SOCWA
South Orange County Wastewater Authority

September 3, 2015

The Honorable Glenda Sanders
Presiding Superior Court Judge
County of Orange
700 Civic Center Drive West
Santa Ana, CA 92701

The South Orange County Wastewater Authority (SOCWA) provides the following responses to the Findings and Recommendations included in the Orange County Grand Jury Report, Increasing Water Recycling: A Win-Win for Orange County. The Report asked SOCWA to respond to Findings number 5 & 8 and Recommendation number 3.

Finding F.5 *"The South Orange County Wastewater Authority (SOCWA) processes 22.7 million gallons per day of wastewater, treats 8 million gallons per day to purple pipe standards and sends 14.7 million gallons a day to the ocean."*

Response: SOCWA agrees with Finding number 5 as to the volume of treated flow, the volume of flow recycled and the volume of flow discharged to the ocean.

Finding F.8 *"The South Orange County Wastewater Authority (SOCWA) cost to recycle wastewater currently exceeds the cost of imported water, however, the Grand Jury believes the cost of imported water will increase."*

Response: SOCWA disagrees with this Finding. The Finding appears to be based on the recycled water treatment cost for the 3A Treatment Plant only. In fact, the flow weighted average recycled water cost for all SOCWA operated plants was $2,223 per million gallons (mg) during fiscal year 2013/2014, which is substantially less than is shown in Table 2 ($3326/mg) and less than the wholesale cost for imported water.

Recommendation 3. *SOCWA should conduct a study of possible methods of increasing the amount of processed wastewater and implement the most cost effective method to reduce the amount of imported water to Orange County.*

Response:

1) The recommendation has been implemented, as follows:

The South Orange County Wastewater Authority is a Joint Powers Authority formed to more efficiently provide: wastewater treatment, disposal, and recycled water production in South Orange County. SOCWA owns and operates three wastewater treatment plants and two ocean outfalls. SOCWA is comprised of ten city and water district member agencies: City of Laguna

Beach, Irvine Ranch Water District, City of San Clemente, South Coast Water District, City of San Juan Capistrano, the Moulton Niguel Water District, Emerald Bay Service District and the Trabuco Canyon Water District.

SOCWA member agencies have a long history of recycled water reuse with some recycled water projects dating back nearly fifty years. In 2014 SOCWA produced, and its member agencies distributed, 17,664 acre feet of recycled water, our highest yearly production level to date. As a combined effort within SOCWA member agencies, increasing recycled water use and improved conservation resulted in a cumulative drop in ocean disposal of wastewater by about 40% in our region within the last twenty years.

It is important to note that SOCWA is the producer of recycled water, but recycled water demand is driven by the demand of within the SOCWA member agency recycled water systems. SOCWA member agencies plan, construct, own and operate the recycled water distribution systems that deliver water to the end user. SOCWA's member agencies work in partnership or alone in developing the recycled water delivery systems and developing recycled water uses. SOCWA assists its member agencies with planning regional projects. However, SOCWA's primary role in recycling is to produce recycled water and deliver it to our member agency's recycled water distribution systems.
Several South Orange County organizations are currently evaluating and planning for options to increase the use of recycled water. These include:

1) The San Juan Basin Authority (SJBA), as a part of its Groundwater Management Plan, is studying the feasibility of utilizing recycled water to recharge the San Juan Groundwater Basin. The SJBA agencies (which include Santa Margarita Water District, City of San Juan Capistrano, Moulton Niguel Water District and South Coast Water District) work cooperatively to use and manage the San Juan Groundwater Basin. Much of the SOCWA service area (Orange County south of Irvine) has limited water bearing formations, and has historically been a poor and unreliable source of groundwater. The region is ninety-five percent dependent on imported domestic water. The San Juan Groundwater Basin has limited storage capacity and requires desalination treatment to use the water for potable purposes. The San Juan Basin Authority has extensively studied projects to increase the groundwater resources in the San Juan Basin and is in the process of completing work needed to implement planned projects. Among the projects in feasibility consideration is the augmentation of the San Juan Basin with recycled water.

2) The Santa Margarita Water District is working to develop a project to store recycled water in South Orange County. If successful, the Trampas Canyon Reservoir project will be funded by multiple agencies to provide 5,000 acre feet of recycled water storage capacity. The design phase for the reservoir is nearly completed, and if all goes as scheduled the reservoir could be completed in 2018 at an estimated cost of $50 million. The project is important to retaining recycled water which can be produced in winter months for use in dry months of the year. The reservoir will provide a location from which stored recycled water produced from South Orange County wastewater flows can be distributed throughout the year, including potentially more of the water from SOCWA operated facilities.

3) The Moulton Niguel Water District (MNWD) is in the process of preparing a Recycled Water Master Plan that will assess existing recycled water use, potential future recycled water customers, distribution and production capabilities, seasonal storage requirements, and maximizing regional recycled water opportunities with surrounding agencies. As a primary water resource for MNWD, recycled water provides a reliable local source of supply capability and reduces dependence on imported water supplies. Currently, nearly 25% of MNWD's total water usage is comprised of recycled water and will continue to be expanded through the implementation of projects identified within the Recycled Water Master Plan.

SOCWA has operated four wastewater treatment plants: 3A Treatment Plant, Regional Treatment Plant, the Coastal Treatment Plant, and the J. B. Latham Treatment Plant. Three of the four treatment plants produce recycled water.

3A Treatment Plant

The 3A Treatment Plant is owned by the Moulton Niguel and Santa Margarita Water Districts. The operation of the 3A Plant has recently been contracted to the Santa Margarita Water District in preparation for potentially expanding recycled water production from 1.4 million gallons per day (MGD) to as much as 6.0 MGD. The planned uses for the increased 3A Plant recycled water production are, landscape irrigation, and potentially a ground water augmentation project in the San Juan Groundwater Basin.

Regional Treatment Plant

The Regional Treatment Plant has a recycled water treatment design capacity of 11.4 MGD. The Regional Plant produced 6.57 MGD of recycled water during 2014, or 79% of the Regional Treatment Plant's incoming wastewater was treated and reused for irrigation in 2014. Moulton Niguel Water District holds ownership of the recycled water capacity of the Regional Treatment Plant as a member agency of SOCWA.

Coastal Treatment Plant

The Coastal Treatment Plant has a recycled water process that is owned by the South Coast Water District. The recycled water facility has a design capacity of 2.61 MGD and it produced on average 0.87 MGD, or about 28% of the plant incoming wastewater was treated and reused during 2014. The South Coast Water District is currently developing a new Recycled Water Master Plan which has the potential to increase recycled water production at the plant.

J. B Latham Treatment Plant

The J. B. Latham Treatment Plant does not have a recycled water treatment process. SOCWA, City of San Juan Capistrano, South Coast Water District, and other member agency partners have reviewed three separate recycled water projects proposed for the J.B. Latham Plant over the last twenty years and each time decided not to pursue a project due to project cost factors and unfavorable economic conditions.

However, during this fiscal year SOCWA will analyze the current flows and constituents of the wastewater stream and provide that information to member agencies participating in the

SOCWA Engineering Committee. This information will be the basis for further evaluation of beneficial reuse projects for of the J.B Latham Treatment Plant wastewater effluent. The reuse of J.B. Latham Treatment Plant effluent will be most cost effective if connected with (i) the San Juan Basin Authority groundwater augmentation project, (ii) water delivered for storage to the planned Trampas Canyon Reservoir, and/or (iii) integrated with the South Coast Water District's recycled water delivery systems. These agencies are actively underway with planning and study of these options for further storage and use of recycled water.

Implementation of Planned Recycled Water Projects in the SOCWA Service Area

As noted above, the SOCWA area recycled water systems function as an on demand system, that is to say, the treatment plant production is driven by the recycled water use in the member agency distribution systems. One of the primary limiting factors to producing more recycled water in the region is the lack of recycled water storage capacity.

Projects undertaken by SOCWA member agencies to improve recycled water delivery are numerous and include:

- The El Toro Water District recently completed a 3.7 MGD Recycled Water facility at their Water Recycling Plant, and has added over 19 miles of recycled water system distribution pipe. El Toro will complete the addition of 215 recycled water meters by early 2016. The project will result in the production and use of nearly 1,500 acre feet per year of recycled water. The El Toro Water District is currently designing an expansion to their recycled water distribution system. The proposed project will add another 5 miles of recycled water distribution pipeline and approximately 65 recycled water meters. The project is expected to increase recycled water use by approximately 250 acre feet per year within the next several years.

- The City of San Juan Capistrano, is implementing a conversion program to convert 165 existing irrigation sites serve by well water to recycled water irrigation sites within the next four years. Presently, the City purchases recycled water from Moulton Niguel Water District and the Santa Margarita Water District. It is expected that this project will increase groundwater available for potable use by 1,427 acre-feet annual, once completed.

- The City of San Clemente recently completed a $25 million expansion to its recycled water system and its customers are in the process of converting over 100 use sites from potable to recycled water for irrigation purposes. Average annual sewer flows from San Clemente have dropped from approximately 4 million gallons per day (MGD) to 3.4 MGD. Recycled water production is currently 0.7 MGD with anticipated flows to increase to approximately 1.9 MGD within the next 12 months.

- As stated above, the Santa Margarita Water District (SMWD) in partnership with the Moulton Niguel Water District is planning to increase the 3A Treatment Plant production of recycled water for beneficial reuse from current levels to as much as 6 MGD.

- The Moulton Niguel Water District is preparing a Recycled Water Master Plan that will assess existing recycled water use, potential future recycled water customers,

distribution and production capabilities, seasonal storage requirements, and maximizing regional recycled water opportunities with surrounding agencies.

- SCWD has undertaken an expansion of its recycled water distribution system and by 2016 is expected to be delivering recycled water into the Dana Point Harbor, Doheny State Beach and Park and Hotels and other services in the Harbor area.

- TCWD operates essentially year round at zero discharge by reusing 781 Acre Feet annually of recycled water and has recently developed the ability to capture more stormwater runoff for beneficial reuse with the recent addition of the Shadow Rock Detention Basin and Urban Water Recovery Project.

We hope that our responses help to provide additional insight into the nature and scale of recycled water reuse expansion actively being implemented by our member agencies. Full implementation of planned recycled water beneficial use projects by our member agencies will offset an additional 10,000 acre-foot per year of imported water demand. If you have any questions or comments please feel free to contact me at (949) 234-5421 or via email at bburnett@socwa.com.

Respectfully Submitted,

South Orange County Wastewater Authority

Betty Burnett
General Manager

cc: SOCWA Board of Directors