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**ORANGE COUNTY WATER DISTRICT**

ORANGE COUNTY'S GROUNDWATER AUTHORITY

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August 22, 2013

Thomas J. Borris,  
Presiding Judge of the Superior Court  
700 Civic Center Drive West  
Santa Ana CA 92701

**SUBJECT: Orange County Grand Jury Report – ORANGE COUNTY WATER  
SUSTAINABILITY; WHO CARES – June 19, 2013**

Dear Judge Borris:

Thank you for the opportunity to respond to the Orange County Grand Jury's June 19, 2013 Report entitled "Orange County Water Sustainability; Who Cares." The Orange County Water District (OCWD or District) was formed in 1933 by a special act of the California State Legislature to protect Orange County's rights to water in the Santa Ana River and to manage the local groundwater basin. OCWD's primary responsibility is managing the vast groundwater basin under north-and central Orange County that supplies water to 19 cities and water agencies, serving more than 2.4 million Orange County residents. The District owns and operates approximately \$850 million in assets and infrastructure and has an annual operating budget of \$118 million.

Since 1933, OCWD has replenished and maintained the groundwater basin at safe levels while more than doubling the basin's annual yield by investing in local water supply projects such as the Groundwater Replenishment System. This important source of water provides local cities and retail water agencies with a reliable supply of high quality water and reduces the need for imported water from the Colorado River and Northern California.

Local groundwater accounts for approximately 70% of north and central Orange County's water supply and is about 1/2 the cost of imported supplies, which have been restricted in the last five years. This local water supply is more reliable and has a lower carbon footprint than imported supplies, and saves each municipality within the OCWD tens of millions of dollars annually. OCWD is the entrusted guardian of this valuable asset which is vital to Orange County and Southern California's economy, public health and safety. OCWD receives hundreds of tour requests annually from water agencies and public officials around the world to review its facilities and management programs. Since 2008, more than 20,000 guests have toured OCWD facilities.

recharge facilities in the cities of Anaheim and Orange. In normal storm years, the District can cumulatively capture 50,000 to 60,000 acre feet per year of water behind the dam. OCWD is currently working with the Corps to increase the allowable storage elevation behind the dam. Depending on rainfall this increase will result in a savings of \$12 million to \$24 million annually in less dependence on imported water supplies.

Additionally OCWD has constructed wetlands on nearly 465 acres of land behind Prado Dam. One half of Santa Ana River flows are routed through the wetlands to naturally remove nitrates and other contaminants in the water. In addition to improving water quality, OCWD's wetlands provide an opportunity for native habitat to thrive. OCWD has invested substantial resources to protect the least Bell's vireo, an endangered California songbird that nests in the willows of Prado Basin. OCWD is also working closely with the Corps to complete the Prado Basin Feasibility Study which will explore opportunities for ecosystem restoration and additional storm water capture using a comprehensive watershed approach. The Study provides an excellent opportunity to create and restore the region's native ecosystems and enhance recreational and educational uses through regional watershed planning. The project will include water quality enhancements, wetland pond creation, habitat restoration, nature trails and additional recreational facilities.

- Water Quality Monitoring and Contamination Clean-Up - Protection, safety, and enhancement of groundwater quality are one of OCWD's highest priorities. OCWD uses more than 700 wells providing more than 1,400 sampling points – from which OCWD takes more than 18,000 water samples and conducts more than 350,000 analyses every year. OCWD's monitoring program looks for more than 330 constituents – far more than the 122 required by the regulatory agencies. OCWD conducts these tests in its state-of-the-art Advanced Water Quality Assurance Laboratory. The OCWD lab is only one of six laboratories in the nation, and the only public agency laboratory, certified by the Environmental Protection Agency to monitor unregulated contaminants of emerging concern. OCWD provides water quality monitoring and testing for 19 cities and water districts in Orange County.
- Groundwater Contamination Remediation - Pollutants have been detected in shallow portions of the groundwater basin. This contamination is a result of the improper disposal of chemical solvents and other compounds traced to companies that operated industrial and manufacturing facilities in Orange County over the course of many decades. As the guardian of the groundwater basin, OCWD is also charged with containing and removing the contamination before it migrates into the main drinking water aquifers and endangers local drinking water supplies. OCWD has filed lawsuits against parties responsible for the contamination so water ratepayers do not absorb the cost.
- Education and Environmental Stewardship - As part of OCWD's commitment to environmental stewardship, the District has a robust water education program that reaches tens of thousands of individuals throughout Orange County and around the globe. Some of these programs include the annual Children's Water

Education Festival, the largest festival of its kind in the nation. The event is in its eighteenth year and serves more than 7,000 3<sup>rd</sup>, 4<sup>th</sup> and 5<sup>th</sup> grade students throughout Orange County annually. Since its inception, more than 100,000 students have participated in the Festival. The event is co-hosted by the National Water Research Institute and the Disneyland Resort. It is very structured and exposes children to hands-on instruction about water and environmental issues, all taught by seasoned professionals and experts representing more than 60 companies and organizations in Southern California, including NASA and National Geographic. The 2013 festival was held at the University of California at Irvine exposing students to a top university and careers in science, technology, engineering and mathematics. OCWD also co-hosts the annual OC Water Summit with MWDOC and the Disneyland Resort. The event brings together approximately 400 business professionals, water leaders, policy makers and scientists to discuss pressing water issues and vet possible solutions. The event is in its sixth year. OCWD also co-created the Water Hero Program, with MWDOC which inspires students to make a commitment to water conservation. More than 22,000 students have each made a commitment to conserve more than 20 gallons of water a day.. OCWD also hosts approximately 4,000 guests from around the world annually for tours of its award-winning Groundwater Replenishment System, the Advanced Water Quality Assurance Laboratory, seawater intrusion barrier, 24 recharge basins and Prado Wetlands. OCWD staff are also sought out by local, state, national and international agencies and governments to provide expert advice and participate in important research in numerous fields resulting in innovative technology and water projects. Staff serve on prominent and prestigious boards and expert panels that help solve global water problems.

OCWD works collaboratively with local, state and federal agencies to successfully manage the groundwater basin. OCWD is recognized as a leader in groundwater management, water quality monitoring and testing, environmental stewardship, financial responsibility, planning and engineering. The groundwater basin has been valued at over \$4 billion and must be sustainably managed for future generations.

#### June 19, 2013 Orange County Grand Jury Report

Orange County Water District is required to respond to the recent Grand Jury report titled – *Orange County Water Sustainability: Who Cares?* The report was released on June 19, 2013. More specifically the District needs to respond to four findings and four recommendations from the report. We have repeated each of the findings and recommendations and provided our response in ***bold italicized type***.

#### **FINDINGS**

**F.1:** There is no central authority responsible for water policy in Orange County.

***Orange County Water District agrees there is no central authority responsible for water policy in Orange County. However, for 80 years, OCWD has been setting industry standards for groundwater management, water quality monitoring and testing, water recycling, financial***



***management, environmental stewardship, planning and engineering, and public engagement that have helped shape water policy not only in Orange County, but worldwide. OCWD is the central authority responsible for managing the Orange County Groundwater Basin and working together with 19 retail agencies, MWD and MWDOC to ensure maximum groundwater yield and sustained local water supplies. OCWD is leading the effort in helping the region lower its dependence on imported water supplies.***

**F.3:** Water use efficiency has helped ease the use of imported water.

***Orange County Water District agrees; however, water use efficiency is not enough to help sustain the region's future water demands. OCWD is committed to continue working with stakeholders to design and build projects that will lessen Orange County's dependence on imported water supplies which are fiscally and environmentally responsible.***

**F.5:** The Groundwater Replenishment process is having a favorable impact on relieving the dependency on imported water.

***Orange County Water District agrees. The Groundwater Replenishment System is the world's largest advanced water purification system for potable reuse, producing 72,000 acre-feet of water annually. The GWRS significantly reduces the area's dependency upon imported water supplies. It produces enough water for nearly 600,000 Orange County residents. The OCWD is currently constructing an expansion of the project. When completed, the GWRS will produce up to 103,000 acre-feet per year, enough water for nearly 850,000 people. This investment in local water supply reliability is also cost effective, being produced for less than the cost of importing supplies.***

**F.8:** Bay Delta Project is critical to ensure the continual flow of imported water into Orange County.

***Orange County Water District agrees.***

#### **RECOMMENDATIONS:**

**R.1:** MWDOC and OCWD should continue their role in coordinating water planning.

***The recommendation has been implemented. The District and MWDOC work very closely in coordinating water issues for the benefit of the region.***

**R.3:** Desalination must be included in any discussion of future water sources for Orange County

***The recommendation has been implemented. The District is now studying the option of developing a desalination plant in the City of Huntington***

Primary OCWD functions and tasks include:

- Annually recharging the groundwater basin – OCWD recharges approximately 160,000 acre-feet per year of Santa Ana River (SAR) water into the basin to support annual groundwater pumping. OCWD owns more than 1,500 acres of land in the cities of Anaheim and Orange to accomplish this task. Additionally small amounts of imported water are also purchased from the Metropolitan Water District of Southern California via the Municipal Water District of Orange County (MWDOC) to recharge the groundwater basin.
- Preventing seawater intrusion – OCWD prevents seawater intrusion into the groundwater basin by constructing, operating and maintaining injection wells along the coast. Water is pumped into different groundwater basin aquifers via the injection wells forming a hydraulic barrier. Approximately 35,000 acre-feet per year of water is injected along the coast through 36 injection wells. This injected water also assists in annually recharging the groundwater basin.
- Protecting Santa Ana River Water rights – OCWD maintains and protects the regions rights to SAR flows as part of the 1969 SAR Stipulated Judgment. The 1969 Judgment resolved decades of lawsuits between OCWD and agencies in the upper SAR watershed. OCWD now works with these agencies to monitor and manage SAR flows and to avoid water rights issues and future litigation.
- Sustainably manage the groundwater basin – The basin is a reservoir that can be over drafted and refilled depending upon the needs of the area. The practical useable storage volume of the groundwater basin is 500,000 to 700,000 acre-feet. The OCWD Board annually sets the amount of allowable pumping. Determining the annual basin pumping depends upon many factors including basin management goals that particular year, projected water conditions and available imported water supplies.
- Operating the Groundwater Replenishment System – The GWRS creates 72,000 acre-feet per year of water supply that is used to replenish the groundwater basin. The GWRS construction was a joint partnership with the Orange County Sanitation District (OCSD). The GWRS cost \$481 million to construct and has an annual operating cost of about \$39 million. The unit cost of GWRS water is less than imported water and is more reliable. The GWRS has won numerous awards, including the Stockholm Industry Water Award, the highest international water award, and the American Society of Civil Engineer's 2009 Project of the Year Award, the highest national engineering award. OCWD works in partnership with the OCSD to purify more than 50% of Orange County's wastewater that would normally have been lost to the Pacific Ocean. OCWD is currently expanding the project to 103,000 acre-feet per year, which is enough water for nearly 850,000 residents and the equivalent of over \$100 million in imported water. The GWRS is a historic water project that serves as a model for other water agencies worldwide.
- Prado Dam Operations – OCWD works closely with the U.S. Army Corps of Engineers (the Corps) to capture winter time SAR storm waters behind Prado Dam which are then released at lower rates so that they can be captured at

***Beach. This facility could provide an additional 50,000 acre-feet per year of new local water supplies for the region.***

***OCWD is also committed to engaging the public in the process of exploring ocean desalination and will be establishing an Ocean Desalination Citizens' Advisory Committee to provide input to the Board as it considers the project.***

- R.5. The MWDOC shall continue providing data to the water districts and city water departments encouraging tiered pricing to assist with water conservation.

***This recommendation is not applicable to OCWD but has been implemented by MWDOC.***

- R.7. All the Orange County Water Districts shall support legislation which the Bay Delta Conservation Plan to ensure sustainability of imported water to Orange County.

***As a buyer of limited amounts of imported water supplies, OCWD is a member agency of MWDOC; And through MWDOC, this recommendation has been implemented. The State Water Project supplies about 25% of the water used in Southern California. It is critical that the water distribution and environmental issues in the Bay Delta be adequately resolved to secure this water supply.***

The District hopes our information and responses are informative and meet the needs of the Grand Jury. Please call our General Manager Mike Markus at (714) 378-3305 if you would like to meet, tour our facilities or have additional questions.

Sincerely



Shawn Dewane  
Board President  
Orange County Water District

Cc OC Grand Jury  
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