# table of contents

- OCSD Board of Directors ........................................................................................................ ii
- Message from the General Manager ....................................................................................... iii
- Executive Summary .................................................................................................................. 1
- The Strategic Planning Framework ......................................................................................... 3
  - Mission Statement .................................................................................................................. 4
  - Vision Statement ................................................................................................................... 5
- Core Values .................................................................................................................................. 6
- Risk Register .............................................................................................................................. 7
- Strategic Goals and Levels of Service ...................................................................................... 8
- Appendix A: Issue Papers ......................................................................................................... 12
- Appendix B: Summary of Accomplishments ......................................................................... 23
- Appendix C: Glossary ............................................................................................................... 28
The strategic planning effort starts with the Board of Directors setting overall policy and priorities for the Sanitation District. Based on that policy direction, staff develops the annual operational plan and budget.

Anaheim
Lucille Kring

Brea
Brett Murdock

Buena Park
Fred Smith

Costa Mesa Sanitary District
James M. Ferryman

Cypress
Prakash Narain

Fountain Valley
Steve Nagel

Fullerton
Gregory Sebourn

Garden Grove
Steve Jones

Huntington Beach
Joe Shaw

Irvine
Steven Choi

Irvine Ranch Water District
John Withers

La Habra
Tom Beamish

La Palma
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(Board Chair)

Midway City Sanitary District
Tyler Diep

Newport Beach
Keith Curry

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Orange County Board of Supervisors
Janet Nguyen

Placentia
Scott Nelson

Santa Ana
David Benavides

Seal Beach
Michael Levitt

Stanton
David Shawver

Tustin
John Nielsen

Villa Park
Brad Reese

Yorba Linda
John Anderson
(Vice Chair)
message from the general manager

In 2014, the Orange County Sanitation District will celebrate 60 years of protecting the public’s health and the environment. Over those years, OCSD in partnership with our member cities and agencies has provided reliable and cost effective service to our ratepayers. OCSD’s level of service has evolved from the 30 million gallons per day of primary wastewater treatment in 1954 to the 210 million gallons of secondary treated wastewater that we produce today.

In 2007, the Board of Directors and staff charted a course for the future through the development of the agency’s first Five-Year Strategic Plan. We committed to the execution of that plan and implementation of the goals necessary to achieve success. This year, I am pleased to report that over the past six years, we completed thirty-eight strategic goals and made strides to improve technical operations, biosolids management, odor control, and regulatory compliance. Building on this success, the District’s Board of Directors and staff are charting the future through the development and execution of this 2014 Strategic Plan.

This Strategic Plan envisions an organizational culture that adheres to our core values and makes efficient and effective use of all available resources. Through a newly developed Vision Statement, I am committed to focusing our efforts on customer service, protecting public health and the environment, fiscal responsibility, communications, partnering with others and creating the best possible workforce. This focus will be achieved through the goals laid out in this plan which focuses our collective efforts and provides alignment from the Board of Directors to our management staff.

OCSD is a world-renowned organization, and our team is regarded as leaders in our industry with significant achievements over the years. In the past 10 years alone, we partnered with the Orange County Water District to develop the Groundwater Replenishment System, completed full Secondary Treatment, had fewer sewer spills than in the past, significantly improved our safety record, and received numerous wastewater industry awards in every part of our organization. This success is truly a testament to our Board of Directors’ leadership and our workforce.

Under the direction of the Board of Directors, I am honored to be leading an agency with a track record of innovation, robust planning, and sound financial management. I look forward to working together to accomplish all of our goals in the years ahead and continuing our successes.

Respectfully submitted,

James D. Herberg, General Manager
Strategic Planning is as much about the process as it is about the outcome. In working together towards achieving the newly developed vision and developing a path forward OCSD staff, senior management, and Board of Directors and Alternates came together in a spirit of partnership. They gained a better understanding of the Agency’s opportunities, challenges, and the expertise and commitment of its staff. We are proud of the inclusiveness of our process and the consensus that we achieved. The culture of teamwork and consensus will provide a strong foundation for us to continue to work together, in partnership with our stakeholders, toward realizing our vision and delivering on priorities.

This year marks the beginning of a new Five-Year Strategic Plan for 2014 through 2019 supported through a newly crafted Vision Statement. Each year, the plan will be reassessed, updated, and submitted for approval by the Board of Directors.

As a result of two Strategic Planning workshops, individual Board interviews, employee and management focus groups, eight new strategic goals were identified and modifications to six of OCSD’s service levels are contained in this Plan.

**Strategic Goals:**

1. Odor Control – Completion of the Odor Control Master Plan.

2. Future Biosolids Management Options – Study biosolids management options including 3rd party contracts and onsite capital facilities.

3. Energy Efficiency – Continue to research new energy efficiency and energy conversion technologies.

4. Disinfection of Ocean Discharge – Develop an implementation plan including the technical, financial and societal factors associated with cessation of disinfection of the ocean discharge.

5. Local Sewer Transfers – Complete the transfer of 174 miles of local sewers serving parts of Tustin and unincorporated areas north of Tustin and local sewer transfers in the City of Santa Ana.

6. Legislative Advocacy and Public Outreach – Develop a unified legislative advocacy and public outreach program.

7. Future Water Recycling – Determine partnerships, needs, strategies, benefits and costs associated with recycling of Plant No. 2 effluent water.

8. Workforce Planning and Workforce Development – This initiative is ongoing and part of a comprehensive workforce planning and development effort to ensure we have the right people with the right skills and abilities, in the right place, at the right time.
executive summary

Modifications to Levels of Service:

• Urban Runoff – Establish a new level of service target of up to 10 million gallons per day.

• Maximum offsite odor impacts – Treatment Plant No. 1 – Deletion of the dilution to threshold level of service until the scheduled Odor Control Master Plan has been updated.

• Maximum offsite odor impacts – Treatment Plant No. 2 - Deletion of the dilution to threshold level of service until the scheduled Odor Control Master Plan has been updated.

• Number of odor incidents/events: Collection System – Establish new level or service from 34 to 12 based on historical data.

• GWRS – Rword the existing level of service from a specific number of million gallons to, provide 100 percent of the specification effluent available to the Groundwater Replenishment System to maximize full production of purified water.

• Biosolids – modifications to the following levels of service:
  
  o Delete - Maintain National Biosolids Partnership Certification of Biosolids Environmental Management System. This is an operational standard and will continue to take place.

  o Delete - Percent of biosolids recycled and percent of biosolids to landfill. This performance measure will be replaced with: Tons of biosolids to landfill through 2017 Peak Production period.

Wastewater is transported through the 570 miles of sewers throughout a service area of close to 500 square miles and enters into the headworks at either Plant No. 1 in Fountain Valley or Plant No. 2 in Huntington Beach.
The planning framework illustrated below shows how OCSD staff and the Board of Directors play a critical role in strategic planning and resource allocation.
our mission statement

The Mission Statement is the basic foundation that defines why we exist.

“We protect public health and the environment by providing effective wastewater collection, treatment, and recycling.”
vision statement

The Vision Statement supports the Mission Statement by expressing a broad philosophy of what the Orange County Sanitation District strives to achieve in the delivery of services to our customers, vendors, other agencies, the general public, and each other.

ORANGE COUNTY SANITATION DISTRICT WILL BE A LEADER IN:

- Providing reliable, responsive and affordable services in line with customer needs and expectations.
- Protecting public health and the environment utilizing all practical and effective means for wastewater, energy, and solids resource recovery.
- Continually seeking efficiencies to ensure that the public’s money is wisely spent.
- Communicating our mission and strategies with those we serve and all other stakeholders.
- Partnering with others to benefit our customers, this region, and our industry.
- Creating the best possible workforce in terms of safety, productivity, customer service, and training.
core values

The Core Values support the Mission and Vision Statements by expressing the values, beliefs, and philosophy that guides our daily actions. They help form the framework of our organization and reinforce our professional work ethic.

Honesty, Trust and Respect
We aspire to the highest degree of integrity, honesty, trust, and respect in our interaction with each other, our suppliers, our customers, and our community.

Teamwork and Problem Solving
We strive to reach OCSD goals through cooperative efforts and collaboration with each other and our constituencies. We work to solve problems in a creative, cost-effective and safe manner, and we acknowledge team and individual efforts.

Leadership and Commitment
We lead by example, acknowledging the value of our resources and using them wisely and safely to achieve our objectives and goals. We are committed to act in the best interest of our employees, our organization, and our community.

Learning/Teaching
We continuously develop ourselves, enhancing our talents, skills, and abilities, knowing that only through personal growth and development will we continue to progress as an agency and as individuals.

Recognition/Rewards
We seek to recognize, acknowledge, and reward contributions to OCSD by our many talented employees.
The Risk Register is an annual compilation of the various risks, opportunities and continuity challenges facing the Orange County Sanitation District determined by our management team. As the world dealt with a variety of crises last year (building collapses, Hurricane Sandy, drought and wildfires) OCSD management identified a larger number of risks directly related to our infrastructure and ongoing services. However, management did agree on our single biggest risk, earthquake and its associated impacts.

The 2013 Risk Register Update identified these as the top risks:

- **Seismic event damages infrastructure** – reflecting the concern that an earthquake, of the sort anticipated to strike Southern California eventually, may have an impact on OCSD facilities.

- **Interruption of chemical supply in event of disaster** – pointing to the need OCSD has for a reliable, continuing supply of chemicals to treat wastewater even in the aftermath of a disaster which might interrupt highways or other modes of transportation.

- **Electric failures or fire (including after a disaster) interrupt power** – underlining the concern that a disaster or event may cause electrical problems which impact the District’s ability to treat wastewater continuously.

The top opportunities for the 2013 update are:

- **As employees leave, restructure staffing to become more efficient** – referring to the many employees who are eligible for retirement, and the opportunity to look at staffing needs thereafter.

- **Focus on main mission without other endeavors leading to higher rates** – an opportunity to stick to the core purpose so that costs are kept in line.

The major underrated continuity challenges include:

- **Pipelines damaged or severed after earthquake** – focusing on the many hundreds of miles of pipelines that the District has underground in the county, and the challenge of continuing to serve customers after an earthquake has shaken the pipelines.

- **Insufficient disaster preparedness** – expressing the sense that exercises, although held in the past, should be more frequent and responsive to OCSD’s risk and continuity challenges.

Staff is developing plans to mitigate the risks and continuity challenges, and to take advantage of the opportunities. OCSD’s Risk Management division released a schedule of “table top exercises” designed to respond to the top risks and challenges, and held an exercise focused on the possible interruption of electrical power after a disaster. An exercise is also planned to consider how to respond to the potential disjunction and relocation of pipelines in an earthquake. As for opportunities, OCSD’s General Manager has directed, as part of this Strategic Plan, that comprehensive workforce planning activities be designed and implemented.
strategic goals and levels of service

The Orange County Sanitation District developed eight strategic goals to support the new vision of the 2014 OCSD Board of Directors and Executive Management Team. The levels of service are key performance indicators in achieving the overall vision.

Providing Exceptional Customer Service

- Providing reliable, responsive and affordable services in line with customer needs and expectations.

1. Odor Control - Completion of the Odor Control Master Plan to make sure the District’s investment is current and, if needed, future process systems will produce the benefits intended.
   Target completion in FY 15-16.

Levels of Service to support Customer Service:

- Odor complaint response: Treatment Plants within 1 hour
- Odor complaint response: Collections System within 1 working day
- Number of odor incidents/events: Reclamation Plant No. 1 – Zero (0) under normal operating conditions
- Number of odor incidents/events: Treatment Plant No. 2 – Zero (0) under normal operating conditions
- Number of odor incidents/events: Collection System (12)
- Respond to public complaints or inquiries regarding construction projects within 1 working day
- New connection permits processed within 1 working day
- Respond to all biosolids contractor violations within a week of violation notice

Protecting Public Health

- Protecting public health and the environment utilizing all practical and effective means for wastewater, energy, and solids resource recovery.

   Target for completion in FY 15-16.

3. Energy Efficiency - The District will research new energy efficiency and energy conversion technologies to maximize energy efficiency, reduce operating costs, minimize environmental impact, and replace assets that are at the end of their useful lives. Target for completion in FY 17-18.
strategic goals and levels of service

Levels of Service in support of Protecting Public Health:

- Receive and treat, free of fees, up to 10 MGD of dry weather urban runoff diversion flows
- Air emissions health risk to community and employees, per one million people (for each treatment plant). Target: <10
- No Notices of Violation (NOVs) with air, land, and water permits
- Respond to collection system spills within 1 hour
- Sanitary sewer spills per 100 miles, less than 2.1 as the industry average
- Contain sanitary sewer spills within 5 hours
- Meet secondary treatment standards: 25 BOD-C (mg/L)
- Meet secondary treatment standards: 30 TSS (mg/L)
- Frequency of unplanned use of emergency one-mile (78-inch diameter) outfall (per year during dry weather). Target: 0 times
- Tons of biosolids to landfill through 2017 Peak Production period (less than 100 tons)
- Thirty-day geometric mean of total coliform bacteria in effluent after initial dilution of 250:1 (mpn)
- Compliance with core industrial pretreatment requirements

Managing and Protecting the Public’s funds

- Continually seeking efficiencies to ensure that the public’s money is wisely spent.

4. Disinfection of Ocean Discharge – Continue discussions with the regulatory agencies and the environmental groups to gauge the response and stance related to the cessation of disinfection of the ocean discharge. Bring forward to the Board of Directors an implementation plan including the technical, financial, and societal factors associated with this decision. Target for completion in FY 13-14.

5. Local Sewer Transfers – Complete transfer of 174 miles of local sewers serving parts of Tustin and unincorporated areas north of Tustin and local sewer transfers in the City of Santa Ana to be concluded by December 31, 2013. Following those, no further local sewers to be transferred at the initiation of OCSD. If a local jurisdiction is interested in OCSD transferring sewers, each request will be considered on an individual basis assuming the sewers meet the requirements identified. Target for completion in FY 13-14.

Levels of Service to support Managing and Protecting the Public’s funds:

- Annual user fees sufficient to cover all O&M requirements
- Actual collection, treatment, and disposal costs per million gallons in comparison with budget
- Maintain AAA Bond Rating
**Stakeholder Understanding and Support**

- Communicating our mission and strategies with those we serve and all other stakeholders.

6. **Legislative Advocacy and Public Outreach** – Develop a unified legislative advocacy and public outreach program to deliver our messages and positioning as a leader in the wastewater industry.  
*Target for completion in FY 13-14.*

- Partnering with others to benefit our customers, this region and our industry.

7. **Future Water Recycling Options** – Determine partnerships, needs, strategies, benefits and costs associated with recycling of Plant No. 2 effluent water. Target for completion in FY 18-19.

**Levels of Service to support Stakeholder Understanding and Support:**

- Meet GWRS specification of less than 5 NTU required for Plant 1 secondary effluent (NTU)
- Provide 100 percent of specification effluent available to the Groundwater Replenishment System to maximize full production of purified water.
strategic goals and levels of service

Organizational Effectiveness

• Creating the best possible workforce in terms of safety, productivity, customer service, and training.

8. Workforce Planning and Workforce Development – This initiative is ongoing and part of a comprehensive workforce planning and development effort to ensure we have the right people with the right skills and abilities, in the right place, at the right time. Target for completion, ongoing.

Levels of Service to support Organizational Effectiveness:

■ Employee injury incident rate – per 100 employees (<= 4.6)
■ Meet mandatory OSHA training requirements
■ Hours worked since last lost work day (<= 1,000,000)
■ Achieve annual agency target of days away from work, days of restricted work activity, or job transferred as a result of a work-related injury or illness (<=2.5)
■ Training hours per employee (45 per year)

From March 2010 to date, 110 employees left OCSD taking 1,985 years of knowledge and experience with them. Through workforce planning and workforce development OCSD is working to ensure we have the right people with the right skills and abilities in the right place, at the right time.

Pictured above Dickie Fernandez, Associate Engineer; Randa AbuShaban, Associate Engineer; and Aharon Rosenhamer, Senior Mechanic.
appendix A: issue papers

In preparation for the October 2, 2013 Board of Director Strategic Planning Workshop to discuss the proposed goals for 2014, staff prepared eight issue papers related to the new goals. The appendix includes issue papers on the following topics:

1. Odor Control
2. Future Biosolids Management Options
3. Energy Efficiency
4. Disinfection of OCSD’s Ocean Discharge
5. Local Sewer Transfers
6. Legislative Advocacy and Public Outreach
7. Future Water Recycling Options
8. Workforce Planning and Workforce Development

The activated sludge secondary treatment facility was the final project to meet the EPA Secondary Treatment Consent Decree. This facility increased secondary treatment capacity at Plant No.1 by 60 million gallons per day.
Should OCSD update its Odor Control Master Plan to validate the District standards for levels of service, scope and priority for facilities improvements?

Why is this issue important to the District?

Although odors are inherent to wastewater, OCSD maintains a good neighbor policy and not be a odor nuisance to its neighbors. Controlling nuisance odor represents a significant operational and capital expense to OCSD. In 2007, the Levels of Service (LOS) for Odor Control were adopted by the Board as part of the Five-Year Strategic Plan. The District adopted a dilution to threshold (D/T) measurement system for a level of service goal. The standard was set for 14 D/T at Plant No. 1 by 2016 and 17 D/T at Plant No. 2 by 2018. This means that no odors leave the plant boundaries and affect surrounding communities.

Staff believes that offsite odor impacts have been significantly reduced since the adoption of the 2007 LOS Standards. The District is continuing with its collection system chemical dosing program on four of eleven trunklines. This continuous dosing approach helps reduce corrosion and odors in the collection system and headworks of both treatment plants. Additionally, a significant number of projects have been completed, some including new odor control technologies. Projects completed since the 2007 LOS adoption that reduce offsite odor impacts include:

- Steve Anderson Lift Station at Plant No. 1
- Trickling Filters at Plant No. 2
- Headworks Replacement at Plant No. 2
- Solids Thickening and Processing Upgrades at Plant No. 2
- Conversion of the Plant No. 1 Headworks Scrubbers from hydrogen peroxide to bleach.
- Conversion of the Plant No. 2 Primary Scrubbers from hydrogen peroxide to bleach.

The following projects are in the design or construction phases that will further reduce offsite odor impacts:

- Sludge Thickening/Dewatering and Odor Control at Plant No. 1
- Trunk Line Odor Control Improvements at Plant No. 1 Headworks
- Sludge Dewatering and Odor Control at Plant No. 2

Much of the basis for the work originally planned while adopting the current odor control standard was based on engineering studies and assumed process performance for new or altered process technologies. Recent testing of a portion of the installed odor control systems shows their performance differing from planning expectations. Thus, before moving ahead on new odor control projects, further performance assessment of the installed odor systems, including the secondary treatment facilities at both Plants and the new Headworks at Plant No. 2, is appropriate. Also, new odor measurement technologies have been developed since 2007, which may provide a better odor-impact measurement than the current D/T based LOS standard. Staff is proposing to invest the time and effort to conduct a performance assessment of the existing odor systems and potentially develop alternatives for the existing D/T based LOS standards.
Goals

- The performance of completed odor control projects should be thoroughly evaluated to assess the actual performance versus original performance assumptions. (This will be done through an update of the Odor Control Master Plan Project SP-166.)

- Future planned odor control projects involving the following Plant 1 processes - Headworks, Trickling Filter and Primary Basins, and Plant 2 Primary Basins should be combined with Asset Management scopes of work to implement comprehensive refurbishment plans that limit offsite odor impacts on a priority basis.

- Reassess whether dilution to threshold is the most appropriate measurement system. This may include investigating odorant based measurement systems, or shifting the dilution to threshold system to the Engineering Design Guidelines for future comprehensive Asset Management based project designs, or develop a new level of service recommendation as part of the odor control Master Plan (SP-166).

- Assess retaining the odor complaint level of service measurement and reporting system, modifying our goal to achieve no offsite odor complaints during normal process operations.

Desired Outcome

- The District remains committed to being a good neighbor and limiting offsite odor impacts in a comprehensive and cost effective manner. Completion of the Odor Control Master Plan is necessary to make sure the District’s investment is current and, if needed, future process systems will produce the benefits intended.
**future biosolids management options**

**Should OCSD study potential biosolids management options ahead of the 2016 request for proposals?**

**Why is this issue important to the District?**

OCSD’s biosolids management contract with Synagro expires in December 2016. OCSD has sent up to half of its daily biosolids production to Synagro composting facilities in Kern County, California and La Paz County, Arizona since 2002. The last full-scale biosolids management study was completed in 2003. Since that time, new biosolids management options have been developed; the markets for and regulations impacting biosolids management have changed; and the economy has weakened. All of these events have resulted in more biosolids management markets with more competitive pricing.

Although there is an option to renew the Synagro contract, staff recommends studying biosolids management options to ensure that OCSD obtains the most cost effective and efficient process for its future biosolids management. Studying the current market for available biosolids management options prior to selecting a new management option or renewing the contract would ensure that OCSD has the necessary information to implement the best strategy, as well as providing OCSD staff with the knowledge on how to improve the purchasing process or develop a capital project. Due to the large costs involved in biosolids management contracts, staff seeks to develop the fairest process with the most beneficial outcome.

The 2003 Long-Range Biosolids Management Plan resulted in guidelines for the diversification of biosolids products, contractors, and markets to create a sustainable biosolids program. The updated biosolids policy (2013 Board Resolution No. OCSD 2013-03) commits OCSD to a diverse portfolio of biosolids options and to recycle biosolids, among other requirements. A study of current and available biosolids recycling options will assist OCSD in selecting the right option to ensure conformance with the biosolids policy regarding diversity of management options and other criteria.

Ahead of the selection of the next biosolids management option, staff recommends studying mid-term (4-10 years) and long-term (10+ years) strategies for biosolids management available after 2016-17 when the Synagro contract expires, IRWD stops sending solids to OCSD, and centrifuges come online thereby reducing our biosolids production by one-third. The study of biosolids management options will include off-site and on-site facilities, new and established technologies, and biosolids markets, as well as ensuring onsite strategies are aligned with any new recommendations and research.

**Goals**

- Study available biosolids management options and costs relevant and applicable to OCSD’s daily biosolids production;
- Verify available biosolids management options align with new capital facilities and meet established levels of service;
- Identify practical and reasonable biosolids management options considering OCSD’s Biosolids Policy and relevant research information;
- Develop a mechanism to allow for short-term demonstrations of viable biosolids management options;
- Develop a strategy to select a management contractor or capital project for biosolids management options in the mid-term and long-term timeframe.
**Desired Outcome**

- OCSD will have a clear mid-term and long-term strategy for biosolids management options (beginning after fiscal year 2016-2017) when the existing composting contract expires, centrifuges begin operation, and daily biosolids production is reduced by one-third. Consider on-site options.

- Maintain a sustainable biosolids management program in accordance to OCSD’s Biosolids Policy that includes diversification of products, markets, and contractors.
energy efficiency

Should OCSD continue to expand the creation and utilization of renewable energy in wastewater management?

Why is this issue important to the District?

OCSD and its contractors are a significant consumer of energy. Energy is procured in the forms of electricity, natural gas, diesel fuel and gasoline. In addition, the organic sludge recovered in the wastewater treatment process is an energy rich resource which OCSD has been converting into electricity and heat for many years.

OCSD seeks to minimize its overall energy usage and maximize the conversion of sludge to energy. Minimizing energy usage is designed into every project constructed by the OCSD. Capital dollars are expended when a lifecycle payback is calculated for energy efficiency. Variable speed pumping systems, ultra efficient electrical motors, and efficient aeration systems for our Activated Sludge Plants are examples of component selection for long term energy efficiency. Energy utilization is a significant factor in process technology selection when unit processes are added or replaced. Examples of this include using Trickling Filters rather than Activated Sludge Plants, and creative designs to replace collection system pump stations with gravity lines. Transportation fuels are also optimized by selection of advanced technology options. OCSD is investing in biosolids dewatering technology to reduce diesel costs and emissions for hauling biosolids.

OCSD is also a leader in the conversion of organic sludge to energy. OCSD has operated anaerobic digestion which uses bacteria to convert sludge to methane gas. The methane has been used to fire boilers and generators. The reduction of sludge volume and the use of heat to pasteurize the sludge creates a useful fertilizer product with lower volume and corresponding diesel fuel input to haul the product to farms.

Goals

- Complete the fuel cell research evaluation and make a recommendation to the Board of Directors.
- Continue to design energy efficiency into every project.
- Search for new research opportunities to improve conversion of organic sludge to energy.
- Search for new research opportunities to optimize processes energy and to minimize hauling energy.

Desired Outcome

- Reaffirm the OCSD commitment to leadership in energy efficiency and energy conversion from organic sludge to electricity, gas, and useful heat.
disinfection of OCSD’s ocean discharge

Should OCSD stop the disinfection of effluent?

**Why is this issue important to the District?**

During the summer of 1999, stretches of Orange County beaches were closed due to elevated levels of fecal indicator bacteria. In response, Orange County Sanitation District (OCSD) and numerous other organizations conducted extensive studies to determine the source(s) of this contamination. The outcome of these studies recognized several potential sources, including birds, Talbert Marsh and the Santa Ana River discharge, and groundwater contamination. A trunk line near the coast and the effluent plume discharging from the OCSD’s 5 mile outfall were also investigated, but were not found to be contributing sources of bacterial contamination. However, in an effort to be proactive and insure protection of public health, in 2002 OCSD began disinfection of its final effluent using chlorine at both treatment plants as a temporary measure to eliminate any uncertainty.

In 2006, OCSD observed degradation of marine life near the ocean outfall. Staff conducted 10 individual studies targeting potential causes for these observed effects. Results showed that the OCSD’s use of chlorine for ocean outfall disinfection was highly correlated with the observed effects and is therefore the likely cause of the decline in biological communities near the outfall.

In addition, staff performed a historical analysis using the most recent 14-years of bacterial data from beaches monitored by OCSD in order to assess if public health protection improved since the initiation of OCSD’s disinfection of its ocean discharge. The results from this assessment showed that disinfection of OCSD wastewater at an average annual cost of $4.18 million dollars over the 14 year period had no measurable public health benefit. Regardless of disinfection, bacteria concentrations did not change significantly, either temporally or spatially, at Orange County beaches.

A 2008 review of OCSD’s disinfection practices by a 9 member independent panel of experts organized by the National Water Research Institute produced a recommendation to re-evaluate the need for disinfection once full-secondary treatment was achieved. With full secondary treatment now in place, these studies indicate no public health benefit has been gained; there are negative impacts to the biological community near OCSD’s ocean outfall and going forward disinfection costs OCSD’s rate payers approximately $500,000 annually.

**Goal**

- Cessation of disinfection of OCSD’s effluent.

**Desired Outcome**

- Requirement to disinfect long outfall removed from our ocean discharge permit.
- Full recovery of marine life around the ocean outfall.
Should the Sanitation District continue its efforts to transfer local sewers to member cities and sewering agencies?

Why is this issue important to the District?

The Strategic Plan of November 2007 recommended transferring back to cities local assets that are not serving a true regional purpose. Successor Strategic Plans reaffirmed this initiative. This allows OCSD to focus staff’s full attention on the medium and larger diameter regional sewer pipes and pumping facilities that we own and operate, i.e., our core business.

Background

Since 1984, we have successfully transferred 61 miles of our sewers and 2 pumping facilities to member cities and sewering agencies. Most recently we transferred 3 miles of local sewers to the City of Anaheim. We anticipate completing the transfer of an additional 174 miles of local sewers serving parts of Tustin and unincorporated areas north of Tustin by December 31, 2013.

OCSD Resolution No. 11-11 provides the criteria for classifying a local facility as compared to a regional facility. Regional facilities transport combined flows from two or more jurisdictions. Local facilities are directly connected to the properties they serve and allow the local utility to assess and collect local fees for service including reserves for future replacement. Local facilities also transport flows within the boundaries of the city or sewering agency to the point of connection at the downstream OCSD regional sewer.

Discussions are underway with staff in Newport Beach, Huntington Beach, Santa Ana, Orange and Costa Mesa Sanitary District to transfer about 72 miles of sewers and 6 pumping facilities serving only local purposes.

All cities and sewering agencies must establish appropriate local fees for services as mandated by state regulations. The GM’s FY 13/14 Proposed Work Plan recommends that we seek the Board’s input on whether to continue to pursue transfers of local sewers and pumping facilities to local sewer agencies.

Desired Outcome

- Gain Board support for the current direction as is or,
- Seek Board input and support for desired changes in the current Resolution or program.
legislative advocacy and public outreach

Should OCSD expand its legislative advocacy and public outreach efforts?

Why is this issue important to the District?

As a special district, we owe it to our ratepayers to keep them apprised of our efforts to accomplish our mission of protecting public health and the environment. A mandated Proposition 218 notice is among the only points of communication that we have with our customers. It is far more effective for OCSD to reach out to the communities we serve throughout the year to describe our cost-management efforts, our budget process, audits, findings, and capital improvement projects.

As the largest regional wastewater utility in Orange County, and the third largest west of the Mississippi River, OCSD recognizes the need for an active state and federal legislative advocacy program to ensure that the interests of the ratepayers and board of directors are protected. Towards that end, staff monitors activities in Sacramento and Washington, D.C., and, with the assistance of our legislative advocates, takes appropriate action to support or oppose legislative initiatives.

A unified legislative advocacy and public outreach program is essential in delivering our messages and positioning the District as a leader in our field.

Goals

• Establish a special committee of the Board of Directors to oversee and guide development of the legislative and public outreach program.

• Develop a legislative advocacy strategic plan to set priorities for state and federal elected official outreach.

• Track bills and legislative activities.

• Identify and pursue grant funding opportunities.

• Analyze and lobby on behalf of proposed legislation that may impact the District.

• Carry out public outreach and legislative advocacy activities in support of the policy guidance contained in the strategic plan.

• Promote What 2 Flush outreach program that educates the public about the importance of infrastructure investment and supports the District’s mission to protect the public’s health and the environment.

Desired Outcome

• Position OCSD as a leader in innovative solutions to infrastructure issues.

• Secure additional funding for OCSD programs.

• Educate the public about OCSD’s purpose, mission, and the services we provide.
future water recycling options

Should OCSD study the possibility of expanding water recycling to Treatment Plant No. 2 in Huntington Beach?

Why is this issue important to the District?

Water demands are forecasted to increase in north and central Orange County, emphasizing the importance of water recycling to boost local water resources and reduce dependence on imported water. Estimated water demands in the OCSD and Orange County Water District service area are projected to increase from approximately 480,000 acre-feet per year up to 558,000 acre-feet per year in 2035 (OCWD, “Long Term Facilities Plan”, 2009). Presently, about one-third of the area’s water demands are supplied with imported water. To bolster local supplies, OCSD and OCWD have jointly sponsored renowned water recycling projects such as the Groundwater Replenishment System and the Green Acres Project. Yet, about half of OCSD’s treated wastewater is lost to ocean disposal. Treated wastewater from OCSD’s Plant No. 2 could be used as source water for water recycling, via groundwater recharge, a purple pipe irrigation system, and/or wetlands restoration. This Project will help OCSD, along with its partner OCWD, determine if Plant No. 2 effluent could be used as feedwater to support expansion of the Groundwater Replenishment System or for a new reclamation facility. More water recycling will help serve Orange County’s escalating water demands, maximizing local water independence, enhancing supply reliability, restoring and protecting wetlands, and shielding against droughts.

Goals

• Develop alternative treatment and utilization alternatives for Plant No. 2 effluent including potential technologies and partnerships;

• Create an evaluation methodology to weigh the benefits, costs, and risks of each alternative;

• Compare alternatives and make recommendations for the best apparent project(s) and partner(s) to be implemented.

Desired Outcome

• OCSD will begin to plan for the highest and best utilization of effluent water at Treatment Plant No. 2.
workforce planning and workforce development

Should OCSD advance the workforce planning and workforce development initiative as a means to ensure workforce capabilities match the work required to meet the mission and levels of service?

Why is this issue important to the District?

OCSD continues to face staffing challenges. Since March 2010 to date, 110 employees have left OCSD taking 1,985 years of knowledge and experience with them. Based on retirement eligibility today, analysis of OCSD core wastewater occupations and management positions indicates potential job replacement rates of over 38% and 57%, respectively. Robust technical skills training and leadership development efforts are in place to deal with the challenges. It is essential that OCSD continues to act on preparing for future staffing needs and ensuring access to qualified applicants while developing the existing workforce.

The workforce planning and workforce development (WF PD) programs position organizations for improved performance by ensuring that workforce capabilities match the work required to meet their mission and levels of service. To that end, it is important to have a diverse, competitive group competing for a position instead of simply hiring the next person in line based on time on the job. This Initiative will continue to help OCSD get the right people with the right skills in the right positions at the right time.

Ongoing efforts aimed at District-wide WFPD activities are necessary to ensure the ongoing delivery of efficient and effective levels of service to meet our mission. Workforce planning reinforces authorized staffing levels while addressing future needs and changing work requirements. Workforce development strengthens the workforce by preparing employees for future opportunities and focusing efforts on growth of technical skills to ensure staff is well-trained.

It is important that WFPD remains an OCSD Strategic Plan Goal for the Board of Directors to emphasize to District management that this issue requires organization-wide attention and resource allocation.

Goals

• Develop and implement workforce plans that ensure critical work is performed, identify new ways to perform work, and meet future workforce needs.

• Enhance OCSD’s ability to recruit highly qualified, diverse staff.

• Develop employees to meet workforce demands.

• Actively manage employee performance to ensure OCSD goals are met.

• Create an environment that encourages retention of employees.

Desired Outcome

• Integrate WFPD efforts to ensure workforce capabilities match work required to meet the mission and levels of service.
## Summary of Accomplishments

<table>
<thead>
<tr>
<th>Goal</th>
<th>Completed FY 07-08</th>
<th>FY 08-09</th>
<th>FY 09-10</th>
<th>FY 10-11</th>
<th>FY 11-12</th>
<th>FY 12-13</th>
<th>FY 13-14</th>
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</thead>
<tbody>
<tr>
<td><strong>SARI Line Relocation</strong> - Work in conjunction with the County of Orange and the Federal Government to relocate the SARI Line by December 31, 2013.</td>
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<tr>
<td><strong>Management System for Environmental Compliance</strong> - Implement a management control system for environmental compliance information that incorporates a dashboard-style report.</td>
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<tr>
<td><strong>Contaminants of Potential Concern (CPC)</strong> - Complete three phase testing and analysis of 550+ CPC, prepare report on findings and recommendations, develop initial source control strategy if they are CPCs identified that require control.</td>
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<tr>
<td><strong>Climate Change/Greenhouse Gases</strong></td>
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<tr>
<td>Develop an overall strategy for responding to climate change regulations and proactively adapting to the effects of climate change including identification and mitigation of greenhouse gases and adapting to any impacts to our facilities and operations.</td>
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<tr>
<td>Develop models to estimate greenhouse gas and traditional pollutant emissions for determination of our environmental footprint. (Functional predictive greenhouse gas model completed)</td>
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<tr>
<td><strong>Engine Emission Compliance</strong></td>
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<tr>
<td>Complete study to evaluate alternatives for complying with lower emission limits in the South Coast Air Quality Management’s Rule 1110.2. Initiate planning and design of demonstration testing of most promising technology(s) identified in the study.</td>
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<td>Implement capital improvements or operational modifications in order to achieve compliance.</td>
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<tr>
<td><strong>Providing Ongoing Leadership Development</strong> - Maximize the development of a pool of dedicated and talented employees ready to lead OCSD into the future.</td>
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## Summary of Accomplishments

<table>
<thead>
<tr>
<th>Goal</th>
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<tbody>
<tr>
<td><strong>Fuel Cell Evaluation</strong></td>
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<tr>
<td>Start up 300kW demonstration unit.</td>
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<tr>
<td>Evaluate cost feasibility of replacing or supplementing CGS engines with fuel cell.</td>
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<tr>
<td><strong>Reclaiming Santa Ana River Interceptor Line (SARI) Flows</strong></td>
<td></td>
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<tr>
<td>Meet with stakeholders, develop a list of obstacles that need to be overcome to reclaim the SARI Line and develop a strategy to obtain regulatory approval to reclaim SARI Line flows. This goal was canceled due to inability to obtain regulatory approval.</td>
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<tr>
<td><strong>Sewer Rate for Green Development</strong></td>
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<tr>
<td>Submit for Board approval an amendment to sewer rate ordinance with incentives for green developments.</td>
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<tr>
<td><strong>Complete Facilities Master Plan Update</strong></td>
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<tr>
<td>Complete a comprehensive update of the Facilities Master Plan and obtain Board approval</td>
<td></td>
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<tr>
<td><strong>Enterprise Information Technology Strategic Plan</strong></td>
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<tr>
<td>Complete a District-wide Information Technology Strategic Plan.</td>
<td></td>
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<tr>
<td><strong>Updating OCSD’s Risk Register</strong></td>
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<tr>
<td>Review and update OCSD’s risk register to include an assessment of technical, regulatory, financial, and political risks (among others) and possible mitigation strategies</td>
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<tr>
<td><strong>Annex Unincorporated Areas</strong></td>
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<tr>
<td>With Board concurrence, annex unincorporated areas onto OCSD’s service area.</td>
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<tr>
<td><strong>Review Interagency Agreements</strong></td>
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<tr>
<td>Conduct a comprehensive review of agreements with the Santa Ana Watershed Project Authority and Irvine Ranch Water District, and, if appropriate, reopen for discussion.</td>
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<tr>
<td><strong>Strategic Business Plan</strong></td>
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<tr>
<td>With Board concurrence, annually update and implement the Strategic Plan and Business Plan.</td>
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</tbody>
</table>
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<tr>
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<th>FY 07-08</th>
<th>FY 08-09</th>
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<th>FY 11-12</th>
<th>FY 12-13</th>
<th>FY 13-14</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Business Accountability Charters</strong> – Create Business Accountability Charters for each department consistent with those developed by managers and supervisors.</td>
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<tr>
<td><strong>Chemical Supplies</strong> – Develop a Chemical Sustainability Plan that provides OCSD with options for obtaining wastewater treatment chemicals during chemical shortages, emergencies or complete stoppages.</td>
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<tr>
<td><strong>Chemical Sustainability</strong> - Ensure a reliable and sustainable chemical supply using multiple vendor contracts to reduce the risk of supply disruption while benefiting from competitive pricing.</td>
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<tr>
<td><strong>Full-Cost Recovery 2010-11</strong> - Conduct a comprehensive review of the Sanitation District’s Urban Runoff Program to ensure a fair share recovery of costs for services.</td>
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<tr>
<td><strong>Full-Cost Recovery 2012-13</strong> - Implement a direct charging mechanism to recover the full cost of urban runoff treatment starting July 1, 2013 when the new rate structure is in place. This gal was canceled in FY 12-13 to allow additional urban runoff at no cost to the local jurisdiction.</td>
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<tr>
<td><strong>Groundwater Replenishment System</strong> - Maximize the production of GWR System product water to augment and protect the Orange County groundwater basin with a goal of 70 mgd.</td>
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<tr>
<td><strong>Sustainable Biosolids Program</strong> - Complete new in-county Compost Take-Back Program Plan Strategy.</td>
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<tr>
<td>Evaluate the feasibility of deep injection/methane recovery including commissioning a study of the geological formations below Plants 1 and 2, and availability and acceptability of any existing wells</td>
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<tr>
<td>Evaluate option of processing some biosolids at the City of Los Angeles Terminal Island demonstration well.</td>
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<tr>
<td>Implement Energy Master Plan – After the completion of the plan, assess final recommendations to ensure adequate power resources and energy management.</td>
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</table>
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<table>
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<tr>
<th>Goal</th>
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</tr>
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<tbody>
<tr>
<td><strong>Disinfection of Final Effluent</strong> - Develop a cost effective program to sustain protection of public health associated with bacteria in the effluent and incorporate program elements into our NPDES Permit.</td>
<td>FY 07-08</td>
</tr>
<tr>
<td><strong>Ocean Protection</strong> – Undertake studies to determine the cause of benthic community changes near the ocean outfall and take corrective action to return affected areas to reference conditions.</td>
<td>FY 08-09</td>
</tr>
<tr>
<td><strong>Space Planning Study Recommendations</strong> – Complete relocation of staff housed in Information Technology Trailers, Administration Building, Control Center and Building 6.</td>
<td>FY 09-10</td>
</tr>
<tr>
<td><strong>Improve the Sanitation District Security</strong> - Provide long-term security enhancements at both treatment plants and within OCSD’s Collection System.</td>
<td>FY 10-11</td>
</tr>
<tr>
<td><strong>Safety and Health Strategic Plan</strong> – Develop and implement a Safety and Health Strategic Plan for all OCSD activities.</td>
<td>FY 11-12</td>
</tr>
<tr>
<td><strong>Human Resources Strategic Plan</strong> - Design, develop and implement human resources policies, practices, systems and tools to ensure OCSD has a workforce that meets future needs of OCSD and the public it serves.</td>
<td>FY 12-13</td>
</tr>
<tr>
<td><strong>Succession Plan</strong> - Implement the Succession Management Plan including management training and the creation of a Leadership Academy.</td>
<td>FY 13-14</td>
</tr>
<tr>
<td><strong>North County Yard</strong> – Open the North County Maintenance Yard and complete the relocation of selected staff and equipment to the facility. Implement flex space for added agency-wide needs as appropriate. This goal was canceled in FY 10-11 and the facility is currently being leased.</td>
<td>completes</td>
</tr>
<tr>
<td><strong>Five-Year Rate Plan</strong> – Prepare an updated 5-year rate schedule for Board consideration to go into effect July 1, 2013</td>
<td>completes</td>
</tr>
<tr>
<td><strong>Sustainable Biosolids Program</strong> - Conduct research to reduce the amount of biosolids produced and increase digester gas production</td>
<td>completes</td>
</tr>
</tbody>
</table>
appendix C: glossary

Activated-sludge process—A secondary biological wastewater treatment process where bacteria reproduce at a high rate with the introduction of excess air or oxygen, and consume dissolved nutrients in the wastewater.

Biochemical Oxygen Demand (BOD)—The amount of oxygen used when organic matter undergoes decomposition by microorganisms. Testing for BOD is done to assess the amount of organic matter in water.

Biosolids—Biosolids are nutrient rich organic and highly treated solid materials produced by the wastewater treatment process. This high-quality product can be recycled as a soil amendment on farm land or further processed as an earth-like product for commercial and home gardens to improve and maintain fertile soil and stimulate plant growth.

Business Accountability Charters—A business unit strategic plan.

Capital Improvement Program (CIP)—Projects for repair, rehabilitation, and replacement of assets. Also includes treatment improvements, additional capacity, and projects for the support facilities.

Coliform bacteria—A group of bacteria found in the intestines of humans and other animals, but also occasionally found elsewhere used as indicators of sewage pollution. E. coli are the most common bacteria in wastewater.

Collections system—in wastewater, it is the system of typically underground pipes that receive and convey sanitary wastewater or storm water.

Certificate of Participation (COP)—A type of financing where an investor purchases a share of the lease revenues of a program rather than the bond being secured by those revenues.

Contaminants of Potential Concern (CPC)—Pharmaceuticals, hormones, and other organic wastewater contaminants.

Dashboard—A computer based business tool used to visually track performance.

Dilution to Threshold (D/T)—the dilution at which the majority of the people detect the odor becomes the D/T for that air sample.

1,4-Dioxane—A chemical used in solvents for manufacturing, fumigants and automotive coolant. Like NDMA, it occurs in the Groundwater Replenishment System water and is eliminated with hydrogen peroxide and additional ultra-violet treatment.

Greenhouse gases—in the order of relative abundance water vapor, carbon dioxide, methane, nitrous oxide, and ozone gases that are considered the cause of global warming (“greenhouse effect”).

Groundwater Replenishment (GWR) System—a joint water reclamation project that proactively responds to Southern California’s current and future water needs. This joint project between the Orange County Water District and the Orange County Sanitation District will provide 70 million gallons a day of drinking quality water to replenish the local groundwater supply.

Levels of Service (LOS)—Goals to support environmental and public expectations for performance.

Million gallons per day (mgd)—A measure of flow used in the water industry.

Most Probable Number (MPN)—Number of organisms per 100 ml that would yield a test result or the observed test result with the greatest frequency. Commonly used for coliform bacteria.

NDMA—N-Nitrosodimethylamine is an N-nitrosoamine suspected cancer-causing agent. It has been found in the Groundwater Replenishment System process and is eliminated using hydrogen peroxide with extra ultra-violet treatment.
appendix C: glossary

National Biosolids Partnership (NBP)—An alliance of the National Association of Clean Water Agencies (NACWA) and Water Environment Federation (WEF), with advisory support from the U.S. Environmental Protection Agency (EPA). NBP is committed to developing and advancing environmentally sound and sustainable biosolids management practices that go beyond regulatory compliance and promote public participation in order to enhance the credibility of local agency biosolids programs and improved communications that lead to public acceptance.

O&M—Operations and maintenance of the treatment plants facilities and collections system.

Publicly-owned Treatment Works (POTW)—Municipal wastewater treatment plant.

Recycling—The conversion of solid and liquid waste into usable materials or energy.

Risk Register—An internal document that describes vulnerabilities of the Sanitation District.

Santa Ana River Interceptor (SARI) Line—A regional brine line designed to convey 30 million gallons per day (MGD) of non-reclaimable wastewater from the upper Santa Ana River basin to the ocean for disposal, after treatment.

Sanitary sewer—Separate sewer systems specifically for the carrying of domestic and industrial wastewater. Combined sewers carry both wastewater and urban run-off.

South Coast Air Quality Management District (SCAQMD)—Regional regulatory agency that develops plans and regulations designed to achieve public health standards by reducing emissions from business and industry.

Secondary treatment—Biological wastewater treatment, particularly the activated-sludge process, where bacteria and other microorganisms consume dissolved nutrients in wastewater.

Sludge—Untreated solid material created by the treatment of wastewater.

Total suspended solids (TSS)—The amount of solids floating and in suspension in wastewater.

Trickling filter—A biological secondary treatment process in which bacteria and other microorganisms, growing as slime on the surface of rocks or plastic media, consume nutrients in wastewater as it trickles over them.

Urban runoff—Water from city streets and domestic properties that carry pollutants into the storm drains, rivers, lakes, and oceans.

Wastewater—Any water that enters the sanitary sewer.

Watershed—A land area from which water drains to a particular water body. OCSD’s service area is in the Santa Ana River Watershed.
Strategic Planning Project Team

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Gregg Deterding  
Graphics Coordinator

Thank you to the entire management team, staff analysts, and support staff for your time and effort on this project.