUN0315-0110	8	3076	8

TROUBLE SPOTS
Sign Book With Completed Date & Initial

Trouble Spots / Location	Maint Code	Station	Map Page	Station	Freq (Wks)	Footage	Size
TS27) NEWPORT FIRST	CSUNT13T	SUN0400-0105	3846	SUN0400-0015	8	477	8
TS28) NEWPORT EL CAMINO REAL	CSUNT14T	SUN0315-0425	3945	SUN0315-0350	8	1411	8
TS34) LARINDA MALENA, ANGLIN AND GROVESTE ESMNT <i>(Last Section Night Job)</i>	CREDIT02T	RED0395-0245	3645	RED0395-0020	8	1931	8
TS35) LAURINDA 17 TH ST <i>(Every 6 Months)</i>	CREDIT15T	RED0395-0020	3645	RED0395-0000	26	998	8
TS36) PROSPECT LOMA VISTA SCHOOL	CREDU02T	RED0410-0005	3646	RED0410-0000	15	182	8
TS38) 17 TH CARROL WAY <i>(Needs Traffic Control or Night Job)</i>	CREDIT17T	RED0390-0740	3645	RED0390-0025	8	684	8
TS41) WALNUT MC FADDEN	CREDU03T	RED0145-0155	4045	RED0145-0045	8	1442	8, 10
TS47) PARKWAY LOOP	CREDIT19T	RED0105-0060	4245	RED0105-0000	30	1712	8, 10
TS54) MAIN AND C ST	CRED707T	RED0240-0025	3945	RED0240-0015	26	621	8
TS56) FIRST AND CHARLOMA	CSUNT708T	SUN0315-0845	3846	SUN0315-0080	16	2532	8
DISTRICT NO. 7							
TS39) CRAWFORD CANYON <i>(OC MINING Co.) (Needs Traffic Control or Night Job)</i>	CREDIT18T	RED0625-0440	3348	RED0625-0030	8	755	8
TS42) FOX RUN	CSUNNU04T	SUN0430-0500	3351	SUN0430-0490	13	616	8
TS44) OVERHILL MIRALARGO	CHATU05T	HAT0000-0585	3551	HAT0000-0575	13	256	8
TS63) CRAWFORD CYN RD. AND DANIGER RD.	CSUNNU07T	SUN0430-0275	3449	SUN0430-0230	5	450	8

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**FIRST AMENDMENT TO
LOCAL SEWER FACILITIES
TRANSFER AGREEMENT**

THIS FIRST AMENDMENT TO LOCAL SEWER FACILITIES TRANSFER AGREEMENT ("Agreement") is made this 22nd day of April, 2015 ("Effective Date") by and between the ORANGE COUNTY SANITATION DISTRICT ("OCSD"), a duly organized County Sanitation District existing pursuant to California Health and Safety Code section 47000 *et seq.*, and the EAST ORANGE COUNTY WATER DISTRICT ("EOCWD"), a duly organized County Water District existing pursuant to California Water Code section 30000 *et seq.* OCSD and EOCWD are sometimes hereinafter individually referred to as "Party" and hereinafter collectively referred to as "Parties".

RECITALS

WHEREAS, OCSD and EOCWD are Parties to that certain "Local Sewer Facilities Transfer Agreement," dated February 27, 2014 ("the Agreement"), in which the Parties set forth their intent to cooperate in the transfer of ownership in and the assumption of responsibility for certain local sewer facilities from OCSD to EOCWD; and

WHEREAS, the transfer process requires the approval of the Orange County Local Agency Formation Commission ("LAFCO"), and, although that process commenced in a timely manner, the LAFCO process has taken longer than the Parties anticipated; and

WHEREAS, the Parties therefore desire to amend the Agreement to extend the timelines and termination date to reflect the current status of the LAFCO process; and

WHEREAS, the Agreement provides for two disbursements of Annual Sewer Service User Fee reserves from OCSD to EOCWD, totaling \$25 million; and

WHEREAS, the Parties desire to amend the Agreement to provide for a single disbursement of the \$25 million Annual Service User Fee reserves from OCSD to EOCWD; and

WHEREAS, the Agreement does not address the diversion of wastewater from Service Area 7; and

WHEREAS, the Parties desire to amend the Agreement to prohibit the diversion of wastewater by EOCWD from Service Area 7.

AGREEMENT

NOW, THEREFORE, in consideration of the mutual promises set forth herein, the Parties agree as follows:

1. Extension of Timelines. In order to reflect the changed circumstances with regard to the timeline for completion of the transfer, "December 1, 2014" in subsections 2.a. and 3.d. shall be amended to read "December 31, 2015"; and "July 1, 2015" and "2014-2015 Fiscal Year" in subsection 3.f.i. shall be amended to read, respectively, "July 1, 2016" and "2015-2016 Fiscal Year."

2. Amendment to Section 4.

i. Subsection 4.d. shall be amended to read as follows:

d. Within five (5) business days following the Date of Reorganization, OCSD shall transfer to EOCWD \$25,000,000.00 (twenty-five million dollars) via wire transfer of the Annual Sewer Service User Fee reserves attributable to the Local Sewer Facilities ("Disbursement").

ii. Subsections 4.e., 4.f., 4.g., 4.h. and 4.i. shall be deleted in entirety.

iii. New subsection 4.e. shall be added to read as follows:

e. If, prior to the Date of Reorganization, OCSD identifies the need for a major repair or replacement of the Local Sewer Facilities, and after notifying EOCWD of the identified need, OCSD conducts such major repair or replacement, the amount of reserves transferred with the Disbursement shall be reduced by the amount of costs incurred by OCSD in connection with the required work.

iv. New subsection 4.f. shall be added to read as follows:

f. Within six (6) months following the date of Disbursement, OCSD shall reconcile its records and transfer to EOCWD the remainder of the Annual Sewer Service User Fee reserves in its possession, if any, attributable to the Local Sewer Facilities.

v. Subsections 4.j. and 4.k. shall be renumbered as 4.g. and 4.h. respectively.

3. Amendment to Section 6. Section 6 shall be amended to read as follows:

6. Term. This Agreement shall commence on the Effective Date and continue in full force and effect through December 31, 2015. The Parties may mutually agree in writing to extend the term of this Agreement. The Agreement shall automatically terminate if LAFCO disapproves the Proposal.

4. New Section 20. New Section 20 shall be added to read as follows:

20. Prohibition on Diversion of Wastewater. OCSD has planned and constructed regional conveyance and treatment facilities to serve Service Area 7. OCSD is contractually obligated to provide treated wastewater effluent from its entire service area, inclusive of Service Area 7, to Orange County Water District. EOCWD agrees that all parcels in Service Area 7 shall continue to be customers of OCSD, and that all wastewater flows from these parcels will continue to flow to OCSD for treatment. EOCWD shall not divert wastewater away from OCSD for any purpose, including but not limited to scalping wastewater for reuse.

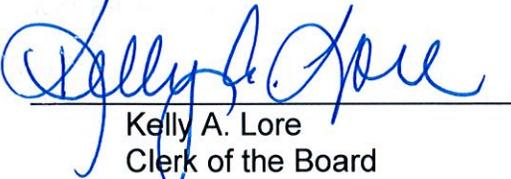
IN WITNESS WHEREOF, the Parties hereto have executed this Agreement on the dates set forth below.

**ORANGE COUNTY SANITATION
DISTRICT**

By 
James D. Herberg
General Manager

Date 04/23/2015

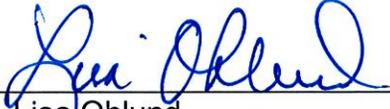
ATTEST:


Kelly A. Lore
Clerk of the Board

APPROVED AS TO FORM:


Brad Rogin
General Counsel

EAST ORANGE COUNTY WATER DISTRICT

By 
Lisa Ohlund
General Manager

Date 4/30/15

ATTEST:

APPROVED AS TO FORM:


John Bakker
Special Counsel

**LOCAL SEWER FACILITIES
TRANSFER AGREEMENT**

THIS LOCAL SEWER FACILITIES TRANSFER AGREEMENT ("Agreement") is made this 21st day of February, 2014 ("Effective Date") by and between the ORANGE COUNTY SANITATION DISTRICT ("OCSD"), a duly organized County Sanitation District existing pursuant to California Health and Safety Code section 47000 *et seq.*, and the EAST ORANGE COUNTY WATER DISTRICT ("EOCWD"), a duly organized County Water District existing pursuant to California Water Code section 30000 *et seq.* OCSD and EOCWD are sometimes hereinafter individually referred to as "Party" and hereinafter collectively referred to as "Parties".

RECITALS

WHEREAS, OCSD owns and operates regional wastewater collection, conveyance, treatment, and disposal facilities within its 471 square mile service area;

WHEREAS, OCSD owns and operates the local wastewater collection and conveyance system, encompassing approximately 174 linear miles of sewer lines and serving more than 18,000 connections, within the area known as Service Area 7, which area is more particularly identified in Exhibit "A" attached hereto and incorporated herein by reference;

WHEREAS, OCSD desires to transfer to EOCWD: (a) its ownership of certain local sanitary sewer lines and appurtenant facilities located in Service Area 7 ("Local Sewer Facilities"), which are more particularly described and delineated in attachments 1 and 2 of Exhibit "B" attached hereto and incorporated herein by reference, and (b) the responsibility for providing local sewer service to Service Area 7;

WHEREAS, EOCWD desires to acquire ownership and assume responsibility for the Local Sewer Facilities and to accept responsibility for providing local sewer service to Service Area 7;

WHEREAS, the transfer of ownership in and the assumption of responsibility for the Local Sewer Facilities to EOCWD will require the approval of the Orange County Local Agency Formation Commission ("LAFCO"); and

WHEREAS, following the transfer to EOCWD of the Local Sewer Facilities, OCSD shall retain its power to provide regional sewer service within the entirety of Service Area 7.

AGREEMENT

NOW, THEREFORE, in consideration of the mutual promises set forth herein, the Parties agree as follows:

1. Recitals. The recitals set forth above are true and correct and are incorporated into this Agreement.

2. Cooperation.

a. OCSD and EOCWD shall work cooperatively to complete the successful transfer from OCSD to EOCWD of the Local Sewer Facilities and the assumption of responsibility for ongoing operation and maintenance of the Local Sewer Facilities by EOCWD by no later than December 1, 2014. Both Parties shall execute any further documents consistent with the terms of this Agreement, including documents in recordable form, necessary or appropriate to fulfill the obligations imposed by this Agreement.

3. LAFCO Proposal.

a. *Initiation of Proceedings*. EOCWD shall, within one month (30 days) from the Effective Date, initiate proceedings under the Cortese-Knox-Herzberg Local Government Reorganization Act of 2000, as amended, Government Code section 56000, *et seq.*, requesting LAFCO approval of a reorganization proposal (the "Proposal"). The resolution of application enacted by EOCWD and submitted to LAFCO shall propose that LAFCO's approval of the Proposal shall be subject to the terms and conditions of this Agreement. EOCWD shall be solely responsible for the direct costs incurred in connection with the initiation and processing of the Proposal, and LAFCO approval thereof, including without limitation any LAFCO deposits, application or processing fees, and the cost of preparing any legal descriptions, boundary surveys or maps. The Proposal shall consist of the following:

i. The annexation of certain territory within Service Area 7 that is not within the current boundaries of EOCWD; and

ii. A proposal by EOCWD to provide a new or different service – "local" sewer service – within the entirety of Service Area 7.

b. *Public Outreach*. EOCWD desires to proactively inform the ratepayers within Service Area 7, and the general public, of the Proposal and the process for implementing it, including opportunities for public involvement. In furtherance of that desire, OCSD agrees to provide EOCWD with a mailing list of the property owners in Service Area 7 (consistent with the format used for Proposition 218 notifications) in an Excel spreadsheet or an Access compatible (SQL) database format within 30 days of EOCWD's submittal of an application to LAFCO. In the written materials, EOCWD shall accurately and fairly describe the

proposal and may indicate that the Proposal is jointly proposed and supported by EOCWD and OCSD. EOCWD shall provide OCSD an opportunity to review and approve the written material it intends to mail to the property owners in Service Area 7 prior to such mailing. OCSD shall approve, or request changes to, the written materials within ten days of receipt. If OCSD fails to approve or request revisions within 10 days, it shall be deemed to have approved the materials. OCSD shall approve, or request changes to, revised written materials that incorporate or respond to OCSD's requests for changes within 5 days of receipt, or the materials shall be deemed approved. All costs of producing such material and mailing it will be paid by EOCWD.

c. *Letter of Support.* OCSD shall cooperate with EOCWD and use its best efforts to support the Proposal in accordance with the terms of this Agreement. OCSD shall, within 45 days of EOCWD's filing of the Proposal with LAFCO, file with LAFCO a formal Letter of Support in favor of the Proposal executed by the General Manager ("Letter of Support"). The Letter of Support shall propose that LAFCO's approval of the Proposal shall be subject to the terms and conditions of this Agreement. OCSD shall execute such documents and take such other actions to support and facilitate the processing of the Proposal as may be reasonably requested by EOCWD, provided such actions shall not result in any cost or expense to OCSD (other than overhead and employee staff time).

d. *Continuing Support for Proposal.* The Parties agree to support and not oppose the Proposal before and after it is initiated. Specifically, OCSD and EOCWD will cooperate and consult with one another in responding to questions and inquiries from LAFCO, the public and the press, appear in support of the Proposal at LAFCO hearings, and cooperate on a joint response in the event that LAFCO or LAFCO staff propose to alter the Proposal. Furthermore, OCSD agrees that, prior to December 1, 2014, or such earlier time as the LAFCO proceedings have been completed or disapproved, it will not engage in negotiations with other entities regarding the transfer of the Local Sewer Facilities. Both Parties shall support the conditioning of LAFCO's approval of the Proposal on the performance of the terms and conditions of this Agreement. If LAFCO or LAFCO staff propose an alteration to the Proposal that materially diverges from the terms and conditions of this Agreement, either Party may, after consultation with the other Party, oppose the alteration, and if necessary, withdraw its support, and actively oppose LAFCO's approval of the Proposal.

e. *Tax Exchange Negotiations and Consultations.* The Parties shall cooperate in seeking to have the Board of Supervisors adopt a property tax exchange resolution pursuant to Revenue and Taxation Code section 99 exchanging property tax from OCSD to EOCWD. The Parties agree that in the tax exchange negotiation and consultation process they will jointly support and advocate for having all of the property tax associated with the Local Sewer Facilities be exchanged from OCSD to EOCWD. In Fiscal Year 2012-2013, the

estimated property tax collected for the local sewers was \$287,000.00 (two hundred eighty seven thousand dollars).

f. *Local Sewer Service User Fee.*

i. OCSD's Annual Local Sewer Service User Fee ("the Fee") shall be continued and following the effective date, to the extent feasible, shall be collected by EOCWD rather than by OCSD. OCSD collects the Fee by reporting it to the County of Orange, which collects it on the property tax roll, and EOCWD intends to do the same. Should it not be feasible, due to statutory or County requirements, for responsibility for collection of the Fee for the 2014-2015 Fiscal Year to be transferred to EOCWD, OCSD shall account for and transmit, within 5 business days of receipt, any such revenues it receives from the County that are attributable to the Fee imposed in Service Area 7. OCSD shall rescind the Fee, as it pertains to the Local Sewer Facilities, by no later than July 1, 2015, or at such earlier time as EOCWD may enact its own local sewer service user fees.

ii. EOCWD shall indemnify, defend and hold harmless, OCSD, its officers, directors, employees and agents from and against any and all claims, actions, damages, liabilities, and expenses (including attorney's fees and reasonable expenses for litigation or settlement) in connection with or arising out of OCSD's assessment, distribution, and collection of the Fee, including without limitation any such claims asserting that the collection by OCSD and transfer of the Fee to EOCWD violates Proposition 218.

4. Transfer of Local Sewer Facilities.

a. Upon the effective date of LAFCO's approval of the Proposal and the requested reorganization ("Date of Reorganization"), EOCWD shall accept ownership of the Local Sewer Facilities and all maintenance responsibilities, as well as the responsibility for all sewer spill notification, reporting, and related regulatory activities. Furthermore, EOCWD shall negotiate, execute and maintain its own contracts with third-party contractors for line-cleaning, CCTV, rehabilitation, repairs and replacement, engineering consultants, and similar services, and directly pay all costs for such contracts.

b. Prior to the Date of Reorganization, EOCWD shall fully execute and deliver to OCSD the Quitclaim Deed, attached hereto as Exhibit "B", transferring ownership of the Local Sewer Facilities from OCSD to EOCWD.

c. Within five (5) business days following the Date of Reorganization, OCSD shall submit the Quitclaim Deed for recordation in the Official Records, Orange County California. Upon recordation, OCSD shall transmit a conformed copy of the Quitclaim Deed to EOCWD.

d. Within five (5) business days following the Date of Reorganization, OCSD shall transfer to EOCWD \$15,000,000.00 (fifteen million

dollars) via wire transfer of the Annual Sewer Service User Fee reserves attributable to the Local Sewer Facilities ("First Disbursement").

e. On July 1, 2018, OCSD shall transfer to EOCWD \$10,000,000.00 (ten million dollars) via wire transfer of the Annual Sewer Service User Fee reserves attributable to the Local Sewer Facilities ("Second Disbursement").

f. If, after the Date of Reorganization and prior to July 1, 2018, EOCWD identifies the need for a major repair or replacement of the Local Sewer Facilities, OCSD shall release to EOCWD a mutually agreed upon portion of the Second Disbursement, as necessary to complete the required work in a timely manner. Any such release will result in a proportionate reduction of reserves transferred with the Second Disbursement.

g. If, prior to the Date of Reorganization, OCSD identifies the need for a major repair or replacement of the Local Sewer Facilities, and after notifying EOCWD of the identified need, OCSD conducts such major repair or replacement, the amount of reserves transferred with the First Disbursement, and if necessary, the Second Disbursement shall be reduced by the amount of costs incurred by OCSD in connection with the required work.

h. After closing its books for the 2017-2018 Fiscal Year, and by no later than November 1, 2018, OCSD shall transfer to EOCWD the remainder of the Annual Sewer Service User Fee reserves, if any, attributable to the Local Sewer Facilities.

i. OCSD shall pay to EOCWD annual interest at the OCSD average rate of return on the amount of Annual Sewer Service User Fee reserves attributable to the Local Sewer Facilities retained by OCSD between the date of the First Disbursement and the Second Disbursement. OCSD shall make the annual interest payments after it has closed its books for each respective fiscal year, but by no later than November 1.

j. Upon the Date of Reorganization, OCSD shall transfer ownership of the following vehicles to EOCWD: (a) a 2000 Sterling Vactor (OCSD vehicle 470, California license number 1067492, vehicle identification number (VIN) 2FZ6BJBB81AH61833), and (b) a 1995 FE42 Volvo Hydroflusher truck (OCSD vehicle 396, California license number 356619, vehicle identification number (VIN) 4V52AFHD0SR474402). These vehicles shall be provided to EOCWD "as is" and with no warranties or representations whatsoever as to the condition of the vehicle, or the suitability of the vehicle for any purpose. EOCWD hereby acknowledges that it has/will be granted the opportunity to inspect the vehicles and their maintenance records and has/will do so prior to the Date of Reorganization.

9. Governing Law. This Agreement shall be governed by the laws of the State of California.

10. Entire Agreement. This Agreement constitutes the entire understanding and agreement between the Parties and supersedes all previous negotiations between the Parties pertaining to the subject matter thereof.

11. Waiver. A waiver of a breach of the covenants, conditions or obligations under this Agreement by either Party shall not be construed as a waiver of any succeeding breach of the same or other covenants, conditions or obligations of this Agreement.

12. Modification. Alteration, change or modification of this Agreement shall be in the form of a written amendment, which shall be signed by each Party.

13. Severability. Whenever possible, each provision of this Agreement shall be interpreted in such a manner as to be effective and valid under applicable law, but if any provision of this Agreement shall be invalid under the applicable law, such provision shall be ineffective only to the extent of such prohibition or invalidity, without invalidating the remainder of that provision, or the remaining provisions of this Agreement.

14. No Obligation to Third Parties. Execution and delivery of this Agreement shall not be deemed to confer any rights upon others, directly, indirectly or by way of subrogation, and shall not obligate either of the Parties hereto to any person or entity other than each other and their respective affiliates.

15. Successors. This Agreement and the provisions contained herein shall be binding upon and inure to the benefit of OCSD, EOCWD, and their respective heirs, executors, administrators, personal representatives, successors and assigns.

16. Indemnification.

a. EOCWD shall indemnify, defend and hold harmless OCSD, its officers, directors, employees and agents from and against any and all claims, actions, damages, liabilities and expenses (including attorney's fees and reasonable expenses for litigation or settlement) for any loss or damage, including death, bodily injury or damage to or loss of use of property, caused by negligent acts or omissions or willful misconduct by the EOCWD, its officers, directors, employees and agents in connection with or arising out of the performance of this Agreement.

b. OCSD shall indemnify, defend and hold harmless EOCWD, its officers, directors, employees and agents from and against any and all claims, actions, damages, liabilities and expenses (including attorney's fees and

reasonable expenses for litigation or settlement) for any loss or damage, including death, bodily injury or damage to or loss of use of property, caused by negligent acts or omissions or willful misconduct by OCSD, its officers, directors, employees and agents in connection with or arising out of the performance of this Agreement.

c. The Parties acknowledge that LAFCO policy requires applicants to defend, indemnify, hold harmless, and release LAFCO, its agents, officers, attorneys, and employees from any claim, action, or proceeding brought against any of them, the purpose of which is to attack, set aside, void, or annul the approval of the application or the environmental document that accompanies it. The parties further acknowledge that this indemnification obligation will include, but not be limited to, damages, costs, expenses, attorney fees, or expert witness fees that may be asserted by any person or entity, including the applicant, arising out of or in connection with the approval of the application. As the applicant, EOCWD will be required to execute such an indemnification agreement with LAFCO, and, as a result, EOCWD may incur substantial costs paying for LAFCO's defense and indemnifying any liability. Notwithstanding anything to the contrary in the foregoing, If LAFCO does not approve the EOCWD Proposal, OCSD agrees to pay one-half of EOCWD's actual costs, associated with indemnifying LAFCO pursuant to the indemnification agreement it will be obligated to sign, as those costs are incurred; however, OCSD's payment hereunder shall not exceed \$100,000.00 (one hundred thousand dollars) in total. Furthermore, if LAFCO approves the EOCWD Proposal, OCSD shall have no obligation to pay any of EOCWD's actual costs associated with indemnifying LAFCO. EOCWD shall promptly advise OCSD if the indemnification agreement it is obligated to sign as the applicant is materially different than described in this paragraph, and it shall notify OCSD if LAFCO notifies EOCWD of a legal challenge covered by the indemnification agreement.

17. OCSD Board of Directors. The Parties acknowledge that nothing contained herein shall entitle EOCWD to a seat on the OCSD Board of Directors, and that any such change would require an amendment to Health and Safety Code section 4730.65, which governs the composition of the OCSD Board of Directors.

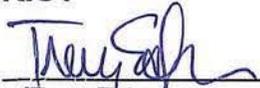
18. No Warranty of Title or Condition. OCSD makes not warranty or representation of any kind regarding its title to the Local Sewer Facilities, the condition of the Local Sewer Facilities, or the suitability of the Local Sewer Facilities for any purpose. EOCWD has been granted an opportunity to fully inspect the Local Sewer Facilities and has done so as of the Effective Date. EOCWD accepts the Local Sewer Facilities "as is".

19. Authorization. Each of the undersigned represents and warrants that he or she is duly authorized to execute and deliver this Agreement and that such execution is binding upon the entity for which he or she is executing this document.

[SIGNATURES ON FOLLOWING PAGE]

IN WITNESS WHEREOF, the Parties hereto have executed this Agreement on the dates set forth below.

ORANGE COUNTY SANITATION DISTRICT

By 
Troy Edgar,
Chairman of the Board

Date 2/26/14

ATTEST:


Maria Ayala
Clerk of the Board

APPROVED AS TO FORM:


Brad Hogin
General Counsel

EAST ORANGE COUNTY WATER DISTRICT

By 
William VanderWerff
President of the Board of Directors

Date 2/27/14

ATTEST:

APPROVED AS TO FORM:

 
Joan Arneson John Bakker
General Counsel Special Counsel



MEMO

TO: BOARD OF DIRECTORS
FROM: GENERAL MANAGER
SUBJECT: DISTRICT RESERVE POLICY UPDATE
DATE: FEBRUARY 27, 2014

Background

As noted in the California Special District Association's *2013 Reserve Fund Guidelines*, "Reserves are the foundation of the sustainable delivery of core services. Through prudent reserves, special districts offer taxpayers and ratepayers significant benefits including:

1. Savings to balance budgets
2. Emergency preparedness
3. Stable rates
4. Well-maintained infrastructure
5. Investment in the future"

The District adopted its current reserve fund policies, Resolution 595, Reserve & Contingency Fund Policy and Resolution 596, Capital Projects Fund in 2001. Staff recently reviewed these policies and recommended to the Finance Committee that they be consolidated into one policy, and then reviewed and updated based upon best practice information from the water industry. The proposed updated and Reserve Fund Policy (Reserve Policy) is attached.

The proposed Reserve Policy incorporates Resolutions 595 and 596 by reference, as well as Resolution 669 that established the Wholesale Zone and Retail Zone as separate enterprise funds. The proposed policy defines restricted, unrestricted and designated reserves and establishes, operating reserves, capital reserves and self-insurance and litigation reserves. The policy also establishes how these reserves can be used and restates the annual requirements to examine the reserve levels during the budget process.

The Finance Committee reviewed the proposed policy at the November, January and February meetings and recommends approval.

Recommendation

The Board approve Resolution No. 14-___ approving a Reserve Funds Policy.

RESOLUTION NO. ____

**RESOLUTION OF THE BOARD OF DIRECTORS OF
THE EAST ORANGE COUNTY WATER DISTRICT
APPROVING RESERVE FUNDS POLICY**

WHEREAS, key elements of prudent financial planning and fiscal responsibility are to ensure that sufficient funding is available for current operating, capital and debt service cost needs and to anticipate and prepare for future funding requirements as well as for unforeseen disasters and other unforeseen events; and

WHEREAS, the East Orange County Water District desires to set forth a policy for maintaining reserve funds within each of the District’s separate enterprise funds (including the Wholesale System and Retail Zone operating funds and replacements and capital improvements funds and the wholesale emergency/contingency/reserve fund maintained within such enterprise funds) and within such other enterprise funds as the District may establish and maintain from time to time;

NOW, THEREFORE, the Board of Directors of the East Orange County Water District DOES HEREBY RESOLVE, DETERMINE AND ORDER as follows:

Section 1. The Reserve Funds Policy of the East Orange County Water District is hereby approved in the form presented to the Board of Directors by the Treasurer. This policy shall remain in effect until it is amended or superseded by a subsequently adopted policy.

Section 2. The District’s Accountant and other staff of the District are hereby authorized and directed to take steps to implement the directives as set forth in the Policy and make reports to the Board of Directors as described therein.

ADOPTED, SIGNED AND APPROVED this 27th day of February, 2014.

President
EAST ORANGE COUNTY WATER DISTRICT
and of the Board of Directors
thereof

Secretary
EAST ORANGE COUNTY WATER DISTRICT
and of the Board of Directors
thereof

STATE OF CALIFORNIA)
) ss
COUNTY OF ORANGE)

I, JOAN C. ARNESON, Secretary of the Board of Directors of the EAST ORANGE COUNTY WATER DISTRICT, do hereby certify that the foregoing Resolution No. ____ was duly adopted by the Board of Directors of said District at an adjourned Regular Meeting of said District held on February 27, 2014, and that it was so adopted by the following vote:

AYES: BELL, DAVERT, DULEBOHN, VANDERWERFF, _____

NOES: NONE

ABSENT: NONE

ABSTAIN: NONE

Secretary
EAST ORANGE COUNTY WATER DISTRICT
and of the Board of Directors
thereof

East Orange County Water District Reserve Funds Policy

PURPOSE

A key element of prudent financial planning is to ensure that sufficient funding is available for current operating, capital and debt service cost needs. An additional critical element of fiscal responsibility is to anticipate and prepare for future funding requirements as well as for unforeseen disasters and other unforeseen events. The East Orange County Water District (District) will at all times strive to have sufficient funding available to meet its operating, capital, and debt service cost obligations. Reserve funds will be accumulated and maintained in a manner, which allows the District to fund costs consistent with long range financial and capital planning, avoiding significant rate fluctuations due to changes in cash flow requirements. Reserve funds will also include an emergency reserve position that may be utilized to fund unexpected disasters or unanticipated major failures. The Board of Directors will annually review the level of reserve funds maintained, including as provided in Resolution No. **595** (restating policy concerning maintenance and use of emergency/contingency/reserve (“ECR”) fund and establishing replacements and capital improvements (“RCI”) fund – wholesale system) and Resolution No. **596** (designating capital projects fund as replacements and capital improvements (“RCI”) fund – retail zone, and restating policy concerning maintenance and use thereof) (the “Reserve Fund Resolutions”).

The District shall maintain reserve funds within each of the separate enterprise funds (including the Wholesale System and Retail Zone operating funds and RCI funds and the Wholesale ECR Fund maintained within such enterprise funds) and within such other enterprise funds as the District may establish and maintain from time to time (ref. Resolution No. 669). This policy establishes the level of reserves necessary for maintaining the District's credit worthiness and for adequately providing for:

- Funding infrastructure replacement.
- Economic uncertainties and other financial hardships.
- Loss of significant revenue sources such as property tax receipts or connection fees.
- Local disasters or catastrophic events.
- Future debt or capital obligations.
- Cash flow requirements.
- Unfunded mandates including costly regulatory requirements.
- Projects or programs, including litigation, that the Board has determined to be of significant benefit to the majority of the customers of the District.

DEFINITIONS:

Restricted Reserves: Restrictions on their use are imposed by an outside source such as creditors, grantors, contributors, or laws or regulations of other governments.

Unrestricted Reserves: Have no externally imposed use restriction. The use of Unrestricted Reserve funds is at the discretion of the Board of Directors. There are two categories of Unrestricted Reserves - Designated and Undesignated. At the District, all Unrestricted Reserves are Designated Reserves. [Lisa: I think a legal argument can be made, from a constitutional perspective, that a special district's funds are never “unrestricted” (but I’ve never been able to convince an auditor of this....)]

Designated Reserves: Set-aside for a specific purpose, which is, determined by the Board of Directors. The Board of Directors also has the authority to redirect the use of these reserve funds as needs of the District change. These reserves have various names (e.g., Operating Reserve, Capital Reserve, etc.) to indicate the subgroup use for the specific reserve fund.

Capital Reserve Fund Charge (Wholesale): a fee or charge, which may from time to time be levied by the Board of Directors relative to wholesale water sales, connections, or otherwise in the wholesale system pursuant to Resolution No. 595, to provide funds necessary to contribute such amounts to the wholesale RCI, ECR or reserves within the wholesale enterprise funds as the Board may deem reasonable and proper.

Capital Projects Fee (Retail): The monthly fee, referred to in the schedule of rates as the "Monthly Fee for Existing Water System Capital Projects" or similar term, levied for the cost of repairing, rehabilitating, replacing and/or improving capital facilities in the Retail Zone water system.

POLICY

Operating Reserves

Operating reserves are used to fund ongoing cash flow needs of the agency. Due to the large variability in the month-to-month cash flow needs due to the seasonal demand for water, the minimum amount of operating reserves will equal ten (10) months of budgeted operating expenses. The maximum amount of operating reserves will equal twelve (12) months of operating expenses.

Capital Reserves

Capital reserves will be accumulated to fund infrastructure projects and will be an integral part of the District's capital plan documented in its Five-Year Capital Improvement Program, Ten-Year Forecast and Reserve Fund Resolutions. A key objective for accumulating capital reserves is to minimize external borrowing and interest expense. The minimum amount of capital reserves will equal one year's capital spending. The maximum amount of capital reserves will equal two times the accumulated depreciation balance.

It is the practice of the District, in regards to capital expenditures, to follow a "pay as you go (PAYGO)" philosophy. That is, capital expenditures are funded out of the current year collections of the Capital Reserve Fund Charge and/or Capital Projects Fee for all funds ?]. To the extent that the current year's Capital Replacement/Reserve Fees plus capital reserves in a fund are insufficient to cover the District's Five-Year Capital Improvement Program, then the District will investigate alternative funding or rate adjustments.

The appropriate Capital Reserve Fund balances will be determined as follows:

1. Funds available from Capital Replacement Fees will be projected for five- and ten-year periods.
2. Capital expenditures will be projected for five- and ten-year periods.
3. The Capital Reserve will be the difference between the funds available (Item 1) and the funds required (Item 2), but no less than two times the accumulated depreciation balance.

Advances from any enterprise funds Capital Reserves may be made to meet expenses in another enterprise funds upon the determination of the Board of Directors of the need for the advance and satisfactory assurance of repayment, and upon such terms for repayment as the

Board shall establish.

Self-Insurance and Litigation Reserves

The District is self-insured up to \$25,000 for each claim and maintains pooled property and liability insurance through the Association of California Water Agencies for claims up to \$2,000,000. Additionally, periodically the District may have extraordinary litigation expenses that exceed annual operating budget expenses. The minimum self-insurance and litigation reserve will equal \$500,000; the maximum self-insurance and litigation reserve will total \$5,000,000.

DRAFT

PROCEDURE FOR USING RESERVE FUNDS

Operating and Self-Insurance and Litigation Reserves

Operating and self-insurance reserves can be used at any time to meet cash flow requirements of District operations. Authority to use the funds will be consistent with the District's Purchasing Policy.

Capital Reserves

The Board of Directors will authorize use of capital reserves during the budget process. Capital reserves are also available for unplanned (unbudgeted) capital replacement. Authorization for the use of capital reserves for unplanned capital replacement will be consistent with the District's Purchasing Policy.

PROCEDURE FOR MONITORING RESERVE LEVELS

The Accountant shall perform a reserve analysis to be submitted to the Board of Directors upon the occurrence of the following events:

- Board of Directors' deliberation of the annual budget;
- Board of Directors' deliberation of a service charge rate increase;
- Upon renewal of the self-insurance excess insurance coverage; or,
- When a major change in conditions threatens the reserve levels established within this policy.

If the analysis indicates projected or actual reserve levels falling 10% below or above the levels outlined in this policy, at least one of the following actions shall be included with the analysis:

- An explanation of why the reserve levels are not at the targeted level, and/ or
- An identified course of action to bring reserve levels within the minimum and maximum levels prescribed.

East Orange County Water District Reserve Funds Policy

PURPOSE

A key element of prudent financial planning is to ensure that sufficient funding is available for current operating, capital and debt service cost needs. An additional critical element of fiscal responsibility is to anticipate and prepare for future funding requirements as well as for unforeseen disasters and other unforeseen events. The East Orange County Water District (District) will at all times strive to have sufficient funding available to meet its operating, capital, and debt service cost obligations. Reserve funds will be accumulated and maintained in a manner, which allows the District to fund costs consistent with long range financial and capital planning, avoiding significant rate fluctuations due to changes in cash flow requirements. Reserve funds will also include an emergency reserve position that may be utilized to fund unexpected disasters or unanticipated major failures. The Board of Directors will annually review the level of reserve funds maintained, including as provided in Resolution No. 595 (restating policy concerning maintenance and use of emergency/contingency/reserve (“ECR”) fund and establishing replacements and capital improvements (“RCI”) fund – wholesale system) and Resolution No. 596 (designating capital projects fund as replacements and capital improvements (“RCI”) fund – retail zone, and restating policy concerning maintenance and use thereof) (the “Reserve Fund Resolutions”).

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Self-Insurance and Litigation Reserves

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PROCEDURE FOR USING RESERVE FUNDS

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PROCEDURE FOR MONITORING RESERVE LEVELS

The Accountant shall perform a reserve analysis to be submitted to the Board of Directors upon the occurrence of the following events:

- Board of Directors' deliberation of the annual budget;
- Board of Directors' deliberation of a service charge rate increase;
- Upon renewal of the self-insurance excess insurance coverage; or,
- When a major change in conditions threatens the reserve levels established within this policy.

If the analysis indicates projected or actual reserve levels falling 10% below or above the levels outlined in this policy, at least one of the following actions shall be included with the analysis:

- An explanation of why the reserve levels are not at the targeted level, and/ or
- An identified course of action to bring reserve levels within the minimum and maximum levels prescribed.

IRWD Emergency Response Equipment

The following list of emergency response equipment owned and operated by IRWD and available for sewer operations and emergency response was provided in the District's application to LAFCO.

- 4 Hydro / Combination vacuum trucks
- 3 Hydro/Jetter trucks
- 1 trailer-mounted Hydro/Jetter Unit
- 2 CCTV inspection units (one additional budgeted for FY 2015-16)
- 5 construction crew trucks
- 5 fully equipped maintenance and repair crew trucks
- 5 large dump trucks
- 4 full size backhoes
- 5 medium dump trucks
- 1 large front end loader
- 1 extended reach backhoe
- 2 Bobcat skip loaders
- 2 Bobcat excavator/backhoes
- Trainer mounted 6-inch, 10-inch and 12-inch sewage bypass pumps
- 1,8000 feet of 6-inch bypass hose
- 3,300 feet of 8-inch bypass hose
- 1,980 feet of 12-inch bypass hose
- Mobile Spill Containment Unit (a trailer pre-loaded with miscellaneous containment supplies, pumps disinfectant, and other materials)

Chapter 8 Overflow Emergency Response Plan

The purpose of the Overflow Emergency Response Plan (OERP) is to support an orderly and effective response to Sanitary Sewer Overflows (SSOs). This plan provides guidelines for District personnel to follow in responding to, cleaning up, and reporting SSOs that may occur within the District's service area.

8.1 Regulatory Requirements

IRWD shall develop and implement an overflow emergency response plan that identifies measures to protect public health and the environment. At a minimum, this plan must include the following:

- (a) *Proper notification procedures so that the primary responders and regulatory agencies are informed of all SSOs in a timely manner;*
- (b) *A program to ensure appropriate response to all overflows;*
- (c) *Procedures to ensure prompt notification to appropriate regulatory agencies and other potentially affected entities (e.g. health agencies, regional water boards, water suppliers, etc.) of all SSOs that potentially affect public health or reach the waters of the State in accordance with the Monitoring and Reporting Program. All SSOs shall be reported in accordance with this MRP, the California Water Code, other State Law, and other applicable Regional Water Board Waste Discharge Requirements or National Pollutant Discharge Elimination System (NPDES) permit requirements. The SSMP should identify the officials who will receive immediate notification;*
- (d) *Procedures to ensure that appropriate staff and contractor personnel are aware of and follow the Emergency Response Plan and are appropriately trained;*
- (e) *Procedures to address emergency operations, such as traffic and crowd control and other necessary response activities; and*
- (f) *A program to ensure that all reasonable steps are taken to contain untreated wastewater and prevent discharge of untreated wastewater to waters of the United States and minimize or correct any adverse impact on the environment resulting from the SSOs, including such accelerated or additional monitoring as may be necessary to determine the nature and impact of the discharge.*

8.2 Goals of the Overflow Emergency Response Plan

The District's goals with respect to responding to SSOs are:

- Work safely;
- Minimize public contact with the spilled wastewater;
- Respond quickly to minimize the volume of the SSO;
- Eliminate the cause of the SSO;
- Contain the spilled wastewater to the extent feasible;
- Prevent sewage system overflows or leaks from entering the storm drain system or receiving waters to the maximum extent practicable;
- Mitigate the impact of the SSO; and
- Meet the regulatory reporting requirements.

8.3 SSO Detection

The processes that are employed to notify the District of the occurrence of an SSO include: observation by the public, receipt of an alarm, or observation by District staff during the normal course of their work.

8.3.1 Public Observation and Emergency Communications

Public observation is the most common way that the District is notified of blockages and spills. Contact information for reporting sewer spills is located on monthly water bills and on the District's website at www.irwd.com/about-us/contact.

8.3.1.1 Normal Work Hours

The normal working hours for District office staff, including Customer Service staff responsible for answering emergency calls, is from 7:30 a.m. to 5:00 p.m. Monday through Thursday. The office is open every other Friday from 7:30 a.m. to 4:00 p.m. Customer service staff are available to answer calls every Friday from 7:30 a.m. to 4:00 p.m. The normal working hours for District's Collection System Maintenance field crews are Monday through Thursday from 6:30 a.m. to 4:00 p.m. and every Friday from 6:30 a.m. to 3:00 p.m., except holidays. When a report of a sewer spill or backup is made, the Customer Service representative receives the call, takes the information from the caller and communicates this information to the Collection System Manager or Supervisors who dispatch a field crew to the site. Emergency calls received by the City of Irvine or County of Orange are routed to the IRWD Customer Service main line.

8.3.1.2 After Hours

After hours emergency calls go to the District's after hours answering service. The District's after hours answering service staff are trained to gather basic information regarding a customer complaint and relay this information to the District Primary Responder. The District Primary Responder is trained to investigate any emergency issue and is responsible for either addressing the issue or contacting an appropriate standby response crews. The Preventive Maintenance Manager in Department 40 is responsible for maintaining the Standby List for all departments containing the names, phone numbers, and responsibilities for standby employees and distributing an updated list weekly via e-mail.

The District's after hours approach to sewer overflow response is to include employees with different skill sets on the Standby List enabling the District to respond quickly and effectively to a variety of emergencies involving sewer pipelines or sewer pump stations. The Standby List includes the following designations for standby employees:

Table 8-1: Standby List Positions and Roles

Standby Position	Roles
Primary Responder	Investigate service calls and either address issue or request support from specialized standby personnel as needed.
First Backup	Provide backup support to primary responder as requested.
Second Backup	Provide backup support to primary responder as requested.
Collection System (1 st)	Respond to sewer-related service calls when requested by Primary Responder.
Collection System (2 nd)	Respond to sewer-related service calls when requested by Primary Responder.
Electrical Services	Respond to service calls requiring expertise in electrical systems. This includes electrical systems for sewer pump station issues.
Water System Operator	Responds to service calls requiring water system operational expertise.
Water Quality	Responds to service calls involving water quality issues.
Standby Manager	A list is provided to standby staff for all IRWD managers. All managers are available to respond during off-hours.
LAWRP Plant Operator	Respond to after hours issues related to, or requiring coordination with, LAWRP operations.
MWRP Treatment Plant Operator	Respond to after hours issues related to, or requiring coordination with, MWRP operations.

Information from the emergency call is recorded on the Spill Response Field Report Form included in **Appendix H**.

8.3.1.3 Routing of Calls

Any calls answered by the District's answering service are routed to the Primary Responder on the Standby List. District customer service staff are trained to send sewer overflow calls to the Collection System Maintenance Supervisor during normal business hours and to the Collection System First Responder after 4:00 p.m. on Monday thru Thursday and after 3:00 p.m. on Friday.

8.4 SSO Response Procedures

Sewer service calls are high priority events that demand a prompt response to the location of the problem. Upon notification of a potential sewer overflow, a District Primary Responder shall be dispatched onsite within 30 minutes during normal working hours and during standby. During normal working hours, the District's Primary Responder will be a Department 570 Collection System maintenance crew. During after hours, the District's Primary Responder will be assigned personnel from Department 420, 425, or 430 who will investigate the service call to determine the appropriate response.

The response procedures for SSOs caused by District-owned sewers, private laterals within the District service area, and surrounding Agency sewers are depicted in **Figures 8-1, 8-2, and 8-3**.

Figure 8-1: SSO Response Procedure Flow Chart

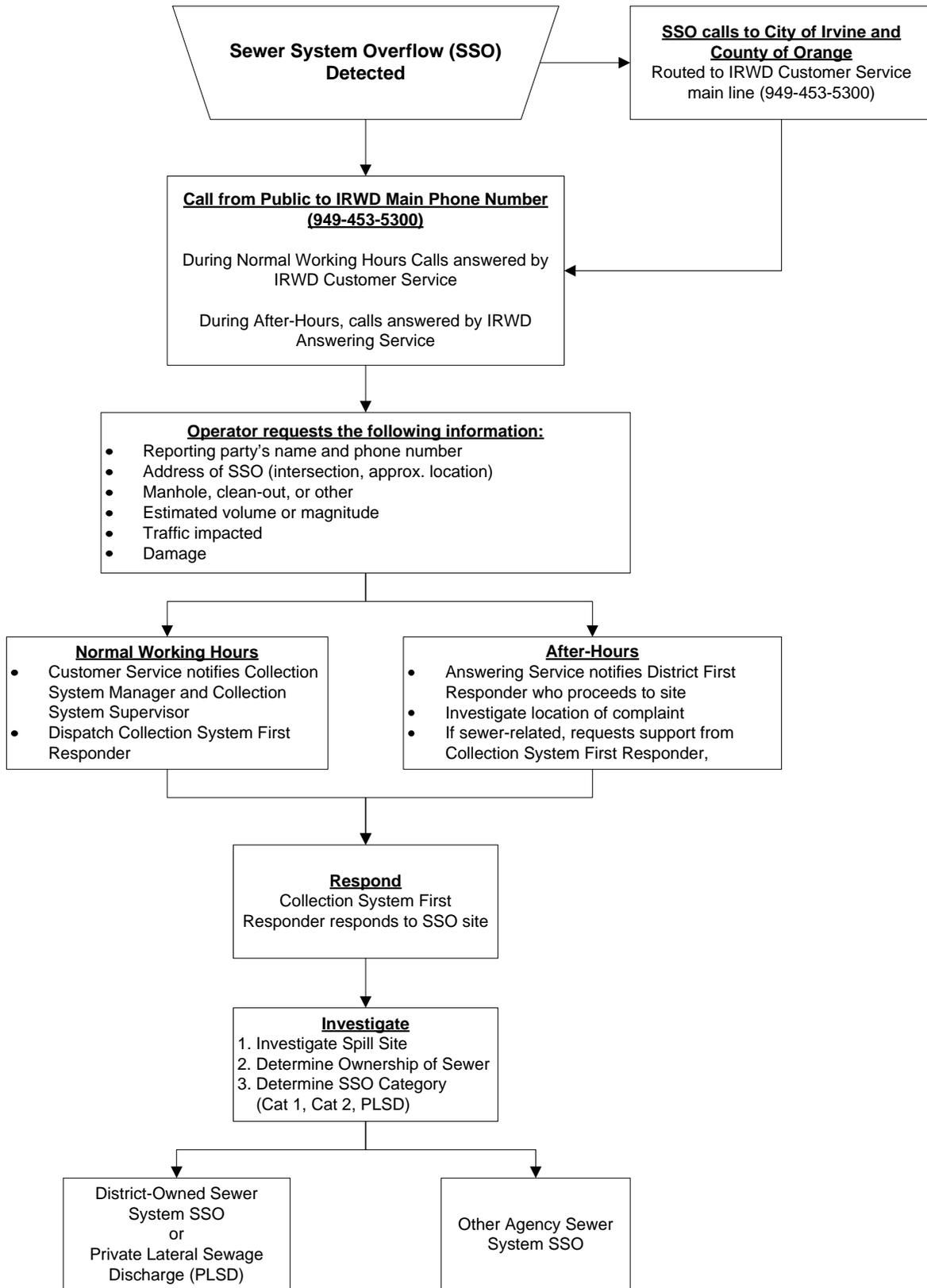


Figure 8-2: SSO Response Flow Chart for District-Owned Sewer SSOs

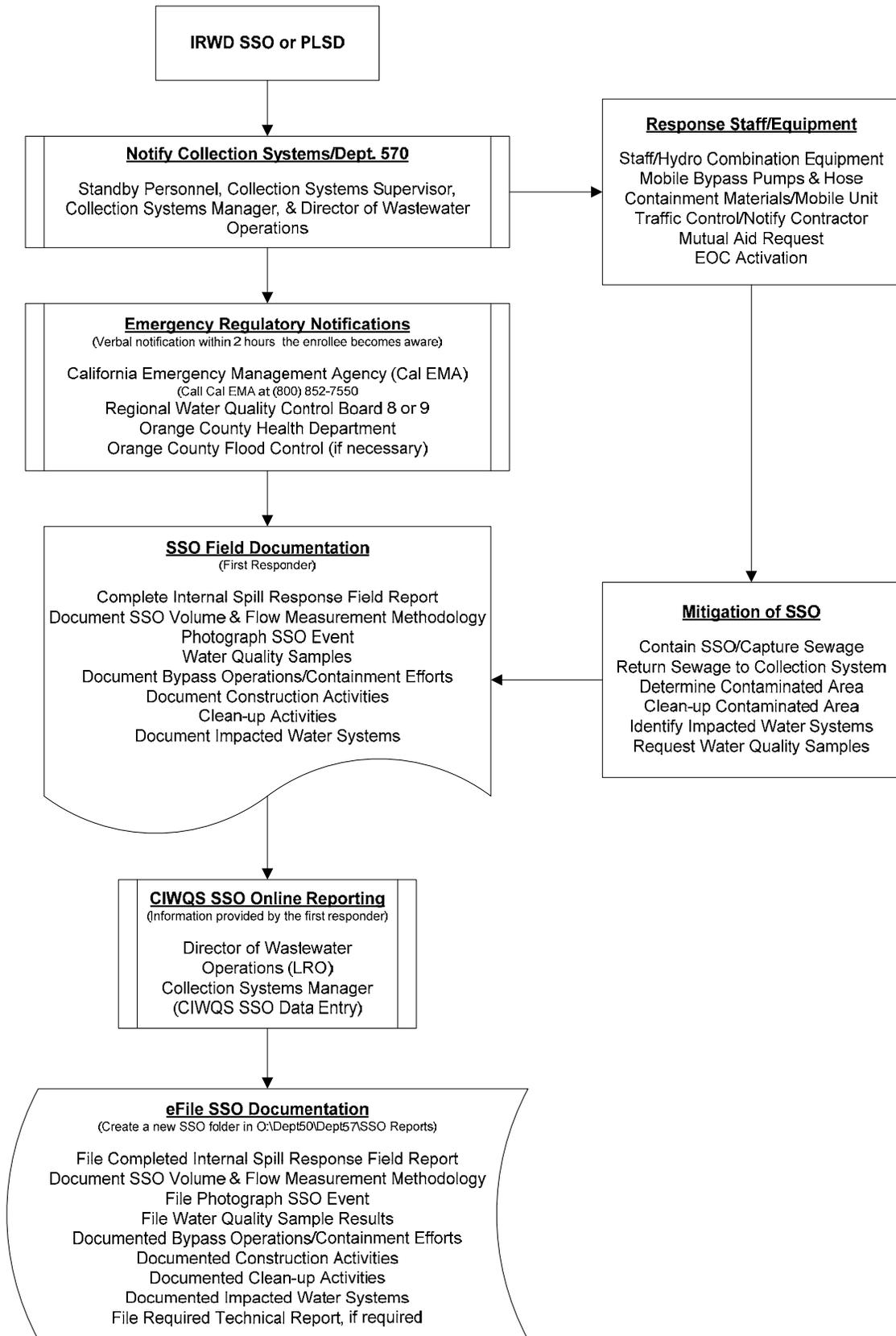
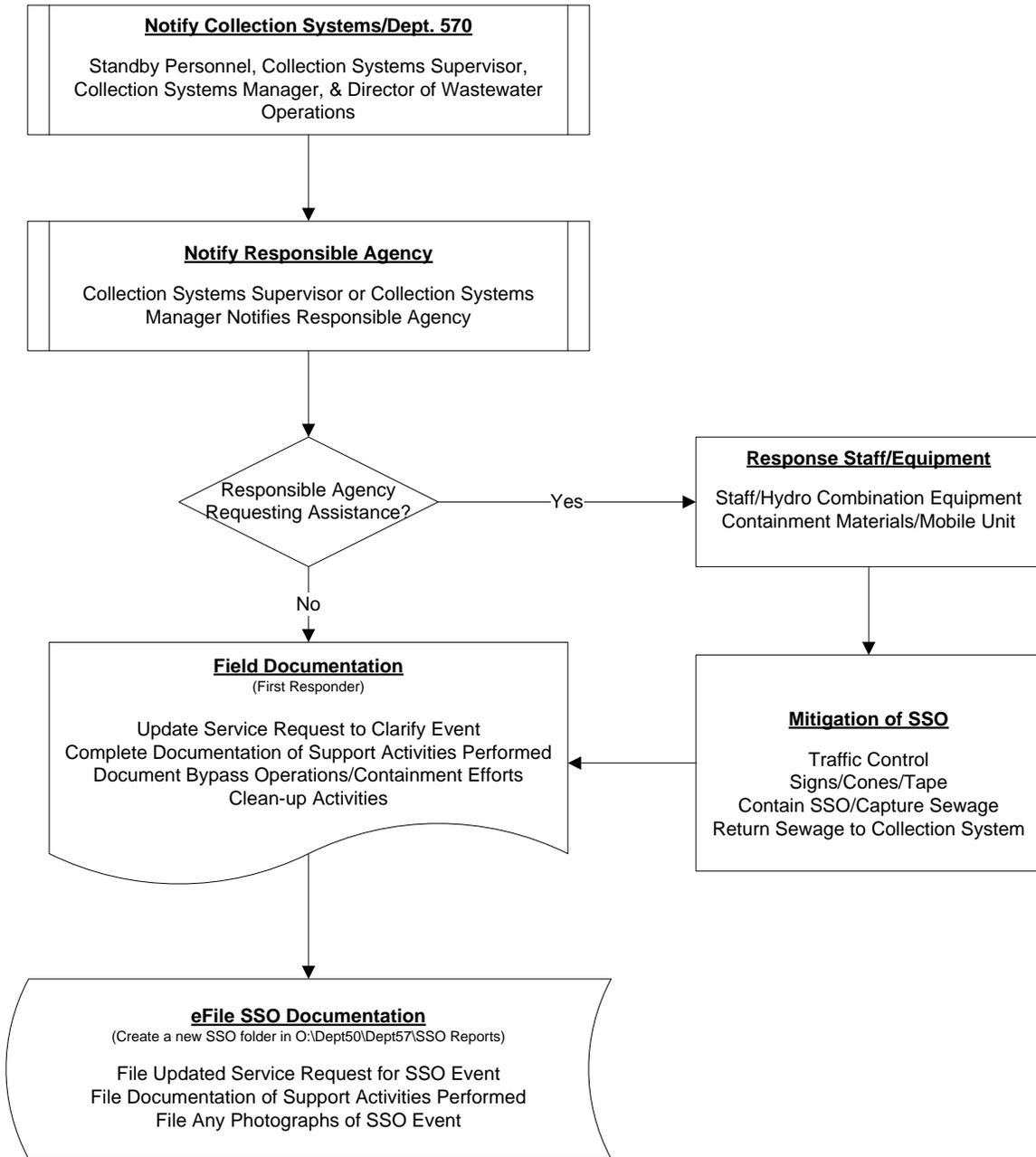


Figure 8-3: SSO Response Flow Chart for SSOs in Sewers Not Owned by District



8.4.1 Safety

The District's Primary Responder, as first responder, is responsible for following District safety procedures at all times.

8.4.1.1 Traffic Control

Traffic control requirements vary depending on the location and the risk to operating personnel and the public. CalTrans standards are the minimum for congested and/or high-speed streets and highways. The minimum traffic controls for low-speed/low-traffic-density streets should conform to the Federal Highway Administration Manual on Uniform Traffic Control Devices (MUTCD), the California Department of Transportation MUTCD, and the Watch Book Manual standards. In the case where there are no local standards, the minimum traffic control should be:

- Warning signs (signs with the symbol for person working are preferred);
- Directional arrow signs on rear of the truck;
- Traffic cones clearly delineating traffic lanes and directions; and
- One or more flaggers utilized to control and direct traffic where visibility is limited or the possibility of collision exists.

8.4.2 Primary Responder Priorities

The Primary Responder's priorities, as the first person to respond to the call, are:

- To follow safe work practices;
- To respond promptly with appropriate equipment;
- To contain the spill wherever feasible;
- To restore the flow as soon as practicable;
- To minimize public access to and/or contact with the spilled sewage;
- To return the spilled sewage to the wastewater collection system; and
- To restore the area to its original condition (or as close as possible).

8.4.3 Initial Response

Clarify that the Primary Responder during standby will perform initial assessment either through phone call interview or initial site assessment. Once the Primary Responder determines it is a sewer-related event, they will transfer the call to Collection Systems Maintenance.

The Primary Responder is responsible for contacting the reporting party to clarify the situation and collect any additional information that may allow District personnel to respond in an efficient manner. If the Primary Responder determines the event is sewer-related, immediately contact the Collection Systems Maintenance standby staff. Whichever person arrives to the site first will:

- Field verify the address and nearest cross street to determine whether the spill or backup is located in the District's service area.
 - If the location of the spill is not in the District's service area or not caused by the District's sewer system, call the responsible agency, provide them with the service call information, and notify the caller that the responsible agency has been notified. The District's Emergency Directory contains contact information for surrounding agencies.
 - If the spill/backup is caused by another agency sewer system, the responding crew will standby until representatives of the responsible party arrive and are fully operational

unless an emergency on one of the District's sewers requires the team to respond to another location.

- Notify the Collection Systems Manager and Collection System Supervisor when an SSO is verified. The Collections System Manager will work with crew to determine if additional resources are needed and level of response.
- Respond with the appropriate spill response equipment that has spill containment tools, materials and any additional equipment that may be needed based on the details provided by the caller.
 - Note arrival time at spill site.
- If the spill/backup is caused by a private lateral, the responding crew should contain/mitigate the spilled sewage to prevent sewage from entering the public right of way without District staff going on private property.
- Set up traffic and pedestrian control as necessary for safety of the public and the response crew.
- Identify and assess the affected area and extent of spill. If possible, take photographs to document the extent of the spill.
 - If the spill appears to be too large for the response crew to handle or is in an area that may cause danger to human health (e.g. impacting a school, hospital, park, etc.), then document conditions upon arrival with photographs.
- Use best judgment to determine whether to proceed immediately with blockage removal versus containment. The guidance for this decision is:
 - Small spills – proceed with immediate containment measures near the appearance point followed by blockage removal.
 - Moderate or large spill where containment is anticipated to be simple – proceed with immediate containment measures near the appearance point followed by blockage removal.
 - Moderate or large spills where containment is anticipated to be difficult – proceed with clearing the blockage; however, call for additional assistance immediately to focus on implementing containment measures.

8.4.4 Restore Flow

Using the appropriate cleaning tools, set up downstream of the blockage and hydro clean upstream from a clear manhole. Attempt to remove the blockage from the system and observe the flows to ensure that the blockage does not recur downstream.

- If the blockage cannot be cleared within a reasonable time (15 minutes), or the sewer requires construction repairs to restore flow, then initiate additional containment measures and/or bypass pumping.
- If assistance is required, contact other employees, contractors, and equipment suppliers.

8.4.5 Initiate Spill Containment Measures

The responding crew should attempt to contain as much of the spilled sewage as possible using the following steps:

- Determine the immediate destination of the overflowing sewage.
- Implement immediate containment measures consisting of plugging storm drains using sandbags, plastic sheeting, and/or other dam construction material to contain the spill, whenever appropriate.
- Additional containment measures include containing/directing the spilled sewage using dike/dam, sandbags, or earthen berms in landscaped or undeveloped areas.

- Pump around the blockage/pipe failure to convey the wastewater to the nearest downstream manhole or facility.
- If the spill is caused by a sewer lateral, District staff may shut off the water supply to that property when the wastewater endangers the public health.

8.4.6 Water Quality Sampling and Testing

Water quality testing is performed to determine the extent and impact of an SSO when sewage enters a water body. The Collection Systems Manager or Collection Systems Supervisor will coordinate with the Orange County Health Care Agency or the Orange County Flood Control District to determine whether water quality is required. If required, the water quality sampling procedures are:

- The Collection Systems Manager, Collection System Supervisor, or Collection System First Responder will contact Dept. 64 Regulatory Compliance water quality personnel during normal hours, or the Water Quality standby personnel during after-hours, to collect samples. Dept. 64 Regulatory Compliance water quality personnel or the Water Quality standby will collect samples as soon as possible after the discovery of the SSO event.
- The water quality samples should be collected from upstream of the spill, from the spill area, and downstream of the spill in flowing water (e.g. rivers). The water quality samples should be collected near the point of entry of the spilled sewage and every 100 feet along the shoreline of the stationary water body (e.g., bay or lake).
- The District has a state-certified laboratory to analyze the samples to determine the nature and impact of the discharge. The basic analyses include total coliform, fecal coliform, and *Enterococcus*.

8.4.7 Recovery and Clean Up

The recovery and clean up phase begins when the flow has been restored and the spilled sewage has been contained to the extent possible. The SSO recovery and clean up procedures include the steps below.

8.4.7.1 Estimate the Volume of Spilled Sewage

Use the methods outlined in **Appendix H**, or other methods as deemed necessary, to estimate the volume of the spilled sewage. If possible, utilize available information such as pump station run times and Supervisory Control and Data Acquisition (SCADA) data to support or validate volume estimates. Wherever possible, document the estimate using photos of the SSO site before and during the recovery operation.

8.4.7.2 Recovery of Spilled Sewage

Vacuum up spilled sewage using the hydro/combo unit or pump the spilled sewage and any water used to flush the area and discharge it back into the wastewater collection system.

8.4.7.3 Clean Up and Disinfection

Implement clean up and disinfection procedures to reduce the potential for human health issues and adverse environmental impacts that are associated with an SSO event. The procedures described are for dry weather conditions and should be modified as required for wet weather conditions. Where clean up is beyond the resources or capabilities of District staff, the District may use a contractor to support clean-up operations.

8.4.7.3.1 Hard Surface Areas

Take reasonable steps to contain and vacuum up the wastewater and return it to the wastewater collection system. Collect all signs of sewage solids and sewage-related material either by hand or with the use of

rakes and brooms. Wash down the affected area with high pressure water using nozzles on provided on the hydro/combo unit and vacuum the wash water utilizing the hydro/combo unit. Allow area to dry. Repeat the process if additional cleaning is required.

8.4.7.3.2 Landscaped and Unimproved Natural Vegetation

Collect all signs of sewage solids and sewage-related material either by hand or with the use of rakes and brooms.

Wash down the affected area with clean water until the water runs clear. The flushing volume should be approximately three times the estimated volume of the spill.

Either contain or vacuum up the wash water so that none is released. Return the wastewater to the wastewater collection system to the extent possible.

Allow the area to dry. Repeat the process if additional cleaning is required.

8.4.7.3.3 Natural and Man-Made Waterways

Notify Orange County Public Works in the event an SSO impacts any waterways. Contain contaminated creeks where feasible. Remove all contaminated water by pumping to the collection system or vacuuming by means of vacuum truck and return all collected water to the sewer system. Introduce additional wash water as needed to flush contaminated areas towards the containment area.

8.4.7.4 Wet Weather Modifications

Omit flushing and sampling during heavy storm events with heavy runoff where flushing is not required and sampling would not provide meaningful results.

8.4.8 Follow Up Activities

If sewage has reached the storm drain system, the hydro/combo unit should be used to vacuum/pump out the catch basin. Flush the storm drain system with wash water and capture all residual wash water at a point of containment downstream.

In the event that an overflow occurs at night, inspect the location early on the following morning. The operator should look for any signs of sewage solids and sewage-related material that may warrant additional cleanup activities.

If the District sewer causes an overflow on a private property, restore flow and notify the Collection Systems Manager. The Collection Systems Manager will notify the Director of Wastewater Operations and the Manager of Contracts Administration and Risk to determine if any immediate steps to rectify the issue are required. Provide the customer with the contact information for the Manager of Contracts Administration and Risk to make a claim, pending investigation.

8.5 Traffic and Crowd Control

Place barricades, cones, traffic arrow board, and caution tape as needed to keep vehicles and pedestrians away from contact with spilled sewage.

8.6 Public Notification

If an SSO affects a waterway or ocean requiring posting of signage, contact Orange County Public Works. Orange County Public Works will post and remove signage for waterways and beach closures as required and will not remove the signs until the effects of the spill have been mitigated. A sample warning sign utilized by Orange County Public Works is included in **Appendix H**.

Major spills may warrant broader public notice. The Collection Systems Manager and/or Director of Wastewater Operations will contact the Director of Public Affairs or the Public Affairs Manager. Public Affairs will create and execute the outreach plan for media. If media crews show up at a job site the crews will ask media personnel to wait and will contact Public Affairs immediately. Do not respond to questions from the media or interview requests unless the Director of Public Affairs or the Public Affairs Manager provides direction and permission. The approval of the Public Affairs is required prior to contacting local media when significant areas may have been contaminated by sewage.

8.7 SSO Event Investigation

The objective of the SSO event investigation is to determine the cause of the SSO and to identify corrective action(s) needed that will reduce or eliminate potential for the SSO to recur.

The investigation includes reviewing all relevant data to determine appropriate corrective action(s) for the line segment. The investigation will be conducted by the Collection Systems Manager and/or Collection Systems Supervisor and reported to the Director of Wastewater Operations or his/her designee. The investigation should include:

- Reviewing and completing/correcting the Sanitary Sewer Overflow Report Form;
- Reviewing available photographs;
- Reviewing historical maintenance activities
- Conducting a CCTV inspection to determine the condition a portion of the line segment immediately following the SSO and reviewing the video and logs; and
- If FOG-related, reviewing the results of a FOG source control investigation
- Debrief with staff who responded to the spill.

The goal of the SSO event investigation is to determine the cause of the SSO event and to identify appropriate corrective actions. The District's standard practice is, at a minimum, to perform additional cleaning of the pipe containing the blockage that caused the SSO event along with the pipes immediately upstream and downstream.

8.8 SSO Categories

The California State Water Resources Control Board (SRWCB) has established guidelines for classifying and reporting SSOs. Reporting and documentation requirements vary based on the type of SSO.

Currently, there are two categories of SSOs as defined by the SWRCB¹:

- **Category 1** – All discharges of sewage resulting from a failure in the sanitary sewer system that:
 - Equals or exceeds 1,000 gallons, or;
 - Results in a discharge to a drainage channel and/or surface water; or
 - Discharges to a storm drainpipe not fully captured and returned to the sanitary sewer system.
- **Category 2** – All other discharges of untreated or partially treated wastewater resulting from a failure in the Enrollee's sanitary sewer system.
- **Private Lateral Sewage Discharges** – Sewage discharges that are caused by blockages or other problems within a privately-owned lateral.

¹ State Water Resources Control Board Monitoring and Reporting Program No. 2006-0003-DWQ (as revised by Order No. WQ 2008-0002.EXEC) Statewide General Waste Discharge Requirements for Sanitary Sewer Systems

8.9 SSO Documentation and Reporting

All SSOs should be thoroughly investigated and documented for use in managing the wastewater collection system and meeting established reporting requirements. The procedures for investigating and documenting SSOs are:

8.9.1 Internal SSO Reporting Procedures

The Collection Systems Primary Responder will fill out the Sanitary Sewer Overflow Field Report Form and turn it in to the Collection Systems Supervisor. The Collection Systems Supervisor reviews and completes a draft of the report and will send a copy to necessary IRWD staff documenting all field activities. Necessary staff includes all operations management and executive management as shown on SSO Field Report Form. The Collection Systems Manager is required to enter all required information into the State Water Resources Control Board (SWRCB) California Integrated Water Quality System (CIWQS) Online SSO Reporting System. The Director of Wastewater Operations certifies the SSO Report in CIWQS.

8.10 External SSO Reporting Procedures²

CIWQS is used for reporting SSO information to the SWRCB whenever possible. A summary of external reporting requirements and contact information is included as **Figure 8-5**.

8.10.1.1 Category 1 SSOs

If a Category 1 SSO results in a discharge to a drainage channel or surface waters, the following notification/reporting requirements apply:

- **Within two hours** of notification of the spill event the Collection Systems Manager or Collection Systems Supervisor will:
 - Notify California Emergency Management Agency (Cal EMA) and obtain spill number for use in other reports;
 - Notify the appropriate Regional Water Quality Control Board by phone:
 - Santa Ana RWQCB (Region 8);
 - San Diego RWQCB (Region 9);
 - Notify Orange County Health Care Agency (OCHCA);
 - Notify Orange County Public Works; and ;
- **Within 24 hours** of notification of the spill event, the Legally Responsible Official, or his/her designee, will certify to the appropriate RWQCB, by phone or with a follow up fax, that Cal EMA and OCHCA were notified.
- **Within 3 business days** of being notified of the spill event, the Legally Responsible Official or his/her designee will certify the initial report using the CIWQS Online SSO Reporting System.
- **Within 15 calendar days** of the conclusion of SSO response and remediation, the Legally Responsible Official or his/her designee will certify the final report using the CIWQS Online SSO Reporting System.
- The Legally Responsible Official or his/her designee will update the CIWQS and re-certify the SSO report as new or changed information becomes available. The updates should be submitted as soon as new information is verified. The LRO must certify all SSO report updates.

² State Water Resources Control Board Monitoring and Reporting Program No. 2006-0003-DWQ (as revised by Order No. WQ 2008-0002.EXEC) Statewide General Waste Discharge Requirements for Sanitary Sewer Systems

8.10.1.2 Category 2 SSOs

Within 30 calendar days after the end of the calendar month in which the SSO occurs, the Legally Responsible Official or his/her designee will submit a certified report using the Online SSO Reporting System. The report will include the information to meet the GWDR requirements.

8.10.1.3 Private Lateral Sewage Discharges

The Legally Responsible Official or his/her designee may report private lateral sewage discharges using the CIWQS Online SSO Reporting System **at the District's discretion**, specifying that the sewage discharge occurred and was caused by a private lateral and identifying the responsible party (other than the District), if known.

8.10.1.4 No Spill Certification (Monthly)

If there are no SSOs during the calendar month, the Legally Responsible Official will submit and certify an electronic report that the District did not have any SSOs, **within 30 days after the end of each calendar month**.

8.10.1.5 Online SSO Reporting System (CIWQS) Not Available

In the event that the CIWQS Online SSO Reporting System is not available, the Legally Responsible Official or his/her designee will fax all required information to the appropriate RWQCB office in accordance with the time schedules identified above. In such event, the District will submit the appropriate reports using the CIWQS Online SSO Reporting System as soon as practical.

8.10.2 Internal SSO Documentation

8.10.2.1 Category 1, 2, and 3 SSOs

The Collection Systems Primary Responder will complete the Spill Response Field Report Form and provide a draft report to the Collection Systems Supervisor or his/her designee. The Collection Systems Supervisor will assemble all available documentation and review, complete, and submit an internal report of all available information to appropriate District staff via e-mail.

The Legally Responsible Official or his/her designee will prepare an electronic file for each individual SSO. The electronic file should include the following information as available:

- Initial service call information;
- Spill Response Field Report;
- Online SSO Reporting System form;
- Volume estimate;
- Map showing the spill location;
- Photographs of spill location;
- CCTV inspection data, if applicable;
- Water quality sampling and test results, if applicable;
- SSO event investigation results; and
- Any other forms related to the SSO.

8.10.2.2 Private Lateral Sewage Discharges

The Collection Systems Primary Responder will complete the Spill Response Field Report Form and provide a draft report to the Collection Systems Supervisor or his/her designee. The Collection Systems Supervisor will assemble all available documentation and review, complete, and submit an internal report of all available information to appropriate District staff via e-mail.

A separate electronic file will be prepared for each individual PLSD, at the discretion of the Legally Responsible Official. The file will include any relevant information from the above list.

8.10.3 External SSO Record Keeping Requirements³

The WDR requires that individual SSO records be maintained for a minimum of **five years** from the date of the SSO. This period may be extended when requested by a Regional Water Quality Control Board Executive Officer.

All records shall be made available for review upon State or Regional Water Board staff's request.

Records shall be retained for all SSOs, including but not limited to the following when applicable:

- Copy of Certified Online SSO Reporting System report(s);
- Any photos (if taken);
- Spill Response Field Report Form;
- Steps that have been and will be taken to prevent the SSO from recurring and a schedule to implement those steps.

If water quality samples are required by an environmental or health regulatory agency, or if voluntary monitoring is conducted by the District, as a result of any SSO, records of monitoring information shall include:

- The date, exact place, and time of sampling or measurements;
- The individual(s) who performed the sampling or measurements;
- The date(s) analyses were performed;
- The individual(s) who performed the analyses;
- The analytical technique or method used; and
- The results of such analyses.

8.10.4 Post SSO Event Debriefing

As soon as possible after major SSO events, all of the participants, from the person who received the call to the last person to leave the site, should meet to review the procedures used and to discuss what worked and where improvements could be made in responding to and mitigating future SSO events.

8.11 Equipment

This section provides a list of specialized equipment that should be used to support this Sanitary Sewer Overflow Emergency Response Plan.

Camera -- A digital or disposable camera to record the conditions upon arrival, during clean up, and upon departure.

Closed Circuit Television (CCTV) Inspection Unit – A CCTV Inspection Unit to determine the cause for all SSOs from gravity sewers. This equipment can be provided by a contractor.

Combination Sewer Cleaning Truck -- A combination high velocity sewer cleaning truck with vacuum tank to clear blockages in gravity sewers, vacuum spilled sewage, and wash down the impacted area following the SSO event.

Emergency Response Trailer -- A trailer to store and transport the equipment needed to effectively respond to sewer emergencies. The equipment and tools should include containment and clean up materials: sandbags, barricades, cones, caution tape, signs, rakes, drop-inlet mats, and plastic sheeting.

³ State Water Resources Control Board Monitoring and Reporting Program No. 2006-0003-DWQ (as revised by Order No. WQ 2008-0002.EXEC) Statewide General Waste Discharge Requirements for Sanitary Sewer Systems

Portable Generators, Portable Pumps, Piping, and Hoses -- Portable equipment used to support this plan is available at the Operations Facility.

8.12 SSO Response Training

This section provides information on the training that is required to support this Overflow Emergency Response Plan.

8.12.1 Initial and Annual Refresher Training

All District personnel who may have a role in responding to, reporting, and/or mitigating a wastewater collection system overflow receive annual training on the contents of this OERP. All new employees receive training before they are placed in a position where they may have to respond.

8.12.2 SSO Training Record Keeping

The District maintains records for all OERP training provided in support of this plan. The records for all scheduled training courses and for each overflow emergency response training event include date, time, place, content, name of trainer(s), and names of attendees.

8.13 Contractors Working on District Sewer Facilities

All contractors working on District sewer facilities are required to develop an overflow response plan, which identifies who the contractor will contact at the District and any actions a contractor is required to perform in the event of an SSO.

***IRVINE RANCH WATER DISTRICT
SCHEDULE OF RATES AND CHARGES***



EFFECTIVE

JULY 1, 2014

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Section

1

Water System Charges

Monthly Water Service Charge

Customer Description					
Irvine Ranch and Los Alisos Rate Areas					
Residential detached, attached and apartments					See chart (a)
Residential apartments and condominiums (master metered)					See chart (b)
Commercial, Industrial, Public Authority and Landscape					See chart (b)
Landscape recycled user					See chart (b)
Temporary water service connections					See chart (c)
Orange Park Acres					
Residential and Non-Residential customers					See chart (d)
Meter Size	Flow in Gallons	Chart (a)	Chart (b)	Chart (c)	Chart (d)
5/8" by 3/4" Disc	0-22	\$10.50	\$10.50	\$83.11	\$19.00
5/8" Disc	0-22				
3/4" Disc	0-22	\$15.55			
1" Disc	23-37	\$18.00	\$26.25	\$117.72	\$19.00
1 1/2" Disc	38-75	\$38.05	\$52.50	\$118.87	\$19.00
2" Disc	76-120	\$58.30	\$84.00	\$148.49	\$19.00
3" Compound	161-280		\$168.00	\$222.10	\$19.00
4" Compound	361-450		\$315.00	\$427.25	\$19.00
6" Compound	451-750		\$525.00	\$589.70	
8" Compound	1001-1450		\$1,010.65	\$921.35	
10" Compound	1451-1600		\$1,155.00	\$1,212.35	
14" Compound	2001-3500		\$1,837.50	\$1,830.20	
2" Turbo	120-160		\$110.25	\$173.30	
3" Turbo	281-360		\$252.00	\$314.50	
4" Turbo	751-1000		\$525.00	\$568.70	
6" Turbo	1601-2000		\$1,050.00	\$1,099.45	
8" Turbo	2001-3500		\$1,837.50	\$1,896.45	
10" Turbine	3500-5500		\$2,205.00	\$2,272.90	
2" Magnetic Meter	161-280		\$163.30	\$215.85	
4" Magnetic Meter	751-1000		\$652.60	\$706.90	
6" Magnetic Meter	1601-2000		\$1,468.45	\$1,537.60	
8" Magnetic Meter	2001-3500		\$2,611.35	\$2,695.10	
6" Propeller	1001-1450		\$708.75		
8" Propeller	1451-1600		\$945.00		
10" Propeller	1601-2000		\$1,260.00		
12" or 14" Propeller	2001-3500		\$1,771.90		
16", 18", or 20" Propeller	3501-5500		\$2,992.50		
Construction Meters			\$951.15		\$309.05
3 Main Line			\$133.05		
4 Main Line			\$266.45		
6 Main Line			\$499.40		
8 Main Line			\$599.40		
10 Main Line			\$798.85		

Service Charges – Private Fire Protection Service

1. Service-Line Charge

FIRELINE CHARGES BY SERVICE AREA		
Rate Area	Monthly Service Charge	Commodity Charge
All Else	\$13.60/per diameter inch	NA
Former Los Alisos	\$9.50/per diameter inch	\$2.31/ccf
Former Santiago County Water District Rate Area	1"-1½" \$9.40	NA
	Others \$13.60/per diameter inch	

2. Fire Hydrant Charge

The monthly charge for private fire hydrant service shall be \$23.70 per hydrant. This charge includes water used for fire extinguishing purposes.

3. Fire Flow Testing

The District will charge a one-time fee of \$250.00 to administer fire flow tests.

Commodity Charges: Potable Water

Irvine Ranch Rate Area

1. Commodity Charge for Residential Detached Dwelling Units

Tier	Rate/ccf	Percent of Allocation
Low Volume	\$0.88	0-40
Base Rate	\$1.34	41-100
Inefficient	\$3.91	101-130
Excessive	\$6.22	131-160
Wasteful	\$12.60	161+

2. Commodity Charge for Residential Attached Dwelling Units

Tier	Rate/ccf	Percent of Allocation
Low Volume	\$0.88	0-40
Base Rate	\$1.34	41-100
Inefficient	\$3.91	101-130
Excessive	\$6.22	131-160
Wasteful	\$12.60	161+

3. Commodity Charge for Apartments (Base allocation x number of dwelling units)

Tier	Rate/ccf	Percent of Allocation
Low Volume	\$0.88	0-40
Base Rate	\$1.34	41-100
Inefficient	\$3.91	101-130
Excessive	\$6.22	131-160
Wasteful	\$12.60	161+

4. Commodity Charge for Commercial, Industrial, Public Authority and Non-residential Mixed Usage

Tier	Rate/ccf	Percent of Allocation
Base Rate	\$1.34	0-100
Inefficient	\$3.91	101-110
Excessive	\$6.22	111-120
Wasteful	\$12.60	121+

Irvine Ranch Rate Area (Continued)

5. Commodity Charge for Potable Landscape Irrigation

Tier	Rate/ccf	Percent of Allocation
Low Volume	\$0.88	0-40
Base Rate	\$1.34	41-100
Inefficient	\$3.91	101-110
Excessive	\$6.22	111-120
Wasteful	\$12.60	121+

6. Charge for Non-Conforming Uses

*Non-Conforming Use	Rate/ccf
Base Rate	\$ 6.22

* The non-conforming use charge shall be applied, as defined in IRWD's "Rules and Regulations", in addition to the applicable commodity charge.

Los Alisos Rate Area

7. Commodity Charge for Residential Detached Dwelling Units

Tier	Rate/ccf	Percent of Allocation
Low Volume	\$1.51	0-40
Base Rate	\$2.31	41-100
Inefficient	\$3.91	101-130
Excessive	\$6.22	131-160
Wasteful	\$12.60	161+

8. Commodity Charge for Residential Attached Dwelling Units

Tier	Rate/ccf	Percent of Allocation
Low Volume	\$1.51	0-40
Base Rate	\$2.31	41-100
Inefficient	\$3.91	101-130
Excessive	\$6.22	131-160
Wasteful	\$12.60	161+

9. Commodity Charge for Apartments
(Base allocation x number of dwelling units)

Tier	Rate/ccf	Percent of Allocation
Low Volume	\$1.51	0-40
Base Rate	\$2.31	41-100
Inefficient	\$3.91	101-130
Excessive	\$6.22	131-160
Wasteful	\$12.60	161+

Los Alisos Rate Area (Continued)

10. Commodity Charge for Commercial, Industrial, Public Authority and Non-residential Mixed Usage

Tier	Rate/ccf	Percent of Allocation
Base Rate	\$2.31	0-100
Inefficient	\$3.91	101-110
Excessive	\$6.22	111-120
Wasteful	\$12.60	121+

11. Commodity Charge for Potable Landscape Irrigation

Tier	Rate/ccf	Percent of Allocation
Low Volume	\$1.51	0-40
Base Rate	\$2.31	41-100
Inefficient	\$3.91	101-110
Excessive	\$6.22	111-120
Wasteful	\$12.60	121+

12. Charge for Non-Conforming Uses

*Non-Conforming Use	Rate/ccf
Base Rate	\$6.22

* The non-conforming use charge shall be applied, as defined in IRWD's "Rules and Regulations", in addition to the applicable commodity charge.

Orange Park Rate Area

13. Commodity Charge

3/4" Meter Size	Rate/ccf	Allocation/Tier
Standard Tier I	\$1.86	0-10 ccf
Excess Tier II	\$2.20	11-40 ccf
Excess Tier III	\$2.75	41+ ccf

Commodity Charges: Potable Water System - Agricultural

Water supplied under this section shall be used only for the growing or raising, in conformity with recognized practices of husbandry, for the purposes of commerce, trade, or industry, of agricultural, or floricultural products, and produced (1) for human consumption or for the market, or (2) for the feeding of fowl or livestock produced for human consumption or for the market, such products to be grown or raised on parcels of land having an area of not less than five acres utilized exclusively there for.

1. Commodity Charge:

Area	Rate/ccf	Per Acre Foot
Irvine Ranch Rate Area	\$1.62	\$705.70
Los Alisos Rate Area	\$2.68	\$1,167.40

Commodity Charges: Nonpotable Water System - Agricultural

1. Commodity Charge

The commodity charge for nonpotable water used for agricultural purposes shall be:

Area	Rate/ccf	Per Acre Foot
IRWD rate area	\$ 1.21	\$ 527.10

Non-potable water used for lake filler:

Tier	Rate/ccf	Percent of Allocation
Low Volume	\$0.79	0-40
Base Rate	\$1.19	41-100
Inefficient	\$2.56	101-110
Excessive	\$5.17	111-120
Wasteful	\$11.47	121+

Source	Rate/ccf	Per Acre Foot
Recycled	\$ 1.19	\$ 518.40

2. Santiago aqueduct Commission (SAC) Water

The commodity charge for nonpotable SAC water used for agricultural and non-agricultural (landscape irrigation, commercial and grading) purposes shall be:

Area	Rate/ccf	Per Acre Foot
Agricultural	\$1.66	\$ 723.10
Non-Agricultural	\$1.58	\$ 688.25

3. Surcharge

The District reserves the right to impose, based upon relevant factors, a surcharge to the basic commodity rate for nonpotable agricultural irrigation water.

Commodity Charges: Nonpotable (Untreated) Water System- Landscape Irrigation

1. Commodity Charge

The commodity charge for nonpotable water used for landscape irrigation (other than SAC water):

Tier	Rate/ccf	Percent of Allocation
Low Volume	\$0.79	0-40
Base Rate	\$1.19	41-100
Inefficient	\$2.56	101-110
Excessive	\$5.17	111-120
Wasteful	\$11.47	121+

Commodity Charges: Recycled Water System Non-Agricultural Landscape Irrigation

1. Commodity Charge

Commodity charge for recycled water used for landscape irrigation:

Tier	Rate/ccf	Percent of Allocation
Low Volume	\$0.79	0-40
Base Rate	\$1.19	41-100
Inefficient	\$2.56	101-110
Excessive	\$5.17	111-120
Wasteful	\$11.47	121+

2. Recycled Loan Customers

The commodity charge for recycled loan customers:

Tier	Rate/ccf	Percent of Allocation
Low Volume	\$0.88	0-40
Base Rate	\$1.34	41-100
Inefficient	\$3.91	101-110
Excessive	\$6.22	111-120
Wasteful	\$12.60	121+

Commodity Charges: Recycled Water System - Commercial/Industrial

1. Commodity Charge for Commercial and Industrial

Tier	Rate/ccf	Percent of Allocation
Base Rate	\$0.80	0-100
Inefficient	\$2.35	101-110
Excessive	\$3.73	111-120
Wasteful	\$7.56	121+

2. Commodity Charge for Commercial and Industrial Loan Customers

Tier	Rate/ccf	Percent of Allocation
Base Rate	\$1.34	0-100
Inefficient	\$3.91	101-110
Excessive	\$6.22	111-120
Wasteful	\$12.60	121+

Allocations and Variances

1. Base Allocations for Commodity Charges

Monthly allocation includes a fixed component for indoor usage and a variable component based on evapotranspiration (ET) rate for landscape irrigation.

Account Type	Base Allocation Number of Residents	Landscape Area (LA)	Base Allocation Indoor	Base Allocation Outdoor	Total Allocation
Residential Detached	4	1300 sq. ft (0.03 acres)	# Residents x 50 gpd	ET x Kc x 1.40 x LA	(Indoor x # days in bill service period) + Outdoor
Residential Attached*	3	435 sq. ft (0.01 acres)	# Residents x 50 gpd	ET x Kc x 1.40 x LA	(Indoor x # days in bill service period) + Outdoor
Apartments*	2	N/A	# Residents x 50 gpd		Indoor x # days in bill service period
Irrigation		Site specific based on irrigated acreage	N/A	ET x Kc x 1.40 x LA	Outdoor based on bill service period
Commercial, Industrial, Institutional			Site specific, based on productivity, employees, water use efficiency practices etc.	Site specific, based on irrigation needs	Site specific, adjusted for # days in bill service period

*For master-metered apartments and condominiums, the base allocation is multiplied by the number of dwelling units.

gpd = gallons per day

CCF = 100 cubic feet. 1 CCF = 1 billing unit = 748 gallons

ET (evapotranspiration) – from IRWD weather stations located in coastal, central or foothill zones

Kc (crop co-efficient) – relative amount of water warm-season turf needs at various times of the year

1.40 irrigation system efficiency – extra water to make up for inefficiencies in the irrigation system

LA = landscape acreage. Assumes that 100% of the landscape is warm-season turf-grass

2. Variances from Ascending Tiered Rate Allocations

Water allocations are based on the number of residents, landscape square footage and actual daily weather and evapotranspiration (ET) data for each of three microclimates within the District rate area. Variances are available for larger than normal landscaped areas, more people living in the home or special medical needs.

Procedure

See IRWD Rules and Regulations, Section 12.6

3. Grounds for Variance

Proof acceptable to the District will be required for each ground(s) of variance.

a. Number of people residing in a residential dwelling unit.

Each additional person increases the base by 1.6 ccf/month (indoor usage factor x 0.8)

b. Landscape

Increased allocations shall be given for residential lot size beyond the standard base allocation lot size. It is the obligation of the customer to provide to the District acceptable documentation of the actual irrigated landscape area served.

c. Medical Needs

- Approval is contingent upon medical documentation.
- Increased allocation will be determined on a case by case basis and based on the type of medical need.

d. Licensed Care Facilities (in a residential dwelling unit)

- A current license from appropriate regulatory agency will be required.
- A licensed 24-hour care facility will be allocated increases based on the additional people per dwelling unit formula at 1.6 ccf per month per additional person.
- A licensed day care facility (not 24-hour) will be granted one ccf per additional person of the licensed 24-hour care facility.
- Additional allocation for medical reasons will be determined on a case by case basis.

e. Fire Control Zones

- Adjustments to allocations will be determined by the District based upon relevant factors such as area, slope, planting material, etc.

f. Commercial/Industrial/Public Authority

- Adjustments to the base allocation will be determined on a case by case basis. Relevant factors will include expansion of productive capacity, existing conservation practices that can be shown to have reduced water usage, severe economic hardship, etc.

g. New Account Establishment Variance

Landscape Accounts - will be placed on conservation base rate for the first six months.

Commercial and Industrial Accounts - will be placed on conservation base rate for the first six months.

4. Limitations

a. An approved variance will become effective on the date the request for variance is submitted to the District, but must be submitted within thirty (30) days of receipt of the bill.

b. Approvals are valid for a period specified by the District (one year or less), and must be resubmitted on or before the expiration date to remain in effect.

5. Effect of Increased Allocations**a. Residential:**

Approved variances will extend each tier of the residential structure by a percentage.

b. Non-Residential:

Approved variances will extend each tier of the non-residential structure by a given percentage (or other method) determined on a case by case basis.

Pumping Surcharges

1. Potable Water Pumping Surcharges

A surcharge will be added to the commodity rate of those users who reside at higher elevations and cause the District to incur additional pumping costs to supply their water. The surcharge is based upon prevailing energy costs.

Zone Name	Surcharge/ccf
Zone 4	\$ 0.17
Coast Zone 4	\$ 0.16
Zone 6	\$ 0.18
Zone 6A	\$ 0.25
Coast Zone 6	\$ 0.29
Zone 7	\$ 0.42
Zone 8	\$ 0.28
Zone 9	\$ 0.32
Los Alisos Zone 3	\$ 0.18

2. Recycled Water Pumping Surcharges

A surcharge will be added to the commodity rate of those users who reside at higher elevations and cause the District to incur additional pumping costs to supply their water. The surcharge is based upon prevailing energy costs.

Zone Name	Surcharge/ccf
Zone D	\$ 0.16
Zone D (Quail Hill Zone B)	\$ 0.16
Zone G	\$ 0.29
Zone H	\$ 0.42

Temporary Water Service Connection

1. Monthly Service Charge

See Chart C on page 4.

2. Commodity Charge

Wherever feasible, recycled water shall be used for temporary construction uses. The Commodity Charge shall be as follows:

Irvine Ranch Rate Area – Potable	\$ 1.88/ccf
Recycled – All rate areas	\$ 1.69/ccf
Former Orange Park Acres Rate Area – Potable	\$ 1.95/ccf
Los Alisos Rate Area– Potable	\$ 2.71/ccf

3. Meter Deposit

A deposit equal to the replacement cost of the construction meter shall be collected at the time of service application. For FY 2014-15, this is estimated to be \$1,025.00. The deposit will be applied to the closing bill and any remaining amount refunded to the customer. Lost meters will result in forfeiture of deposit.

4. Materials for Repairing Damaged Construction Meters

	Cost
Eddy Valve (2")	\$ 200.00
Eddy Valve (3")	\$ 380.00
Meter, complete	\$ 1,012.00
Swivel Adapter	\$ 158.00
Register	\$ 113.00
Male Fitting	\$ 95.00
Female Attachment	\$ 158.00
Lock & Chain	\$ 30.00
Chain (per five-foot length)	\$ 11.00
Lock	\$ 15.00
Handle (main case)	\$ 323.00
Hydrant Collar	\$ 100.00
Rotor	\$ 94.00
Rotor Cap	\$ 27.00
Collar (with barrel lock)	\$ 106.00
Barrel Lock	\$ 6.00
Stores Clearing	40% of total parts billed
Labor & Overhead	\$ 120.00
Meter Body only	\$ 323.00
Meters	At cost

(1) Santiago rates migrating to IRWD rates

New Account Fees for Water Service

This section is applicable to all requests for new or transferred service.

1. Charges

A fee of \$20.00 shall be collected to establish a new account for water and sewer service, or to transfer an existing account to a new location.

2. Residential Deposit

For residential customers, a deposit of \$50.00 may be required until a one year payment history is established.

3. Non-Residential Deposit

A deposit of \$100.00 is required until a one year payment history is established.

Delinquency and Service Restoration Charges

All bills and charges for water and sewer service shall be due and payable upon presentation and shall become delinquent twenty-five (25) calendar days thereafter.

1. Delinquency Charges

If payment is not made within twenty-five (25) days after presentation, a late charge will be levied upon the unpaid balance as follows:

For residential and non-residential accounts with an unpaid balance of \$10 or more, a one-time charge of 10% of the unpaid balance plus 1.5% interest will be assessed, and each month thereafter the unpaid balance will be subject to an interest charge of 1.5%.

2. Trip Charges

When service is discontinued because of delinquency in payment of a water, sewer, or recycled water bill, the service shall not be restored until all charges, including a trip charge, have been paid.

- (a) **Trip Charge During Normal Working Hours:** The trip charge applicable for work requested to be performed during normal working hours of the District will be \$70.00.
- (b) **Trip Charge After Normal Working Hours:** The trip charge applicable for work requested to be performed after normal working hours of the District will be \$95.00.

3. Non-Sufficient Funds Checks

A \$20.00 service fee will be charged for each check returned from the bank for non-sufficient funds.

Section

2

Wastewater System Charges

Monthly Wastewater Service Charges

Residential	
(a) Single Family and Multi-family Dwelling Units	
<u>AVERAGE MONTHLY WATER USE</u>	<u>SERVICE CHARGE PER MONTH</u>
Over 1000 cubic feet (10 ccf)	<ul style="list-style-type: none"> 100% rate = \$ 20.50 per unit
501-1000 cubic feet (5.01-10.0 ccf)	<ul style="list-style-type: none"> 90% rate = \$ 18.45 per unit
0-500 cubic feet (0-5.0 ccf)	<ul style="list-style-type: none"> 75% rate = \$ 15.40 per unit
<p>(1) Monthly service charge based upon actual water meter readings during the twelve month period ending December 31. (2) To qualify for the reduced rates a customer must have usage history for a full calendar year.</p>	
<u>SERVICE CHARGE PER MONTH</u>	
(b) Multiple Family Dwelling Units	<ul style="list-style-type: none"> \$ 15.40 per unit <p>(1) No credit will be granted for vacancies resulting from the normal turnover of occupants in an existing multiple dwelling unit. The price structure contained herein includes considerations of average vacancy rates. (2) A newly constructed multiple dwelling unit may be billed at the non-residential metered rate, with appropriate allowance for landscape irrigation, until the structure is substantially occupied.</p>
(c) Single or Multiple Family Dwelling Units	
<u>SERVICE CHARGE PER MONTH</u>	
(1) Portola Hills	<ul style="list-style-type: none"> \$ 20.50 per unit
(2) Collection charge in Newport Coast (assumes 10.0 ccf)	<ul style="list-style-type: none"> \$ 7.20 per unit
NON-RESIDENTIAL – CLASS II	
Quantity charges are based on the supposition that 90 percent (90%) of non-residential water consumption returns to the sewer. Because of landscape irrigation or consumptive usage, some non-residential users may discharge substantially less of their metered water into the wastewater system. Those users may, upon request to the District, be permitted to have the amount of water being discharged into the sewer determined by means acceptable to the District.	
(a) Shall apply to all commercial, industrial and institutional users whose consumption is equal to or less than an average of 10 ccf per month.	<u>SERVICE AND QUANTITY CHARGE PER MONTH</u>
	<ul style="list-style-type: none"> Service charge - \$ 20.50 Quantity charge beyond 10 ccf - \$ 2.35/ccf
(1) To qualify for this rate, a customer usage history based upon actual water meter readings is not greater than 120 ccf in a full calendar year.	
(b) Shall apply to all commercial, industrial and institutional users whose consumption is in excess of 10 ccf per month.	<u>SERVICE /QUANTITY/COMMODITY CHARGE PER MONTH</u>
	<ul style="list-style-type: none"> Service charge - \$20.50 Quantity charge beyond 10 ccf - \$2.35/ccf Industrial Waste Charge - \$0.115/ccf
	} = \$2.465
(c) Portola Hills customers	<u>SERVICE AND QUANTITY CHARGE PER MONTH</u>
	<ul style="list-style-type: none"> Service charge - \$20.50 Quantity charge beyond 10 ccf - \$2.35/ccf

Non-Residential Class I Wastewater

This section shall be applicable to non-residential and Class I customers who discharge extra-strength wastewater into the wastewater system, or discharge or have the potential to discharge constituents subject to federal or state standards and local discharge limitations.

1. Discharge Limits

The limits in this table are local limits. Customers subject to federal categorical pretreatment standards may be required to meet more stringent limits.

Constituent	Concentration Limit in mg/L
Arsenic	2.00
Cadmium	1.00
Chromium	2.00
Copper	3.00
Lead	2.00
Mercury	0.03
Nickel	10.00
Silver	5.00
Zinc	10.00
Cyanide (Total)	5.00
Cyanide (Amenable)	1.00
Polychlorinated Biphenyls	0.01
Pesticides	0.01
Total Toxic Organics	0.58
Sulfide (Total)	5.00
Sulfide (Dissolved)	0.50
Oil and grease of mineral or petroleum origin	100.00

2. Appeals to the Board of Directors

Appeal fee - \$500

3. Charges and Fees

Basic Service and Quality Charge

The Class I charge for use shall be computed by the following formula:

$$\text{Charge for use} = VR_v + BR_b + SR_s$$

Where V = Total volume of flow in hundred cubic feet.

B = Total discharge of biochemical oxygen demand (BOD) in pounds.

S = Total discharge of suspended solids (SS) in pounds

R_v = \$ 1.359 per hundred cubic feet

R_b = \$ 0.379 per pound of BOD

R_s = \$ 0.330 per pound of SS

4. Fees for Noncompliance with Permit Conditions

a. Minor Violation

Condition where the limitation is less than the violation and the violation is less than the technical review criterion.

Fee per violation - \$350

b. Significant Noncompliance or Significant Violation

Condition where the violation is greater than the technical review criterion or qualifies under the definition of significant noncompliance.

Fee per violation - \$550

c. Batch Dump or Slug Load

Fee per violation - \$550

d. Probation Orders

Enforcement Compliance Schedule Agreements and subsequent two year probation, and Regulatory Compliance Schedule Agreements.

Fee per violation - \$550

e. Fats, Oils, and Grease (FOG) Control Programs Fees

FOG Binder:

The FOG Program Binder must be available during an inspection. Failure to locate the binder during an inspection, whether misplaced or lost, will trigger the issuance of a new FOG Binder. The \$50.00 replacement cost will be billed to the Food Service Establishment (FSE) at the time of replacement.

Permitting Fees:

A FOG Wastewater Discharge Permit of two-year duration is \$200.00.

Service Call and Follow Up Inspection Fees:

The General Non-Compliance Fee for District follow-up activities due to permit, ordinance, or regulatory non-compliance is \$100.00 per event.

Significant Non-Compliance Fees:

A condition where the violation continues after 45 days of notification to the FSE, the fee is \$550.00 per violation and \$550.00 every 45 days thereafter.

Section 3 Developer Services

Water Connection Fees

Residential

	<u>IMPROVEMENT DISTRICT</u>	<u>0-5.8 DUUs/acre</u>	<u>5.9-10.8 DUUs/acre</u>	<u>10.9-25.8 DUUs/acre</u>	<u>25.9-40.0 DUUs/acre</u>
Connection Fees Per Dwelling Unit	101*	\$3,505	\$3,092	\$2,618	\$2,212
	112	\$1,000	\$1,000	\$1,000	\$1,000
	113	\$2,435	\$2,435	\$2,435	\$2,435
development shall be gross	125	\$2,500	\$2,500	\$2,500	\$2,500
acres excluding private parks.	153	\$1,836	\$1,836	\$1,836	\$1,836
	153 PA 30	\$3,431	\$3,431	\$3,431	\$3,431
	185	\$2,468	\$2,468	\$2,468	\$2,468
	188	\$1,400	\$1,400	\$1,400	\$1,400
	All others*				

Commercial, Industrial and Public Authority – Office Building

	<u>IMPROVEMENT DISTRICT</u>	<u>Commercial</u>	<u>Industrial</u>	<u>Public Authority</u>
Connection Fees Per Gross Acre	101*	\$19,446	\$29,618	\$19,446
	112	\$6,500	\$6,500	\$6,500
	113	\$17,785	\$0	\$8,892
	125	\$12,400	\$17,603	\$12,400
	153	\$9,648	\$13,696	\$9,648
	PA 30	\$17,025	\$24,167	\$17,025
	185	\$11,533	\$11,533	\$11,533
	188	\$5,526	\$5,526	\$5,526
	All others*			

Parks, Churches and Commercial Recreational Facilities

	<u>IMPROVEMENT DISTRICT</u>	<u>Indoor Water Use</u>	<u>Outdoor⁽¹⁾ Water Use</u>
Connection Fees Per Fixture Unit	101*	\$60.90	\$214.31
(1) As calculated per UPC as revised.	125	\$41.22	\$144.45
	153	\$32.11	\$112.54
	PA 30	\$56.62	\$198.46
	185	\$66.34	\$233.01
	188	\$27.61	\$97.13
	All others*		

*Connection fees will be set by the Board of Directors upon request for initial service for each such improvement

Schools (Public and Private)

	<u>IMPROVEMENT DISTRICT</u>	<u>Primary & Intermediate</u>	<u>Secondary</u>	<u>Primary Intermediate & Secondary</u>
Connection Fees Per	101*	\$4,799.18	\$6,436.40	\$206.17
100 Students Average Daily Attendance	125	\$3,241.25	\$4,352.01	\$145.07
	153	\$2,525.16	\$3,390.52	\$113.02
⁽²⁾ Minimum required	PA 30	\$4,453.08	\$5,979.12	\$199.30
	185	\$5,005.35	\$7,015.21	\$224.91
	188	\$2,524.95	\$3,378.72	\$107.82

Service Installations by District

1. The District may install individual domestic or fire services upon request. The cost for each service will be based on an estimate prepared by District personnel. The requestor will provide a written request accompanied by a drawing to show the location of the proposed service. The District will provide an estimate to the requestor and when the check is received from the requestor the work order will be forwarded to the District crews for installation and coordination.

Meter installation charges are as follows: (customer provides the service and the meter box)

Meter size	Cost
5/8" x 3/4"	\$130.00*
3/4"	\$200.00
1"	\$250.00
1-1/2"	\$450.00
2" Disc	\$750.00
2" Turbo	\$1,300.00
3" Turbo	\$1,500.00
4" Turbo	\$2,800.00

*(Developer installed-Residential only)

Costs for larger meters will have to be determined at the time of request from Purchasing Dept. Cost of meter includes the strainer if not already built-in to the meter.

2. If a meter is downsized on a 2" or smaller service lateral there will be no additional charge or refund. If the meter is downsized from a 3" or larger meter, the charge will be based on the service installation charge less the salvage value of the materials recovered from the larger service. Customer will be responsible for any plumbing modifications downstream of the water meter.
3. If a meter is to be upsized from 5/8" X 3/4" to 1", the angle stop will need to be replaced. The cost for District staff to do this work is \$2,000.00 and will be collected along with the standard 1" meter cost. Customer will be responsible for any plumbing modifications downstream of the water meter.

Plan Check and Inspection Fees

Plan check and inspection fees for water systems shall be calculated as 8% of the bondable cost for the off-site, public, potable or recycled water system or a fixed fee as described below:

1. Installation of a 1" or 2" service	\$400.00
2. Removal of a 1" or 2" service	\$400.00
3. Installation of a 4" or larger service	\$700.00
4. Installation or replacement of Fire DDCA	\$500.00

A non-refundable deposit of 5% of the estimated cost of the public potable or recycled water system is required with the submittal of the first plan check to cover the costs of plan checking. The total fee is due and payable prior to final plan approval.

Non-Digital Submittal Surcharge

A surcharge fee, calculated as 2% of the bondable cost for the potable or recycled water system will be charged for any plans not submitted with a digital format. The fee is due and payable prior to final approval of the plans.

Interim Water Service Charge – New Developments

A one-time charge of \$35.10 per connection to each pad in a new tract and/or development will be made to builders and developers for unmetered water service available for that period of time after in-tract lines have been connected to the District's water system until the new customer begins metered water service.

Unmetered water service is not permitted for custom lots. Developers for custom lots will be required to apply for a domestic water construction meter prior to starting construction.

Sewer Connection Fees

Residential

	IMPROVEMENT DISTRICT	0-5.8 DUs/acre	5.9-10.8 Dus/acre	10.9-25.8 Dus/acre	25.9-40.0 Dus/acre
Connection Fees Per Dwelling Unit	1 (201)*	\$6,223	\$5,538	\$4,558	\$3,596
	212	\$4,725	\$4,725	\$4,725	\$4,725
	213	\$4,260	\$4,260	\$4,260	\$4,260
Total acreage for any given development shall be gross acres excluding private parks.	240	\$3,433	\$3,433	\$3,433	\$3,433
	225	\$2,700	\$2,700	\$2,700	\$2,700
	253	\$2,134	\$2,134	\$2,134	\$2,134
Parks.	253 PA 30	\$3,581	\$3,581	\$3,581	\$3,581
	256	\$24,500	\$24,500	\$24,500	\$24,500
	285	\$4,410	\$4,410	\$4,410	\$4,410
	288	\$2,400	\$2,400	\$2,400	\$2,400
	OPA1 (Ridgeline)	\$4,200	\$4,200	\$4,200	\$4,200
	All others*				

Commercial, Industrial and Public Authority – Office Building

	IMPROVEMENT DISTRICT	Commercial	Industrial	Public Authority
Connection Fees Per Gross Acre	1 (201)*	\$34,874	\$60,845	\$34,874
	212	\$28,240	\$28,240	\$28,240
	213	\$25,380	\$0	\$12,597
	240	\$15,678	\$0	\$15,678
	225	\$13,200	\$21,904	\$13,200
	253	\$9,794	\$16,252	\$9,794
	253 PA 30	\$15,966	\$26,493	\$15,966
	285	\$8,831	\$8,831	\$8,831
	288	\$9,474	\$9,474	\$9,474
	All others*			

Parks, Churches and Commercial Recreational Facilities

	IMPROVEMENT DISTRICT	Fee
Connection Fees Per Fixture Unit	1 (201)*	\$385.84
	240	\$233.24
	225	\$206.89
	253	\$153.50
	253 PA 30	\$250.23
	288	\$62.86
	All others*	

*Connection fees will be set by the Board of Directors upon request for initial service for each such improvement district.

Schools (Public and Private)

	IMPROVEMENT DISTRICT	Primary & Intermediate	Secondary
Connection Fees Per 100 Students Average Daily Attendance	1 (201)*	\$18,283	\$24,381
	240	\$11,024	\$14,701
	225	\$9,720	\$12,960
	253	\$7,212	\$9,616
	253 PA 30	\$11,757	\$15,676
	288	\$3,026	\$4,033
	All Others*		

Sewer Installation Charges

1. A \$100 inspection fee will be charged for sewer laterals installed by the applicant, at no cost to the District, in accordance with District approved plans. The fee is to be paid prior to the approval of the plan for the sewer lateral.
2. The plan check and inspection fee for public sewer systems will be calculated as 10% of the bondable cost for the public sewer system or a fixed fee as described above. A non-refundable deposit of 5% of the estimated cost of the sewer system is required with the submittal of the first plan check. The total fee will be due and payable prior to final approval of the plans.

Non-Digital Submittal Surcharge

A surcharge fee, calculated as 2% of the bondable cost for the public sewer system will be charged for any plans not submitted with a digital format. The fee is due and payable prior to final approval of the plans.

District Closed Circuit Television Inspection Charges

Initial TV Inspection Fee

A fee of \$.60 per linear foot as measured from the center line of manholes will be charged for all 6-inch and larger sewer lines to be inspected by a closed circuit television camera. The District will furnish the special camera equipment and manpower to fulfill this inspection requirement. This fee is to be paid along with the other connection, meter, and inspection fees prior to the District signing developer's tract utility plans.

Reinspection

Fees for Reinspection by District TV Crew after corrective work is completed. Those portions of the pipeline system that have been corrected must be retelevised.

1. District fees for retelevising corrective work will be a flat set-up fee of two hundred fifty dollars (\$250.00) plus \$.60 per foot of sewer line reinspected measured centerline to centerline of manholes.
2. Payment for retelevising estimated inspection fees must be received by the District Engineering Inspection Division prior to scheduling the reinspection. Retelevising will not be done until the fees are paid.

Cancellation of District's TV Inspection

If it is determined by either the Contractor or Developer that the job site will not be ready or accessible for the television inspection on the scheduled date, as notified, the Contractor shall notify the District Inspection Division of the necessary cancellation at least 24 hours in advance of the scheduled inspection to avoid being charged a cancellation fee.

1. If the District's television crew arrives at the job site and the work is not ready or accessible, the Contractor and owner will be billed for the cancellation fee of two hundred fifty dollars (\$250.00), payable to the District prior to the date of the rescheduled television inspection.
2. A rescheduled inspection is to be made through the District's project inspection division.

Optional Developer TV Inspection

If the Contractor or Owner desires to have a portion of, or the entire job, TV inspected for his convenience, he will be charged a fee of one hundred fifty dollars (\$150.00) plus \$.60 per foot of sewer line inspected measured centerline to centerline of manholes.

Exhibit B: History of Revisions to Schedule of Rates and Charges

DATE ADOPTED	RESOLUTION	REVISION	EFFECTIVE DATE
05-23-77	1977-49	Rescind 1973-48 & 1977-42	
08-29-77	1977-71	Change in Connection Charges	09-01-77
02-27-78	1978-31	Rescind 1977-71	Discontinue Water & Sewer Service
			03-01-78
07-10-78	1978-135	Rescind 1978-31	Increase
			07-10-78
08-28-78	1978-154	Rescind 1978-135	Increase Connection Fees
			08-28-78
01-08-79	1979-02	Rescind 1978-154	Increase Water Commodity Charges
			01-08-79
06-25-79	1979-25	Rescind 1979-02	Increase Water & Sewer Charges
			07-01-79
07-30-79	1979-41	Rescind 1979-25	Increase Connection Fees
			07-30-79
06-23-80	1980-28	Rescind 1979-41	Increase
			07-01-80
08-25-80	1980-49	Rescind 1980-28	Increase Connection Fees
			08-25-80
12-22-80	1980-77	Rescind 1980-49	Increase Wastewater System Charges
			01-01-81
06-15-81	1981-103	Rescind 1980-77	Increase
			07-13-81
07-13-81	1981-132	Rescind 1981-103	Increase Connection Fees
			07-13-81
06-28-82	1982-48	Rescind 1981-132	Increase Connection Fees & Water & Sewer Rates
			07-01-82
09-27-82	1982-61	Rescind 1982-48	Delinquency Charges
			10-01-82
11-22-82	1982-67	Rescind 1981-61	High-rise Connection Fees
			12-01-82
06-27-83	1983-116	Rescind 1982-67	Increase
			07-01-83
11-21-83	1983-137	Rescind 1983-116	Increase Dom. Water Rates & Imply. Mod. Sewer Rates
			01-01-84
12-12-83	1983-132	Rescind 1983-131	High-rise Connection Fees (Sewer)
			01-01-84
04-23-84	1984-13	Rescind 1983-132	Untreated & Recycled Water For Ag Use Commodity Charges Increase
			06-01-84
06-25-84	1984-22	Rescind 1984-13	Decrease Water & Sewer Charges, Increase Connection Fees
			07-01-84
09-10-84	1984-43	Rescind 1984-22	Change Delinquency Charge
			10-01-84
01-28-85	1985-2	Rescind 1984-43	Lower Sewer Rates
			02-01-85
02-25-85	1985-7	Rescind 1985-2	High Volume Connection Fee
			02-25-85
03-25-85	1985-31	Rescind 1985-7	Reduce Connection Fees
			03-25-85
06-24-85	1985-37	Rescind 1985-31	I.D. 103 & 3(203) Decrease Water & Sewer Chgs. Change Recycled Landscape Charge
			07-01-85
12-16-85	1985-115	Rescind 1985-37	Decrease Sewer Charges
			01-01-86
06-23-86	1986-28	Rescind 1985-115	Decrease Sewer Charges
			07-01-86
03-23-87	1987-11	Rescind 1986-28	High Volume Connection Fees
			04-01-87

Continued

DATE ADOPTED	RESOLUTION	REVISION	EFFECTIVE DATE
06-22-87	1987-27	Rescind 1987-11	Increase R-W; Nonpotable Ag
08-10-87	1987-44	Rescind 1987-27	Reduce Connection Fees I.D.'s 103,3(203), 102(120)121 & 106(160)161
09-28-87	1987-49	Rescind 1987-44	Industrial Waste Program
01-25-88	1988-18	Rescind 1987-49	Add Portola Hills Sewer Serf. Add Water Pumping Surcharge
06-27-88	1988-61	Rescind 1988-18	Reduce Monthly Sewer Charge
08-22-88	1988-66	Rescind 1988-61	Adjust Connection Fees
06-26-89	1989-38	Rescind 1988-66	Reduce Monthly Sewer Charge Reduce Recycled Landscape Increase Untreated and Recycled Ag Rates
08-28-89	1989-58	Rescind 1989-38	Adjust Connection Fees
06-26-90	1990-20	Rescind 1989-58	Reduce Monthly Sewer Charge Reduce Untreated and Recycled Ag Rates
07-23-90	1990-24	Rescind 1990-20	Adjust Connection Fees
01-28-91	1991-05	Rescind 1990-24	Eliminate High Rise and Adjust Connection Fees Add Excessive Use Surcharge
04-22-91	1991-09	Rescind 1991-05	Ascending Block Rate Structure and Request for Variance
05-28-91	1991-13	Rescind 1991-9	Commodity Rates for Landscape Customers
06-10-91	1991-19	Rescind 1991-13	Commodity Rates for Ag., Untreated Landscape, Portola Hills Sewer Rates and Coastal Recycled Rates
07-12-91	1991-37	Rescind 1991-19	Adjust Connection Fees
10-28-81	1991-46	Rescind 1991-37	Increase Ag Water Rate
04-30-92	1992-12	Rescind 1991-46	Modify Ascending Block Rate Structure
06-22-92	1992-22	Rescind 1991-13	Modify Ascending Block Rate Structure
09-28-92	1992-40	Rescind 1992-22	Adjust Connection Fees
01-25-93	1993-3	Rescind 1992-40	Landscape Irrigation Rates
03-04-93	1993-8	Rescind 1993-3	Modify Ascending Block Rate Structure
06-28-93	1993-22	Rescind 1993-8	Increase Water Rate and Reduce Monthly Sewer Charge
07-28-93	1993-26	Rescind 1993-22	Decrease Water Rates
09-13-93	1993-29	Rescind 1993-26	Adjust Connection Fees

Continued

DATE		ADOPTED RESOLUTION		REVISION	APPENDIX R EFFECTIVE DATE
06-13-94	1994-10	Rescind 1993-29	Increase Water Rate		07-01-94
08-08-94	1994-18	Rescind 1993-10	Adjust Connection Fees		08-08-94
08-14-95	1995-20	Rescind 1994-18	Adjust Connection Fees		08-14-95
08-28-95	1995-24	Rescind 1995-20	Adjust Pumping Surcharges		10-01-95
09-25-95	1995-27	Rescind 1995-20	Adjust Connection Fees and		09-25-95
09-25-95	1995-27	Rescind 1995-24	Adjust Pumping Surcharges		11-01-95
10-23-95	1995-31	Rescind 1995-27	Adjust Pumping Surcharges		11-01-95
11-27-95	1995-35	Rescind 1995-31	Add Monthly Sewer Service Charge - Newport Coast		12-01-95
01-08-96	1996-3	Rescind 1995-35	Adjust Connection Fees to I.D. 240		01-08-96
06-10-96	1996-19	Rescind 1996-3	Adjust Pumping Surcharges Increase Nonpotable Water Charges and Modify Ascending Block Rate Allocations		07-01-96
08-12-96	1996-27	Rescind 1996-19	Adjust Connection Fees		08-12-96
08-27-96	1996-28	Rescind 1996-27	Adjust Connection Fees to I.D.'s 140 & 240		08-27-96
09-23-96	1996-32	Rescind 1996-28	Adjust Water and Sewer Fixed Charges		09-23-96
10-14-96	1996-33	Rescind 1996-32	Adjust Sewer Service Charges for Non- Residential & Portola Hills		10-14-96
06-30-97	1997-17	Rescind 1996-33	Modify Rates and Charges and Connection Fees		06-30-97
10-01-97	1997-29	Rescind 1997-17	Modify Ascending Block Rate Structure Terminology		10-01-97
06-08-98	1998-21	Rescind 1997-29	Miscellaneous Adjustments to Schedule of Rates and Charges		07-01-98
08-24-98	1998-33	Rescind 1998-21	Adjust Connection Fees		08-24-98
06-28-99	1999-25	Rescind 1998-33	Adjustments to Schedule of Rates and Charges		07-01-99
06-26-00	2000-18	Rescind 1999-25	Adjustments to Schedule of Rates and Charges		07-01-00
07-24-00	2000-24	Rescind 2000-18	Adjustments to Schedule of Rates and Charges		07-25-00
06-25-01	2001-24	Rescind 2000-24	Adjustments to Schedule of Rates and Charges		07-01-01
06-24-02	2002-22	Rescind 2001-24	Adjustments to Schedule of Rates and Charges		07-01-02
12-09-02	2002-47	Rescind 2002-22	Adjustments to Schedule of Rates and Charges		12-09-02
03-10-03	2003-7	Rescind 2002-47	Adjustments to Schedule of Rates and Charges		03-10-03
06-23-03	2003-20	Rescind 2003-7	Adjustments to Schedule of Rates and Charges		07-01-03
09-08-03	2003-35	Rescind 2003-20	Adjustments to Schedule of Rates and Charges		09-08-03
06-28-04	2004-25	Rescind 2003-35	Adjustments to Schedule of Rates and Charges		07-01-04
07-12-04	2004-32	Rescind 2004-25	Adjustments to Schedule of Rates and Charges		07-12-04
10-11-04	2004-51	Rescind 2004-32	Adjustments to Schedule of Rates and Charges		10-11-04
06-27-05	2005-20	Rescind 2004-51	Adjustments to Schedule of Rates and Charges		07-01-05

DATE				APPENDIX R
ADOPTED	RESOLUTION	REVISION		EFFECTIVE
				DATE
09-26-05	2005-31	Rescind 2005-20	Adjustments to Schedule of Rates and Charges	10-10-05
10-10-05	2005-35	Rescind 2005-31	Adjustments to Schedule of Rates and Charges	10-10-05
06-26-06	2006-20	Rescind 2005-35	Adjustments to Schedule of Rates and Charges	06-27-06
07-24-06	2006-27	Rescind 2006-20	Changes to Water & Sewer Connection Fees	07-24-06
06-25-07	2007-16	Partially Modifies 2006-27	Adjustments to Schedule of Rates and Charges	06-26-07
07-16-07	2007-21	Partially Modifies 2006-27	Changes to Water & Sewer Connection Fees	07-17-07
06-23-08	2008-36	Rescind 2007-21	Adjustments to Schedule of Rates and Charges	07-01-08
07-28-08	2008-45	Partially Modifies 2008-36	Changes to Water & Sewer Connection Fees	07-29-08
06-22-09	2009-20		Adjustments to Schedule of Rates and Charges	06-23-09
07/27/09	2009-24	Partially Modifies 2009-20	Changes to Water & Sewer Connection Fees	07/28/09
06/28/10	2010-19		Adjustments to Schedule of Rates and Charges	07/01/10
07/26/10	2010-22	Partially Modifies 2010-19	Changes to Water & Sewer Connection Fees	07/27/10
02/28/11	2011-3	Partially Modifies 2010-22	Changes to Sewer Connection Fees	03/01/11
06/27/11	2011-25	Rescind 2010-19	Adjustments to Schedule of Rates and Charges	07/01/11
07/25/11	2011-33	Rescind 2011-25	Changes to Water & Sewer Connection Fees	07/26/11
06/25/12	2012-26	Rescind 2011-25	Adjustments to Schedule of Rates and Charges	07/01/12
10/08/12	2012-41	Partially Modifies 2012-26	Changes to Water & Sewer Connection Fees	10/09/12
12/10/12	2012-57		Adjust Connection Fees to IDs 112 & 212	12/11/12
06/24/13	2013-21	Rescind 2012-26	Adjustments to Schedule of Rates and Charges	07/01/13
12/16/13	2013-60	Partially Modifies 2013-21	Changes to Water & Sewer Connection Fees	01/01/14
06/23/14	2014-32		Adjustments to Schedule of Rates and Charges	07/01/14