

MEETING OF THE BOARD OF DIRECTORS OF THE  
MUNICIPAL WATER DISTRICT OF ORANGE COUNTY

Jointly with the

**PLANNING & OPERATIONS COMMITTEE**

October 3, 2016, 8:30 a.m.

MWDOC Conference Room 101

**P&O Committee:**

Director L. Dick, Chair

Director S. Hinman

Director J. Finnegan

Staff: R. Hunter, K. Seckel, J. Berg,

H. De La Torre, K. Davanaugh,

Ex Officio Member: W. Osborne

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MWDOC Committee meetings are noticed and held as joint meetings of the Committee and the entire Board of Directors and all members of the Board of Directors may attend and participate in the discussion. Each Committee has designated Committee members, and other members of the Board are designated alternate committee members. If less than a quorum of the full Board is in attendance, the Board meeting will be adjourned for lack of a quorum and the meeting will proceed as a meeting of the Committee with those Committee members and alternate members in attendance acting as the Committee.

**PUBLIC COMMENTS** - Public comments on agenda items and items under the jurisdiction of the Committee should be made at this time.

**ITEMS RECEIVED TOO LATE TO BE AGENDIZED** - Determine there is a need to take immediate action on item(s) and that the need for action came to the attention of the District subsequent to the posting of the Agenda. (Requires a unanimous vote of the Committee)

**ITEMS DISTRIBUTED TO THE BOARD LESS THAN 72 HOURS PRIOR TO MEETING --**  
Pursuant to Government Code section 54957.5, non-exempt public records that relate to open session agenda items and are distributed to a majority of the Board less than seventy-two (72) hours prior to the meeting will be available for public inspection in the lobby of the District's business office located at 18700 Ward Street, Fountain Valley, California 92708, during regular business hours. When practical, these public records will also be made available on the District's Internet Web site, accessible at <http://www.mwdoc.com>.

**DISCUSSION**

1. IRWD BAKER WATER TREATMENT PLANT WATER QUALITY
2. PRESENTATION BY SMWD RE SJBA OPTIMIZATION PROGRAM
3. STATUS REPORT RE EMERGENCY GROUNDWATER SUPPLY CONTRACT

**INFORMATION ITEMS** (The following items are for informational purposes only – background information is included in the packet. Discussion is not necessary unless a Director requests.)

4. OC FLOOD CONTROL DISTRICT PROPOSAL ON ENCROACHMENT PERMITS
5. MWDOC MEETING WITH SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT (SCAQMD)
6. METROPOLITAN REQUEST REGARDING AMP RIGHT OF WAY
7. STATUS REPORTS
  - a. Ongoing MWDOC Reliability and Engineering/Planning Projects
  - b. WEROC
  - c. Water Use Efficiency Projects
  - d. Water Use Efficiency Programs Savings and Implementation Report
8. REVIEW OF ISSUES RELATED TO CONSTRUCTION PROGRAMS, WATER USE EFFICIENCY, FACILITY AND EQUIPMENT MAINTENANCE, WATER STORAGE, WATER QUALITY, CONJUNCTIVE USE PROGRAMS, EDUCATION, DISTRICT FACILITIES, and MEMBER-AGENCY RELATIONS

#### **CLOSED SESSION**

9. PUBLIC EMPLOYEE PERFORMANCE EVALUATION  
Title: General Manager  
*Government Code Section 54957*

#### **ADJOURNMENT**

**NOTE:** At the discretion of the Committee, all items appearing on this agenda, whether or not expressly listed for action, may be deliberated, and may be subject to action by the Committee. On those items designated for Board action, the Committee reviews the items and makes a recommendation for final action to the full Board of Directors; final action will be taken by the Board of Directors. Agendas for Committee and Board meetings may be obtained from the District Secretary. Members of the public are advised that the Board consideration process includes consideration of each agenda item by one or more Committees indicated on the Board Action Sheet. Attendance at Committee meetings and the Board meeting considering an item consequently is advised.

Accommodations for the Disabled. Any person may make a request for a disability-related modification or accommodation needed for that person to be able to participate in the public meeting by telephoning Maribeth Goldsby, District Secretary, at (714) 963-3058, or writing to Municipal Water District of Orange County at P.O. Box 20895, Fountain Valley, CA 92728. Requests must specify the nature of the disability and the type of accommodation requested. A telephone number or other contact information should be included so that District staff may discuss appropriate arrangements. Persons requesting a disability-related accommodation should make the request with adequate time before the meeting for the District to provide the requested accommodation.





**DISCUSSION ITEM**

October 3, 2016

**TO: Planning & Operations Committee**  
(Directors Dick, Hinman, Finnegan)

**FROM: Robert Hunter, General Manager**

Staff Contact: Karl Seckel

**SUBJECT: Baker Water Treatment Plant Water Quality**

**STAFF RECOMMENDATION**

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Staff recommends the Planning & Operations Committee receives and files the report.

**COMMITTEE RECOMMENDATION**

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Committee recommends (To be determined at Committee Meeting)

**OVERVIEW**

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A short presentation will be made by IRWD to discuss the Baker Water Treatment Plant which is scheduled to begin operations in November of this year. As a reminder, the Project is being implemented as a reliability project for South Orange County in the event of an outage of the imported treated water supplies to South Orange County. The project was first identified in the South Orange County Water Reliability Study from 2004. The project participants are IRWD, ETWD, SMWD, MNWD, and Trabuco Canyon WD.

Richard Mori from IRWD will provide a short presentation and respond to any questions from the Board.

<b>Budgeted (Y/N):</b> n/a	Budgeted amount:	Core __	Choice __
<b>Action item amount:</b>	Line item:		
<b>Fiscal Impact (explain if unbudgeted):</b>			





**DISCUSSION ITEM**

October 3, 2016

**TO: Planning & Operations Committee**  
(Directors Dick, Hinman, Finnegan)

**FROM: Robert Hunter, General Manager**

Staff Contact: Karl Seckel

**SUBJECT: San Juan Basin Optimization Project**

**STAFF RECOMMENDATION**

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Staff recommends the Planning & Operations Committee receives and files the report.

**COMMITTEE RECOMMENDATION**

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Committee recommends (To be determined at Committee Meeting)

**OVERVIEW**

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A short presentation will be made by SMWD to discuss the San Juan Basin Optimization Project. SMWD is the project lead at this time and has solicited input regarding participation in the project from the South County Agencies. The first phase of the project will involve the construction of inflatable rubber dams to capture and replenish low flows in the creek. Subsequent phases anticipate use of recycled water during low flow portions of the year to provide additional replenishment water to the groundwater basin.

Don Bunts from SMWD will provide a short presentation and respond to any questions from the Board.

<b>Budgeted (Y/N):</b> n/a	<b>Budgeted amount:</b>	<b>Core</b> __	<b>Choice</b> __
<b>Action item amount:</b>		<b>Line item:</b>	
<b>Fiscal Impact (explain if unbudgeted):</b>			





**DISCUSSION ITEM**

October 3, 2016

**TO: Planning & Operations Committee**  
(Directors Dick, Hinman, Finnegan)

**FROM: Robert Hunter, General Manager**

Staff Contact: Karl Seckel

**SUBJECT: Emergency Groundwater from the OCWD Basin to South Orange County**

**STAFF RECOMMENDATION**

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Staff recommends the Planning & Operations Committee receives and files the report.

**COMMITTEE RECOMMENDATION**

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Committee recommends (To be determined at Committee Meeting)

**OVERVIEW**

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Staff believes it is time to begin working on a project or projects to supply groundwater from the OCWD basin to South Orange County (SOC) for emergency supply purposes. It is important to provide a common level of understanding of what was accomplished with the Emergency Services Program (ESP) based on the adoption of the ESP Agreement between MWDOC, OCWD, IRWD and the SOC agencies in 2006. A summary of the existing agreement is be provided below. It is recommended that this same discussion be presented at the Joint meeting between MWDOC and OCWD at their October 26 meeting.

<b>Budgeted (Y/N):</b> n/a	<b>Budgeted amount:</b>	<b>Core</b> __	<b>Choice</b> __
<b>Action item amount:</b>	<b>Line item:</b>		
<b>Fiscal Impact (explain if unbudgeted):</b>			



## **Summary of Existing ESP Agreement**

In 2006 a Committee was formed to work on Phase 1 of an agreement that would help to improve the delivery of emergency water in the event of an outage or reduction in flows of imported water to South Orange County. The Committee was comprised of staff members from:

- Fountain Valley
- Anaheim
- Huntington Beach
- Irvine Ranch Water District
- South Coast Water District
- Laguna Beach County Water District
- Moulton Niguel Water District
- Santa Margarita Water District
- MWDOC
- OCWD

The staff members developed a concept and agreement which was reviewed by both the Groundwater Producers and the MWDOC Manager's and then formally approved by MWDOC, OCWD, IRWD and all of the South County Agencies. Attached is the actual agreement; the main provisions are summarized below:

- The concept for the Phase 1 Emergency Service Program was developed to deal with short-term emergency water system outages (pipeline or other facilities) or planned shutdown scenarios (for repair, replacement, maintenance or connection of new facilities) in which imported supplies normally delivered into SOC are curtailed, eliminated or unavailable for a period lasting up to 30 days. Phase 1 was specifically restricted from dealing with drought type of issues.
- The Phase 1 program was developed primarily to help SOC; it was anticipated that later phases of the program would be developed to benefit both the groundwater basin and SOC. Only Phase 1 has proceeded at this time.
- The Phase 1 Program involved construction of interconnections between IRWD and the distribution system serving SOC, utilizing portions of the existing IRWD facilities and adding new pumping facilities to boost pressures to convey the water. Approximately \$20 million was spent on improvements. The agreement was used for the first time in 2009 during an extended Diemer Plant shutdown for the ozone retrofit project.
- The maximum conveyance of water was limited to 50 cubic feet per second of water for no more than 30 days per emergency incident, for a maximum of 3,000 acre-feet per incident. It was generally anticipated that the duration of emergency outages would be less than 30 days.
- The agreement noted that the production of groundwater by IRWD will comply with all existing agreements and rights and will be exchanged with imported MET water for billing purposes to the South County Agencies and will be "deemed" to

be a delivery of MET water. There will be no added net groundwater pumping for the Emergency Water Service Program by IRWD for any fiscal year.

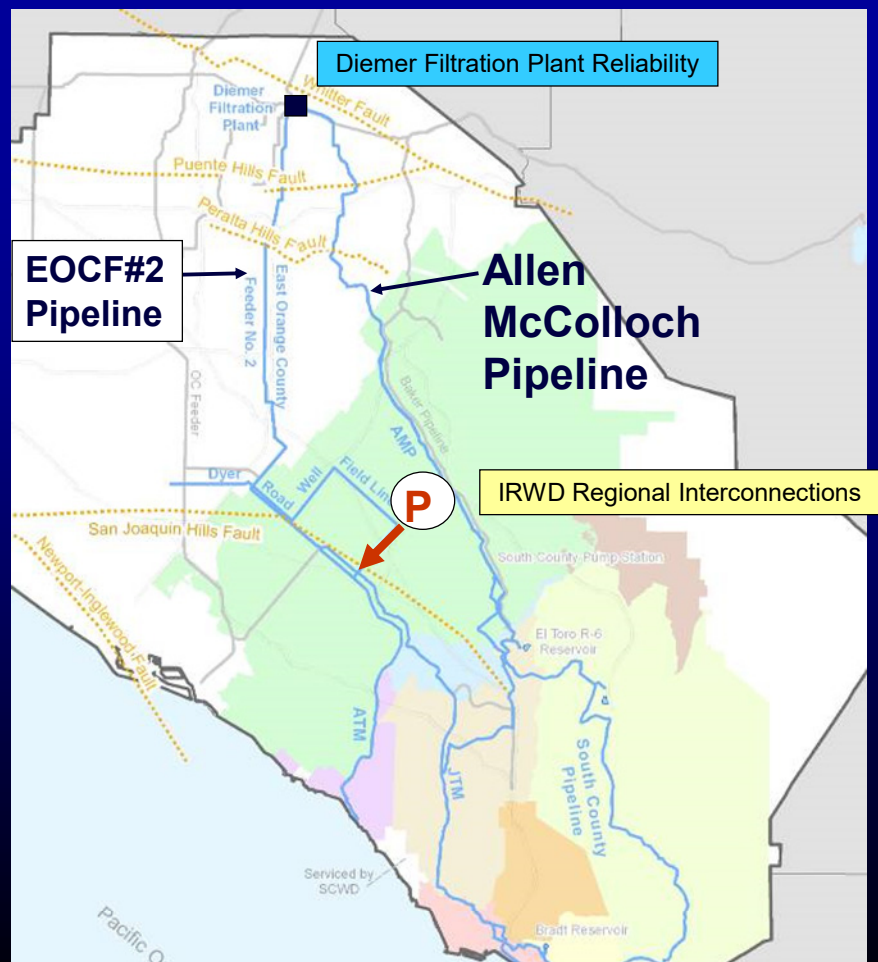
- The agreement noted that OCWD groundwater basin rights would not be conferred, conveyed, altered, changed, or modified, either directly or indirectly, by the delivery of non-native water by IRWD to parties outside of the OCWD boundaries, or through the exercise of any of the operating provisions of this Agreement.
- The agreement called for an accounting of water deliveries for any exercise of the agreement. The agreement has been used somewhere between 5 and 10 times since it was put into operation in 2009.
- Emergency operations under this Agreement can be initiated after concurrence between the South Orange County Agencies affected by an emergency and IRWD, and upon immediate notification and coordination with MWDOC and OCWD.
- The agreement noted that MWDOC, IRWD and the SOC Agencies will work together collectively to develop the terms and conditions of a more detailed agreement to put this agreement into operation. Such an agreement was developed and executed by MWDOC, IRWD, OCWD and the SOC agencies desiring capacity in the project. Under this subsequent agreement, IRWD committed to using capacity in their water system to deliver water to SOC, but the ability to deliver the water declined over time and expires in 2030.
- The term of the ESP is for a duration of twenty-five years (25) after the effective date of the Operating Agreement and shall be renewable for subsequent periods of fifteen (15) years each unless terminated in writing by OCWD or the South County Agencies.

### **Upcoming Work**

IRWD is in the process of completing a study to evaluate their current and future demands and the ability of their system to continue to convey water to SOC agencies. The IRWD work will be completed later this fall and will determine whether or not they can extend the existing agreement beyond 2030 or whether other options such as a pump-in of groundwater to the East Orange County Feeder No. 2 should be pursued.

Attached is the 2006 Agreement and a schematic of the Irvine Regional Interconnections.

## Phase 1 of Emergency Services Agreement



**Phase 1 of the Emergency Service Program  
Connecting IRWD's System to the South Orange County Import System  
To Improve Emergency Water Service**

**GENERAL TERMS AND CONDITIONS**

WHEREAS, there has been a history of cooperation between water agencies in Orange County for development and implementation of programs benefiting portions of the County or the entire County; and,

WHEREAS, the economic impacts resulting from short-term system related water shortages has been demonstrated to be substantial and can reach beyond the boundaries of the actual locations suffering the shortages; and,

WHEREAS, the South Orange County Agencies (defined as Santa Margarita Water District, Moulton Niguel Water District, City of San Clemente, South Coast Water District, Laguna Beach County Water District, El Toro Water District, City of San Juan Capistrano and Trabuco Canyon Water District) desire to enter into an operating arrangement with Irvine Ranch Water District (IRWD) to receive water from the IRWD system with subsequent conveyance into the distribution system serving south Orange County; and,

WHEREAS, the concept for the Phase 1 Emergency Service Program has been developed to deal with short-term emergency water system outages (pipeline or other facilities) or planned shutdown scenarios (for repair, replacement, maintenance or connection of new facilities) in which imported supplies normally delivered into south Orange County are curtailed, eliminated or unavailable for a period lasting up to 30 days; and,

WHEREAS, Metropolitan Water District of Southern California (MET) will be shutting down the Diemer Filtration Plant in four of the next five years to implement improvements to the system, thereby requiring use of Phase 1 of this program to be operational by the winter of 2006, if possible; and,

WHEREAS, Phase 1 of the Emergency Service Program shall not be used to deal with drought or other supply reliability issues; and,

WHEREAS, Phase 1 of the Emergency Service Program can be implemented without impacting the Orange County Water District (OCWD) groundwater basin by using the existing groundwater production capacity and distribution system of IRWD in a manner similar to the way it is used today; and

WHEREAS, the OCWD Board of Directors has found that, because no OCWD basin groundwater will be delivered outside of the OCWD boundaries under the Phase 1 Emergency Service program, the Phase 1 Emergency Service program does not constitute a net exportation of water from the groundwater basin, and is therefore, consistent with the OCWD Act;

NOW THEREFORE, the Boards of Directors of Municipal Water District of Orange County (MWDOC), OCWD, IRWD and the South Orange County Agencies jointly agree to the following:

Section 1: The Phase 1 Emergency Service Program shall be implemented by constructing interconnections between IRWD and the distribution system serving south Orange County,

utilizing portions of the existing IRWD facilities and adding new pumping facilities to boost pressures to allow the water to move from the IRWD service area to the south County area. New interconnections between the Joint Regional Transmission Main, the Aufdenkamp Transmission Main, the South County Pump Station and the IRWD system will be constructed. The location, sizing and cost of the improvements are currently being developed via a study effort which is expected to be completed in February 2006.

Section 2: Phase 1 of the Emergency Water Service Program will be implemented in such a manner that actual pumping from the IRWD Dyer Road Wellfield will comply with the terms and conditions of the Dyer Road Wellfield Agreements and amendments thereto between IRWD, OCWD and the City of Santa Ana, including the production limitations therein. To meet the needs of the Emergency Water Service Program, IRWD will not construct new wells or add pumping capacity for this purpose, and will not pump a larger volume of water within a fiscal year than that allowed by the Dyer Wellfield Agreements. The maximum conveyance of water shall not exceed 50 cubic feet per second of water for more than 30 days per incident, for a maximum of 3,000 acre-feet per incident. It is generally anticipated that about 30 cubic feet per second of this water would originate from MET and that the duration of outages are anticipated to be less than 30 days.

Section 3: Operationally, IRWD and the South County Agencies agree to comply with the following provisions:

- a. The production of groundwater by IRWD under this program will comply with all existing agreements and rights and will be exchanged with imported MET water for billing purposes to the South County Agencies and will be “deemed” to be a delivery of MET water. There will be no added net groundwater pumping for the Emergency Water Service Program by IRWD for any fiscal year.
- b. No new wells will be added for the Phase 1 program.
- c. The OCWD groundwater basin rights would not be conferred, conveyed, altered, changed, or modified, either directly or indirectly, by the delivery of non-native water by IRWD to parties outside of the OCWD boundaries, or through the exercise of any of the operating provisions of this Agreement.
- d. IRWD shall provide an annual accounting to the agreement parties regarding any water transmitted to South County Agencies per this program. The accounting shall include all sources of water used by IRWD in that year and shall be provided within six months after the end of the water year.
- e. Under this Agreement, IRWD shall not be allowed to deliver a greater amount of water in any water year than they receive or develop from non-OCWD sources, without the consent of OCWD.

Section 4: Emergency operations under this Agreement can be initiated after concurrence between the South Orange County Agencies affected by an emergency and IRWD, and upon immediate notification and coordination with MWDOC and OCWD. At the time the Emergency Operations are initiated, coordinated monitoring of the water system operations by IRWD, the South Orange County Agencies affected by the emergency, MWDOC and OCWD will be initiated. In the event problems arise in the operations of any retail agency water systems that do not normally occur with the IRWD Dyer Road Wellfield operating at the maximum pumping rate, IRWD in coordination with MWDOC and OCWD will work with the agencies to identify and

implement mitigation measures or alternate modes of operation that are acceptable or the program will cease operation.

Section 5: MWDOC, IRWD and the South Orange County Agencies will work together collectively to develop the terms and conditions of a more detailed Operating Agreement (anticipated by February 2006), including the financial terms, assurances and "best efforts" regarding delivery of the water by IRWD during differing demand conditions throughout the year, sharing of capital costs for implementing the project, terms and conditions for use of the existing IRWD system including priority use for the benefit of the IRWD customers and other terms and conditions deemed necessary. The Operating Agreement will utilize the information being developed at this time for the Facilities Preliminary Design Report and other information being developed by IRWD regarding use of their system.

Section 6: Work efforts between MWDOC, IRWD and OCWD will continue on the implementation of subsequent phases of the Emergency Water Service Program to provide benefits to both the OCWD groundwater basin and the South Orange County Agencies. The emphasis of the work will involve meetings with the Department of Health Services and MET to seek approval to move locally produced water around in the regional distribution system and development of projects that can provide further benefits to the groundwater basin during normal operations and benefits to South Orange County Agencies during emergency or planned shutdown situations.

Section 7: The term of this Agreement shall be for a duration of twenty-five years (25) after the effective date of the Operating Agreement noted in Section 5 and shall be renewable for subsequent periods of fifteen (15) years each unless terminated in writing by OCWD or the South County Agencies. A three year advance notice is required to be given by OCWD in the event the Agreement is to be terminated at the end of the original term or at one of the subsequent renewal periods. Termination by the South County Agencies shall require an executed notice of termination by all parties except OCWD and IRWD.

Section 8: This Agreement may be executed in one or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.

Executed and effective by and between the undersigned entities on the last date noted below:

 _____ President, Municipal Water District of Orange County	<u>5/3/06</u> _____ Date
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_____ President, Orange County Water District	_____ Date
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_____ President, Santa Margarita Water District	_____ Date
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_____ President, Moulton Niguel Water District	_____ Date
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Executed and effective by and between the undersigned entities on the last date noted below:

\_\_\_\_\_  
President, Municipal Water District of Orange County

\_\_\_\_\_  
Date

*Philip L. Anthony*

*4-21-06*

\_\_\_\_\_  
President, Orange County Water District

\_\_\_\_\_  
Date

*Virginia S. Redden*

*4-21-06*

\_\_\_\_\_  
General Manager, Orange County Water District

\_\_\_\_\_  
Date

\_\_\_\_\_  
President, Santa Margarita Water District

\_\_\_\_\_  
Date

\_\_\_\_\_  
President, Moulton Niguel Water District

\_\_\_\_\_  
Date

APPROVED AS TO FORM

By *[Signature]*  
General Counsel for  
Orange County Water District

implement mitigation measures or alternate modes of operation that are acceptable or the program will cease operation.

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_____ President, Municipal Water District of Orange County	_____ Date
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_____ President, Orange County Water District	_____ Date
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 _____ President, Santa Margarita Water District	 _____ Date
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_____ President, Moulton Niguel Water District	_____ Date
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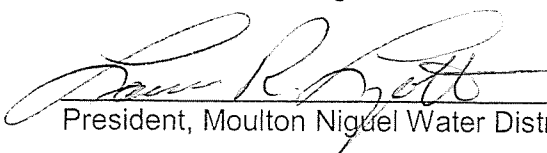
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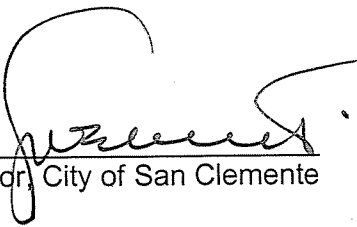
Executed and effective by and between the undersigned entities on the last date noted below:

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President, Municipal Water District of Orange County      Date

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President, Orange County Water District      Date

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President, Santa Margarita Water District      Date

  
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President, Moulton Niguel Water District      3-28-06  
Date

  
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Mayor, City of San Clemente

3-22-06  
\_\_\_\_\_  
Date

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Mayor, City of San Juan Capistrano

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Date

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President, El Toro Water District

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President, Trabuco Canyon Water District

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President, Laguna Beach County Water District

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President, South Coast Water District

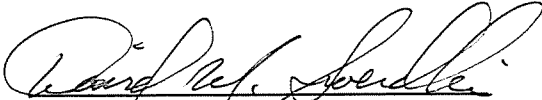
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President, Irvine Ranch Water District

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Mayor, City of San Clemente

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Date

  
\_\_\_\_\_  
Mayor, City of San Juan Capistrano

  
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President, El Toro Water District

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President, Trabuco Canyon Water District

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President, Laguna Beach County Water District

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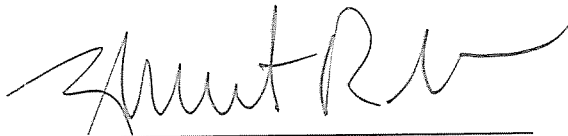
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President, South Coast Water District

\_\_\_\_\_  
Date

\_\_\_\_\_  
President, Irvine Ranch Water District

\_\_\_\_\_  
Date

ATTEST:

  
\_\_\_\_\_  
Margaret R. Monahan, City Clerk

Approved as to form:

  
\_\_\_\_\_  
John Shaw, City Attorney

\_\_\_\_\_  
Mayor, City of San Clemente

\_\_\_\_\_  
Date

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Mayor, City of San Juan Capistrano

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President, El Toro Water District

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President, Trabuco Canyon Water District

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President, Laguna Beach County Water District

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President, South Coast Water District

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President, Irvine Ranch Water District

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Mayor, City of San Clemente


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Mayor, City of San Juan Capistrano


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President, El Toro Water District

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President, Trabuco Canyon Water District

  
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President, Laguna Beach County Water District

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President, Trabuco Canyon Water District

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President, Laguna Beach County Water District  
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**INFORMATION ITEM**

October 3, 2016

**TO: Planning & Operations Committee**  
(Directors Dick, Hinman, Finnegan)

**FROM: Robert Hunter, General Manager**

Staff Contact: Karl Seckel

**SUBJECT: OC Flood Control District Proposal on Encroachment Permits**

**STAFF RECOMMENDATION**

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Staff recommends the Planning & Operations Committee receives and files the report.

**COMMITTEE RECOMMENDATION**

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Committee recommends (To be determined at Committee Meeting)

**OVERVIEW**

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On September 19, MWDOC attended the meeting at the County with a number of our agencies. The Flood Control District (Flood Control) is proposing a “template” form of encroachment permit, with a built in rate based on square footage of the encroachment and market value of the land based on where in the County the encroachment is located. Staff believes Flood Control erred by NOT seeking wide input on this effort until the September 19 meeting was set; it was pulled two times in recent months from the Board of Supervisors Agenda due to complaints from certain agencies, but the cities and water agencies were unaware of the proposal. The purpose of the September 19 meeting was to cast a wider request for input (that was good). Here are the key issues from the discussion:

Budgeted (Y/N): n/a	Budgeted amount:	Core __	Choice __
Action item amount:	Line item:		
Fiscal Impact (explain if unbudgeted):			

- OC Flood is a separate entity and not part of the County.
- They are NOT going retroactive on this; any prior easements granted will remain.
- The proposed template covers the OC Flood property located outside of public roads.
- The fees to be paid will help them cover costs for building, operating and maintaining their facilities; projections of income for this proposal are unknown, since it is future-looking.
- County Counsel Eric Devine was there and noted that the California Constitution, Article 13C, Section 1 (e) (4) notes that “A charge imposed for entrance to or use of local government property, or the purchase, rental, or lease of local government property” is not a tax and therefore not subject to a Proposition 26 nexus.
- Flood Control staff noted that unless you have an existing easement from them, which is rarely if ever granted, you have nothing now and no recourse if they ask you to vacate your facility if it is incompatible with their uses. The proposed template gives you a year notice to vacate. Staff committed to working hard to make things work to avoid conflicts if there is a conflict or incompatible use, before they request you to vacate.
- The proposed template and fee is the suggested form for standard encroachments, but if you have something different, they indicated you can always meet with them to discuss your project and negotiate with them. If you don't like what can be worked out with staff, you can go to the Board of Supervisors. However, all discussions begin with the market value of the property, whether by their standard calculation or a specific appraisal at market value.
- The proposed term of the encroachment agreement is 35 years and they did not say what happens at the end of 35 years, other than they will let you know by year 34 what they propose and you can reapply. They will allow you to pay the entire 35 year fee up-front so you don't have to make annual payments; they said they will consider coming up with a standard discount factor for the calculation.
- The annual fee increases by 2% each year to keep it at current market value.
- Maintenance of existing facilities will not trigger the NEW form
- Changes to the existing facilities WILL trigger the NEW form
- They will be going to the Board of Supervisors on Nov 8; a letter will be going out soon; they will provide a due date for comments to be provided for consideration.
- The 7% rate of return for their standard calculation was considered the low end of a reasonable range by their Real Estate Division. It is believed they are looking at this as the return on investments in real estate.

- In addition to the permit fee calculation, you will also be responsible for paying all of their staff time, legal time, appraisal time (if needed). They will accrue the amount and you need to pay before you get the permit.

### **Suggestions for Consideration**

1. MWDOC's legal counsel preliminarily believes MWDOC is exempt from such provisions is checking with cities or County or California Water Districts to see if they believe they are exempt. If it is determined we are exempt, we should provide such information to Flood Control.
2. Other input on the proposed Encroachment Permit process suggested by staff or our member agencies:
  - Legal Counsel should continue investigating whether or not MWDOC and other public agencies are exempt from the right of way charges. We should be willing to pay any plan check fees associated with right of way crossing issues.
  - Flood control should not be able to "profit" by imposing charges on other public agencies.
  - If we are NOT exempt, further input into the process would include:
    - Consider the first meeting with Flood Control staff to be a no-cost meeting as sort of a courtesy meeting.
    - Request the 7% rate of return be lowered to 4% or lower.
    - Build in a discount factor for paying the right of way fees up-front at the same as the rate of return.
    - Using 35 years for the calculations is acceptable, but the term should be until the facility is vacated and not to start over again after 35 years.
    - Consider input on language below Flood Control developed on Relocation of Facilities in the event of a conflict; they will work with you, but can ask you remove your facilities within a year.

- DISTRICT - Upon determination by the Director, in the exercise of his/her reasonable discretion, that the Improvements interfere with DISTRICT's use of the Channel or other operational purpose, HOLDER shall, following receipt of written request ("**Notice to Relocate**"), relocate or remove its Improvements pursuant to this Agreement. DISTRICT shall, upon written request, have the Director meet and confer with HOLDER to determine whether the Improvements can remain in place or whether modifications to the Improvements may be made to avoid the need for relocation. The Director shall then utilize reasonable efforts to find other DISTRICT property available to HOLDER for the purpose of relocating conflicting Improvements. If Director and HOLDER mutually agree upon a relocation site on DISTRICT property outside of the Agreement Area, the Parties agree the termination of this Agreement will coincide with the effective date of a similar agreement authorizing HOLDER'S use at that new location. To the extent HOLDER cannot mitigate interference with DISTRICT's operations to the reasonable satisfaction of the Director; DISTRICT may terminate this Agreement 365 days from the date of the Notice to Relocate.





## INFORMATION ITEM

October 3, 2016

**TO: Planning & Operations Committee**  
(Directors Dick, Hinman, Finnegan)

**FROM: Robert Hunter, General Manager**

Staff Contact: Karl Seckel

**SUBJECT: MWDOC Meeting with South Coast Air Quality Management District (SCAQMD)**

### STAFF RECOMMENDATION

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Staff recommends the Planning & Operations Committee receives and files the report.

### COMMITTEE RECOMMENDATION

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Committee recommends (To be determined at Committee Meeting)

### OVERVIEW

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On September 23, 2016, MWDOC staff met with staff from the South Coast Air Quality Management District (SCAQMD) to discuss a number of issues, including:

- Number of run hours for diesel generators
- Declaration of an emergency
- Voluntary effort by water and wastewater agencies to avoid an impending grid outage
- Reliability Planning

<b>Budgeted (Y/N):</b> n/a	Budgeted amount:	Core __	Choice __
<b>Action item amount:</b>		Line item:	
<b>Fiscal Impact (explain if unbudgeted):</b>			

The meeting was set up through Dwight Robinson, Lake Forest City Councilmember and Orange County City representative on the SCAQMD Board. MWDOC staff met with SCAQMD several years ago and wanted to touch base again given the restructure of the management and Board positions at the agency. AQMD staff in attendance included:

- Wayne Nastri – Acting Executive Officer
- Kurt Wiese – General Counsel
- Laki Tisopulos – Deputy Executive Officer – Engineering & Permitting
- Cherie Snyder – Assistant Deputy Executive Officer/Compliance - Engineering and Compliance
- Philip Fine - Deputy Executive Officer – Planning, Rule Development & Area Sources
- Susan Nakamura, Assistant to Philip Fine
- Jill Whynot – Chief Operating Officer

MWDOC opened the meeting by outlining our role and mission, our relationship to Metropolitan Water District of Southern California, the role and mission of WEROC and what we had been working on with respect to water reliability planning over a number of years including our working definitions of supply and system reliability.

We noted the potential need to operate emergency generators for more than the allowed 200 hours of operations per year in the event emergency situations arise with our water and wastewater agencies in the County, particularly in the event of a large earthquake accompanied by a widespread grid outage. We noted that AQMD had approved up to 500 hours of operations per year for emergency generators back in 2001 when there were widespread concerns about power outages. We noted this additional flexibility could prove to be very useful. MWDOC explained that this suggestion had come up during discussions back when the decommissioning of the San Onofre Nuclear Generating Station came about, and concerns were raised regarding summer period energy demands that could result in system outages and unintended consequences. During those discussions, MWDOC agencies discussed a “voluntary” response for shedding load from the grid and using emergency generators to prevent the grid from going down if they would not suffer any repercussions.

We noted the concerns a number of our agencies had raised concerning the potential consequences of exceeding the 200 hours per year (Rule 1470) due to:

- Having to appeal to the AQMD for relief due to an emergency event; or,
- Payment of penalties if the over-run of hours is not acceptable to AQMD

We discussed the general concept of “pre-approved” emergency events under which the additional run hours would be approved:



- AQMD focused attention on Rule 118 – EMERGENCIES – which gives the Executive Officer the ability to suspend certain AQMD District rules, regulations or orders during a state or federally declared State of Emergency. We noted this requires the Governor or President to first declare an emergency and noted that localized emergencies could occur that would not rise to the level of the Governor or President.
- AQMD Counsel indicated that a possible course of action would be a Stipulated Order for Abatement, where the AQMD Board has authority to set aside certain limitations. Counsel indicated that such hearings are difficult to prevail under, but if the AQMD Board finds that the merits outweigh the potential harm of the application, they can approve such orders.

AQMD indicated that Los Angeles Department of Water & Power (DWP) had similar concerns with Rule 1470 due to the potential limitation of natural gas supplies due to a combination of an earthquake rupture of the San Andreas Fault and the limited local storage options at the Aliso Canyon Facility. DWP held discussions with the equipment manufacturer (General Electric) who indicated a need for more frequent engine testing than Rule 1470 allowed. In addition, a potential 14 day need to run the DWP generators was developed, analyzed and accepted by AQMD.

- AQMD explained that in their view a major interruption to the electrical system requiring extended operation of emergency engines would be covered by Rule 118 under a declaration by the Governor or President.
- AQMD Counsel also indicated that for localized emergencies, the Chair of AQMD Hearing Board had the ability to approve ex-Parte Emergency Variance Procedures under which there is no notice requirement, no hearing requirement and the Chair of the Hearing Board can simply issue a variance based upon receipt of a faxed request from any local agency. This was the first time we had heard of this procedure.

MWDOC also asked for AQMD's preference on alternative emergency power supplies as our recent OC Water Reliability Study had indicated the need for a number of NEW emergency generators. AQMD indicated that they are moving toward a 'zero emissions' standard and preferred near zero emissions battery backup systems (i.e. micro grids) or fuel cells, especially for primary power production as well. Additionally AQMD indicated natural gas, dual fuel, fuel cell, and renewable energy as all preferred to diesel power generation, although they noted that a Tier 4 version of a diesel generator (cleanest operating tier) is under development by EPA but is not slated for general use until 2022 or after.

We also asked about potential funding sources for clean energy emergency generators from their Offset Accounts or other sources. They indicated they have funded pilot programs. We also noted the issues we are facing with standardization of Transfer Switches at sites requiring generators to be plugged in; AQMD noted they are facing standardization of plugs with respect to various car and equipment manufacturers as these have not yet been standardized either.

AQMD advised us that the State of California Air Resources Board is working on a NEW permit standard for portable generators targeted for adoption by March 2017.

In summary AQMD indicated the following would be helpful in moving the discussion forward in the future:

1. Definition of what a local emergency is? And if we had examples of where agencies had gone over the 200 hours of operation that had NOT been approved by the Board.
2. What a local emergency means for both water producers and AQMD.
3. Explore alternative energy sources (and identify possible pilot project partners) for technology solutions.
4. A seminar for Water Districts on the 'state of the art' of power generation
5. Survey of the type, age, and replacement cycle of existing engines would help with rule making and future discussions regarding emergency operations in OC.

Overall, the meeting was a good one based on the exchange of information. Completion of an upcoming survey from our agencies to ascertain the type, age, replacement cycle will help us to better understand what we are facing in Orange County. We plan to follow-up on the offer of a "technical exchange" regarding the changing technology of power generation.





**INFORMATION ITEM**

October 3, 2016

**TO: Planning & Operations Committee**  
(Directors Dick, Hinman, Finnegan)

**FROM: Robert Hunter, General Manager**

Staff Contact: Karl Seckel

**SUBJECT: Metropolitan Request Regarding AMP Right of Way**

**STAFF RECOMMENDATION**

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Staff recommends the Planning & Operations Committee receives and files the report.

**COMMITTEE RECOMMENDATION**

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Committee recommends (To be determined at Committee Meeting)

**OVERVIEW**

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Metropolitan's Right of Way department contacted MWDOC regarding the AMP right of way conveyed to MET as part of the AMP sale. The right of way conveyance had a reversionary clause allowing MWDOC to step back into the right of way in the event of a default by MET on the payments. The official Discharge Date relative to the payoff of the Certificates of Participation has passed and all other financial transactions among and between the Participants has passed; MET has requested that MWDOC provide a recordable form document (reconveyance, memorandum, or declaration) evidencing that the conditions have been satisfied, and establishing a specific Discharge Date. Legal Counsel has reviewed the request and concurs with MET that MWDOC should provide such a document.

<b>Budgeted (Y/N):</b> n/a	Budgeted amount:	Core __	Choice __
<b>Action item amount:</b>		Line item:	
<b>Fiscal Impact (explain if unbudgeted):</b>			

MWDOC will work with MET to execute such a document.

The specific easement provisions are noted below:

Until such date that all amounts due and owing under the Municipal Water District of Orange County Water Facilities Corporation 1989 Adjustable/Fixed Rate Certificates of Participation and 1992 Adjustable/Fixed Rate Certificates of Participation have been fully paid and discharged (scheduled to be July 1, 2016, and hereafter referred to as "Discharge Date"), Grantor and Grantor's successors and assigns shall retain a right to re-enter and to terminate all right, title and interest of Grantee and Grantee's successors and assigns in and to the property conveyed herein. Grantor's right of re-entry and power of termination shall be exercisable in the event of default, as provided in the Agreement for Sale and Purchase of Allen-McColloch Pipeline (Metropolitan Agreement No. 4623) dated July 1, 1994.

Grantee hereby irrevocably appoints Grantor, Municipal Water District of Orange County, and its successors and assigns as the agent for Grantee and its successors and assigns for the purpose of reconveying the property conveyed herein pursuant to the right of re-entry and power of termination, including the power to execute on behalf of Grantee and its successors and assigns any and all instruments, deeds and conveyances necessary to terminate Grantee's interest and reconvey the property either in Grantor's name or otherwise.

On the Discharge Date, provided the right of re-entry and power of termination has not been exercised hereunder, said rights shall terminate and be of no further force or effect.



# Status of Ongoing MWDOC Reliability and Engineering and Planning Projects

September 27, 2016

Description	Lead Agency	Status % Complete	Scheduled Completion Date	Comments
<b>Baker Treatment Plant or Expansion of Baker Water Treatment Plant</b>	IRWD, MNWD, SMWD, ETWD Trabuco CWD		On line date is Oct 2016	A final meeting was held with MWDOC, IRWD, SMWD and the Baker Treatment Plant participants and the South County Pipeline participants to discuss how the billing process for the Baker Treatment Plant deliveries will be made along with responsibility for the reporting of sales on an agency by agency basis.
<b>Doheny Desalination Project</b>	South Coast Water District, Laguna Beach CWD			South Coast Water District is continuing to move the project forward and to look for potential partners and grant funding as they initiate the CEQA process.  MWDOC is working on the decommissioning and removal of the test facilities at Doheny State Park. Plans, specifications, permitting and coordination with State Parks for the decommissioning work is nearing completion. The construction award will come to the P&O Committee and Board likely in December.  MWDOC is awaiting NWRI to schedule the Science Advisory Panel to review both the SJBA and the South Coast Water District Foundational Action Program Studies.
<b>Poseidon Resources Ocean Desalination Project in</b>				OCWD is currently working on preparation of the CEQA documentation for the Poseidon Project. Work continues on the project integration into the water supplies for OC. Poseidon is

<b>Description</b>	<b>Lead Agency</b>	<b>Status % Complete</b>	<b>Scheduled Completion Date</b>	<b>Comments</b>
<b>Huntington Beach</b>				continuing to work with the Coastal Commission for project approval and with the Santa Ana Regional Water Quality Control Board for the NPDES discharge permit.
<b>Orange County Reliability Study</b>				<p>Karl Seckel, Harvey De La Torre and Dan Rodrigo and Andrea Zimmer from CDM-Smith met with MET staff members Brandon Goshi and Jennifer Nevills who were in charge of MET's IRP and IRP modeling. Our goal was to share our approach for the OC Water Reliability evaluation and to compare and contrast the approach of the two studies. MET appreciated the briefing and approach used in OC.</p> <p>CDM-Smith has provided a final draft of TM 4 to MWDOC staff who will review it and then send it out to our agencies in a red-lined version. CDM-Smith anticipates completion of the Executive Summary to MWDOC by September 30; MWDOC will provide input on the Executive Summary and circulate it for comments; after comments are received, the entire study will be published.</p>
<b>Other Meetings/Work</b>				
				Karl Seckel, Keith Lyon and Kevin Hostert participated in several discussions with Newport Beach, Laguna Beach CWD and MET to discuss operational issues with conveying groundwater from



Description	Lead Agency	Status % Complete	Scheduled Completion Date	Comments
				NB to LB through the Coast Supply Line to help LBCWD gain access to their groundwater rights. Physical delivery of the water began in early September; this required the shutdown of MET service connection CM-1 at the terminus of the Orange County Feeder. As anticipated, the water quality stagnated and will be drained and refilled by MET. A conceptual design on a low flow bypass connection at the facility has been suggested by MET. LBCWD, Newport Beach and MET are examining hydraulic and control issues for the low flow meter.
				Karl Seckel, Rob Hunter and MWDOC Director Sat Tamaribuchi participated in an MET Environmental Leaders Trip of the Bay-Delta to examine fisheries habitat issues and seek support for the Tunnel and Eco-Restore projects in the Delta. The trip was coordinated with OC Coastkeeper and a number of the other “Keeper” organizations or associated entities they work with throughout the state. The one-day tour and one-day workshop generated great discussions with Scientists directly working on the myriad of issues facing the Delta and how reconciliation of these issues might be approached. Additional follow-up is being planned.
				Director Susan Hinman attended the September meeting of the San Juan Basin Authority. The main items of discussion were the condition of the basin and a discussion of the many agreements covering the water rights issues across the basin.
				Karl Seckel, Harvey De La Torre and Keith Lyon continued working with SMWD regarding their LRP application to MET for

Description	Lead Agency	Status % Complete	Scheduled Completion Date	Comments
				the Lake Mission Viejo Water Purification Project.
				Karl Seckel is completing the last of the efforts associated with the Foundational Action Grant Process for both the San Juan Basin Authority and the Doheny Desal Foundational Action Grants. The final invoice and transmittal of all deliverables should occur in October.
				Karl Seckel attended the September 19 discussion with the OC Flood Control District to participate in the discussions regarding NEW encroachment permits for crossing of Flood Control property. Flood control is suggesting changes to the typical encroachment permit process and has suggested a fee structure for such a permit. MWDOC is working with several of our agencies to determine if we are exempt from such charges. A full report is included in the P&O packet this month.
				Karl Seckel, Keith Lyon and Kevin Hostert met with OCWD staff on an OC-28 flow metering issue. After sufficient information has been compiled, we will be submitting a request to MET to examine the OC-28 flow meter. The meter recordings showed erratic behavior and did not agree as it has typically with downstream metering by OCWD.
				Rob Hunter, Karl Seckel and Harvey De La Torre met with Paul Cook and Paul Weghorst to discuss the status of the Strand Ranch Groundwater Banking Project.

Description	Lead Agency	Status % Complete	Scheduled Completion Date	Comments
				<p>Karl Seckel, Keith Lyon, Kevin Hostert and Heather Baez attended the OCWD groundwater producers meeting; Karl and Heather attended specifically on the discussions regarding the OC Flood Control encroachment permit. Karl also briefly discussed with the groundwater producers the 2006 Emergency Services Program Agreement that allows water from the OCWD Groundwater basin to be conveyed through the IRWD system to South Orange County during emergency situations.</p>
				<p>Karl Seckel and Charles Busslinger attended a meeting with the South Coast Air Quality Management District to discuss:</p> <ul style="list-style-type: none"> <li>• Number of run hours for diesel generators for emergency purposes</li> <li>• Declaration of emergencies</li> <li>• Voluntary effort by water and wastewater agencies to avoid an impending grid outage</li> <li>• Reliability Planning and the need for emergency generators</li> </ul> <p>The exchange of information was good; a full report on the discussions is included in the P&amp;O packet.</p>

**Status of Ongoing WEROC Projects  
September 2016**

<b>Description</b>	<b>Comments</b>
<b>Coordination with Member Agencies</b>	<p><i>Orange County Water Procurement and Distribution Planning Efforts to date:</i></p> <ul style="list-style-type: none"> <li>- <i>County-wide Planning Meetings: February 25<sup>th</sup>, April 20<sup>th</sup>, July 21<sup>st</sup> (Disabilities, Access, Functional Needs (DAFN) Workgroup)</i></li> <li>- <i>Tools Developed: Executive Summary with DAFN language, Water Utility Water Distribution Template, City Water Distribution Template, Point of Distribution (POD) Site Evaluation Checklist, draft outreach materials, and a POD Supplies Checklist.</i></li> <li>- <i>Presentations: MWDOC's A&amp;F Committee, the MWDOC Member Agency Manager's meeting and the Orange County Emergency Management Organization (OCEMO)</i></li> <li>- <i>Working Group Meetings (7 groups) – 9</i></li> </ul> <p>UPDATE: This month Kelly Hubbard facilitated the kick off meeting for 1 new working group. Agencies in attendance are notated below.</p> <p>Attendees: City of Seal Beach Police/Emergency Coordination and Water Department, City of Cypress Emergency Management, City of Westminster Water Division</p> <p>The first local planning group based on a small group from the Laguna and Dana Point area had their last official meeting to finalize their planning format. City of Laguna beach, Laguna Beach County Water District (LBCWD) and South Coast Water District are finalizing their plans, while a few others in the group will need a little more time. Kelly met with the City of Laguna Beach and LBCWD separately to finalize their planning with their management.</p>
<b>Fall Exercise Activities</b>	<p>Kelly spent time at the South EOC to evaluate and work on EOC readiness for the exercise.</p> <p>Kelly provided a series of trainings to prepare staff and member agencies for the September exercise. One class was EOC Action Planning Training which presented how to develop response objectives and a plan of action for complex, multi-agency or multi-day events. The second class was on the newly reformatted WebEOC, the online information management tool that the county provides for coordinated communication. Both classes were provided twice.</p>

Description	Comments
<p><b>Coordination with the County of Orange</b></p>	<p>Kelly met with all of the Orange County Fire Agencies Operations Chiefs to discuss response coordination between water utilities and each fire authority. She was able to provide information on WEROC, the water utilities and discuss best practices moving forward. A county-wide communication protocol between water agencies and fire agencies was agreed upon and shared with the fire agencies.</p> <p>Kelly submitted for additional funding for the fuel trailer project to the OC Urban Area Working Group (UAWG). This is primary approval body for the Urban Area Security Initiative (UASI) funding that is paying for the fuel trailers. WEROC requested funding for 2 more trailers that would go to the City of Westminster and probably the City of Huntington Beach. If approved, that would be a total of 8 trailers purchased as mutual aid equipment.</p> <p>Kelly attended the September Orange County Emergency Management Organization (OCEMO) meeting. A great presentation on speaking skills and audience engagement was provided by the California Earthquake Allegiance who is trying to develop a cadre of speakers for public education purposes.</p>
<p><b>Coordination with Outside Agencies</b></p>	<p>Kelly attended the California Emergency Services Association (CESA) Southern Chapter Annual Meeting at NBC Universal on September 7<sup>th</sup>. Dr. Ann Gordon of the University of Chapman presented on American's Fears and how to encourage disaster preparedness.</p> <p>Kelly participated in the California Water/Wastewater Agency Response Network (CalWARN) Steering Committee call. The group is working with the California State Training Institute (CSTI) to host a series of Water Sector Unit Leader classes to increase the number of individuals in the state who are trained on how to represent water utilities in Operational Area Emergency Operations Centers.</p>

Description	Comments
<b>WEROC Emergency Operations Center (EOC) Readiness</b>	Kelly and Karl Seckel met twice with Claris Strategies, Inc. to discuss the WEROC EOC Assessment. The purpose of the meeting was to review what was discovered in the Discovery and Analysis process, as well as to identify any missing information that was still needed. Additionally, the group reviewed and ranked the facility site and building evaluation criteria.

## Status of Water Use Efficiency Projects

September 2016

<b>Description</b>	<b>Lead Agency</b>	<b>Status % Complete</b>	<b>Scheduled Completion or Renewal Date</b>	<b>Comments</b>
<b>Smart Timer Rebate Program</b>	MWDSC	Ongoing	Ongoing	For August 2016, 100 residential and 57 commercial smart timers were installed in Orange County.  For program water savings and implementation information, please see MWDOC Water Use Efficiency Program Savings and Implementation Report.
<b>Rotating Nozzles Rebate Program</b>	MWDSC	Ongoing	Ongoing	For August 2016, 37 rotating nozzles were installed in Orange County.  For program savings and implementation information, please see MWDOC Water Use Efficiency Program Savings and Implementation Report.
<b>Water Smart Landscape Program</b>	MWDOC	On-going	On hold pending evaluation and RFP process	This Program is currently on hold while a Process and Impact Evaluation is conducted. Once the Evaluation is complete, the results will be used to make refinements to the Program.  For program savings and implementation information, please see MWDOC Water Use Efficiency Program Savings and Implementation Report.
<b>SoCal WaterSmart Residential Indoor Rebate Program</b>	MWDSC	On-going	On-going	In August 2016, 139 high efficiency clothes washers, 3 high efficiency toilets, and 336 premium high efficiency toilets were installed through this program.  For program savings and implementation information, please see MWDOC Water Use Efficiency Program Savings and Implementation Report.

<b>SoCal Water\$mart Commercial Rebate Program</b>	MWDSC	On-going	On-going	<p>In August 2016, 1,525 in-stem flow regulators and 310 premium high efficiency toilets were installed through this program.</p> <p>For program savings and implementation information, please see MWDOC Water Use Efficiency Program Savings and Implementation Report.</p>
<b>Industrial Process Water Use Reduction Program</b>	MWDOC	September 2016	95%	<p>A total of 41 Focused Surveys and 19 Comprehensive Surveys have been completed or are in progress. To date, 15 companies have signed Incentive Agreements. Updated discharger lists have been obtained, and outreach is continuing to sites with feasible water savings potential. As a result of this program, 359 AFY of water savings is being achieved.</p>
<b>MWDOC Conservation Meeting</b>	MWDOC	Monthly	On-going	<p>This month's meeting was held on September 1, 2016 at the Irvine Ranch Water District. The next meeting will be on October 6, 2016 at MWDOC.</p>
<b>Metropolitan Conservation Meeting</b>	MWDSC	Monthly	On-going	<p>This month's meeting was held on September 15, 2016. The next meeting will be October 20, 2016 at Metropolitan.</p>
<b>Turf Removal Program</b>	MWDOC	On-going	On-going	<p>In August 2016, 59 rebates were paid, representing \$223,414.79 in rebates paid this month in Orange County. To date, the Turf Removal Program has removed approximately 20.2 million square feet of turf.</p> <p>For program savings and implementation information, please see MWDOC Water Use Efficiency Program Savings and Implementation Report.</p>
<b>California Sprinkler Adjustment Notification System – Base Irrigation Schedule Calculator</b>	MWDOC	On-going	On-going	<p>The California Sprinkler Adjustment Notification System (CSANS) will e-mail or “push” an irrigation index to assist property owners with making global irrigation scheduling adjustments. Participants voluntarily register to receive this e-mail at <a href="http://www.csans.net">www.csans.net</a> and can unsubscribe at any time.</p> <p>Through a grant from the Department of Water Resources (DWR) to the California Urban Water Conservation Council, the East Bay Municipal Utility District and Bay Area Water</p>



<b>California Sprinkler Adjustment Notification System – Base Irrigation Schedule Calculator (cont.)</b>				<p>Supply and Conservation Agency are now enrolled in CSANS. Once this has been completed, staff will be pursuing DWR for administration of CSANS state-wide.</p> <p>The following member agencies have recently requested access to the CSANS to administer their own messages to their customers: City of Brea, Mesa Water District, City of San Juan Capistrano, and Laguna Beach County WD. MWDOC will work with these agencies over the next month to transition administration of CSANS to these agencies. All other agencies are currently receiving educational messages administered by MWDOC.</p>
<b>Spray to Drip Conversion Program</b>	MWDOC	75%	October 2017	<p>This is a pilot program designed to test the efficacy of replacing conventional spray heads in shrub beds with low-volume, low-precipitation drip technology. Through a rebate program format, residential and commercial sites will be encouraged to convert their existing spray nozzles to drip.</p> <p>To date, 193 residential sites and 52 commercial sites have completed spray to drip conversion projects.</p>

# Orange County

## Water Use Efficiency Programs Savings and Implementation Report

### Retrofits and Acre-Feet Water Savings for Program Activity

Program	Program Start Date	Retrofits Installed in	Month Indicated		Current Fiscal Year		Overall Program		
			Interventions	Water Savings	Interventions	Water Savings	Interventions	Annual Water Savings[4]	Cumulative Water Savings[4]
High Efficiency Clothes Washer Program	2001	August-16	139	0.40	571	2.88	109,354	3,773	23,719
Smart Timer Program - Irrigation Timers	2004	August-16	157	3.52	381	64.07	17,863	6,856	37,926
Rotating Nozzles Rebate Program	2007	August-16	37	0.15	2,699	10.79	524,057	2,602	11,034
SoCal WaterSmart Commercial Plumbing Fixture Rebate Program	2002	August-16	1,835	1.34	5,495	19.65	75,777	3,518	39,118
Water Smart Landscape Program [1]	1997	November-15	12,677	904.62	12,677	3,615.21	12,677	10,621	72,668
Industrial Process Water Use Reduction Program	2006	August-16	0	0.00	0	0.00	15	359	1,800
Turf Removal Program <sup>[3]</sup>	2010	August-16	100,899	1.18	189,943	780	20,216,612	2,831	7,162
High Efficiency Toilet (HET) Program	2005	August-16	339	1.20	550	23.39	59,135	2,186	14,135
Home Water Certification Program	2013	November-15	0	0.000	53	0.251	312	7,339	15,266
Synthetic Turf Rebate Program	2007						685,438	96	469
Ultra-Low-Flush-Toilet Programs <sup>[2]</sup>	1992						363,926	13,452	162,561
Home Water Surveys <sup>[2]</sup>	1995						11,867	160	1,708
Showerhead Replacements <sup>[2]</sup>	1991						270,604	1,667	19,083
Total Water Savings All Programs				912	212,369	4,516	22,347,637	48,128	391,399

a Water Smart Landscape Program participation is based on the number of water meters receiving monthly Irrigation Performance Reports.

b Cumulative Water Savings Program To Date totals are from a previous Water Use Efficiency Program Effort.

c Turf Removal Interventions are listed as square feet.

d Cumulative & annual water savings represents both active program savings and passive savings that continues to be realized due to plumbing code changes over time.

# **HIGH EFFICIENCY CLOTHES WASHERS INSTALLED BY AGENCY** through MWDOC and Local Agency Conservation Programs

Agency	FY 08/09	FY 09/10	FY 10/11	FY 11/12	FY 12/13	FY13/14	FY14/15	FY15/16	FY16/17	Total	Current FY Water Savings Ac/Ft (Cumulative)	Cumulative Water Savings across all Fiscal Years	15 yr. Lifecycle Savings Ac/Ft
Brea	156	42	186	144	93	115	114	76	7	1,817	0.03	396.56	940
Buena Park	146	59	230	145	105	106	91	76	5	1,469	0.02	306.04	760
East Orange CWD RZ	17	3	23	10	10	8	8	8	-	189	0.00	43.34	98
El Toro WD	130	32	162	112	134	121	111	65	6	1,480	0.03	309.40	766
Fountain Valley	243	72	289	158	115	102	110	76	14	2,349	0.08	531.15	1,215
Garden Grove	332	101	481	236	190	162	165	251	17	3,453	0.09	742.68	1,787
Golden State WC	447	168	583	485	265	283	359	260	25	4,902	0.13	1,049.81	2,536
Huntington Beach	751	211	963	582	334	295	319	225	19	8,085	0.10	1,864.01	4,183
Irvine Ranch WD	1,844	1,394	2,621	2,170	1,763	1,664	1,882	1,521	203	23,496	1.03	4,859.93	12,158
La Habra	83	22	179	128	82	114	87	66	4	1,278	0.02	267.44	661
La Palma	51	25	76	46	34	25	34	29	1	449	0.01	92.51	232
Laguna Beach CWD	77	27	96	57	38	37	39	32	1	914	0.00	204.29	473
Mesa Water	246	73	232	176	114	86	89	113	12	2,450	0.05	566.72	1,268
Moulton Niguel WD	742	250	1,127	679	442	421	790	688	85	9,431	0.43	1,957.00	4,880
Newport Beach	259	57	197	142	116	92	95	66	7	2,570	0.04	608.08	1,330
Orange	403	111	349	262	218	163	160	124	10	3,828	0.05	885.53	1,981
Orange Park Acres	-	-	-	-	-	-	-	-	-	12	0.00	3.42	6
San Juan Capistrano	127	43	190	110	76	73	92	63	-	1,426	0.00	310.15	738
San Clemente	278	63	333	206	140	94	141	75	8	2,558	0.05	563.00	1,324
Santa Margarita WD	740	257	1,105	679	553	662	792	466	55	9,204	0.26	1,920.21	4,762
Seal Beach	57	7	81	51	31	29	38	23	-	593	0.00	129.29	307
Serrano WD	23	7	21	20	13	10	26	8	3	349	0.02	80.89	181
South Coast WD	148	43	183	112	89	79	68	43	4	1,544	0.02	337.62	799
Trabuco Canyon WD	62	28	82	62	30	45	47	34	3	773	0.01	167.30	400
Tustin	144	45	174	97	78	59	80	66	9	1,577	0.05	357.26	816
Westminster	233	74	329	208	121	82	109	149	15	2,517	0.08	551.27	1,302
Yorba Linda	367	117	394	273	181	167	156	123	9	3,705	0.04	850.10	1,917
<b>MWDOC Totals</b>	<b>8,106</b>	<b>3,331</b>	<b>10,686</b>	<b>7,350</b>	<b>5,365</b>	<b>5,094</b>	<b>6,002</b>	<b>4,726</b>	<b>522</b>	<b>92,418</b>	<b>2.63</b>	<b>19,955.01</b>	<b>17,855</b>

Anaheim	781	860	910	477	331	285	295	266	26	10,495	0.13	2,372.35	5,430
Foothill	330	69	397	270	200	186	211	165	12	3,600	0.06	725.47	1,863
Santa Ana	257	87	355	190	163	131	132	259	11	2,841	0.05	666.36	1,470
<b>Non-MWDOC Totals</b>	<b>1,368</b>	<b>1,016</b>	<b>1,662</b>	<b>937</b>	<b>694</b>	<b>602</b>	<b>638</b>	<b>690</b>	<b>49</b>	<b>16,936</b>	<b>0.25</b>	<b>3,764.18</b>	<b>3,272</b>

<b>Orange County Totals</b>	<b>9,474</b>	<b>4,347</b>	<b>12,348</b>	<b>8,287</b>	<b>6,059</b>	<b>5,696</b>	<b>6,640</b>	<b>5,416</b>	<b>571</b>	<b>109,354</b>	<b>2.88</b>	<b>23,719.19</b>	<b>21,127</b>
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# **SMART TIMERS INSTALLED BY AGENCY** through MWDOC and Local Agency Conservation Programs

Agency	FY 07/08		FY 10/11		FY 11/12		FY 12/13		FY 13/14		FY 14/15		FY 15/16		FY16/17		Total Program		Cumulative Water Savings across all Fiscal Years
	Comm.	Res	Comm	Res	Comm	Res	Comm	Res	Comm	Res	Comm	Res	Comm	Res	Comm	Res	Comm.		
Brea	40	2	0	8	0	0	9	8	4	0	43	6	20	4	2	0	102	76	457.47
Buena Park	0	0	0	4	19	3	0	0	0	0	4	10	7	4	2	0	23	34	112.71
East Orange CWD RZ	0	1	0	5	0	0	2	0	0	0	2	0	1	0	0	0	14	0	4.34
El Toro WD	174	5	5	26	2	7	2	11	0	8	8	9	9	17	2	0	84	347	2,225.15
Fountain Valley	0	2	2	8	2	3	2	4	0	7	10	13	13	1	4	0	62	28	137.88
Garden Grove	3	5	4	7	0	5	2	9	0	10	14	13	13	11	3	0	76	38	141.39
Golden State WC	8	7	4	13	3	9	49	9	25	39	12	35	16	4	0	173	155	644.72	
Huntington Beach	1	6	36	15	4	18	33	20	35	19	2	42	12	14	3	198	177	803.16	
Irvine Ranch WD	183	28	153	267	71	414	135	71	59	67	310	239	207	63	13	1,488	1,379	9,407.11	
La Habra	0	0	0	3	0	4	7	2	0	4	4	7	3	1	4	25	41	169.23	
La Palma	0	0	0	1	0	1	0	2	0	2	2	0	3	2	0	9	2	4.12	
Laguna Beach CWD	0	4	1	109	2	76	2	71	0	86	0	86	1	1	0	471	20	197.35	
Mesa Water	0	7	22	21	0	10	2	15	2	17	28	36	12	5	0	174	113	580.27	
Moulton Niguel WD	20	36	60	179	31	51	74	40	45	46	95	163	100	25	0	703	672	2,896.61	
Newport Beach	40	6	0	275	12	242	26	168	75	11	9	28	43	6	6	1,014	403	2,286.83	
Orange	0	5	8	25	0	20	24	13	9	18	31	51	13	11	1	227	156	794.37	
San Juan Capistrano	1	13	1	103	2	14	18	6	11	6	19	20	8	6	0	206	117	541.76	
San Clemente	60	46	11	212	17	26	7	28	2	28	24	26	3	8	1	1,022	362	2,345.65	
Santa Margarita WD	70	61	53	262	7	53	171	64	93	53	321	189	136	107	46	935	1,197	4,512.71	
Santiago CWD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	
Seal Beach	0	0	0	0	3	1	1	1	36	1	12	2	2,446	0	0	5	2,498	3,432.23	
Serrano WD	0	4	0	3	0	1	0	0	0	4	0	0	11	2	0	34	2	10.68	
South Coast WD	49	13	3	78	10	13	16	8	4	104	73	9	11	1	0	272	212	991.77	
Trabuco Canyon WD	0	2	10	12	0	6	0	2	0	6	1	16	50	2	0	92	154	837.29	
Tustin	3	10	0	11	0	8	4	9	1	18	14	33	8	5	0	115	57	261.83	
Westminster	0	1	1	2	0	1	1	2	0	13	17	7	1	1	0	49	32	155.54	
Yorba Linda	41	25	0	22	0	20	0	12	5	32	2	61	27	14	0	280	112	637.12	
MWDOC Totals	693	289	374	1,671	185	1,017	583	571	402	648	1,026	1,123	3,136	287	74	7,853	8,884	34,589.28	

Anaheim	57	12	11	23	60	19	10	9	26	7	52	30	34	8	0	157	447	2,276.82
Fullerton	0	9	33	22	51	9	29	8	0	40	26	32	12	10	0	146	192	783.71
Santa Ana	0	8	0	6	5	8	19	7	8	9	27	22	26	2	0	67	97	276.35
<b>Non-MWDOC Totals</b>	<b>57</b>	<b>29</b>	<b>44</b>	<b>51</b>	<b>116</b>	<b>36</b>	<b>58</b>	<b>24</b>	<b>34</b>	<b>56</b>	<b>105</b>	<b>84</b>	<b>72</b>	<b>20</b>	<b>0</b>	<b>370</b>	<b>736</b>	<b>3,336.89</b>
<b>Orange County Totals</b>	<b>750</b>	<b>318</b>	<b>418</b>	<b>1,722</b>	<b>301</b>	<b>1,053</b>	<b>641</b>	<b>595</b>	<b>436</b>	<b>704</b>	<b>1,131</b>	<b>1,207</b>	<b>3,208</b>	<b>307</b>	<b>74</b>	<b>8,223</b>	<b>9,620</b>	<b>37,926</b>

**ROTATING NOZZLES INSTALLED BY AGENCY**  
through MWDOC and Local Agency Conservation Programs

Agency	FY 11/12				FY 12/13				FY 13/14				FY 14/15				FY 15/16				FY 16/17				Total Program				Cumulative Water Savings across all Fiscal Years
	Small		Large		Small		Large		Small		Large		Small		Large		Small		Large		Small		Large		Small		Large		
	Res	Comm.	Comm.	Large	Res	Comm.	Comm.	Large	Res	Comm.	Comm.	Large	Res	Comm.	Comm.	Large	Res	Comm.	Comm.	Large	Res	Comm.	Comm.	Large	Res	Comm.	Comm.	Large	
Brea	130	0	0	0	65	120	0	84	0	157	45	0	74	2,484	0	0	0	0	0	0	0	0	0	0	572	2,749	0	0	32.68
Buena Park	32	0	0	0	65	0	0	53	0	248	0	0	45	98	0	0	0	0	0	0	0	0	0	0	509	173	2,535	0	453.42
East Orange	340	0	0	0	55	0	0	30	0	221	0	0	0	0	0	0	0	0	0	0	0	0	0	0	751	0	0	0	10.83
El Toro	357	76	0	23	6,281	0	56	3,288	0	1,741	28,714	0	730	4,457	0	55	0	0	0	0	3,369	45,980	890	0	0	0	0	0	819.66
Fountain Valley	108	0	0	0	35	0	0	0	0	107	0	0	222	0	0	0	0	0	0	0	0	0	0	0	710	0	0	0	10.22
Garden Grove	119	0	0	0	95	0	0	80	0	88	50	0	110	0	0	0	0	0	0	0	0	0	0	0	878	201	0	0	19.11
Golden State	294	0	0	0	257	2,595	0	192	0	583	1,741	0	1,088	0	0	146	0	0	0	0	3,387	5,308	0	0	0	0	0	0	133.38
Huntington Beach	458	0	0	0	270	0	0	120	0	798	1,419	0	1,345	2,836	0	37	965	0	0	3,685	10,129	2,681	0	0	0	0	0	0	788.06
Irvine Ranch	1,715	4,255	0	25,018	1,014	0	11,010	4,257	0	1,421	632	0	1,989	5,047	0	0	1,070	0	0	46,802	86,120	2,004	0	0	0	0	0	0	2,885.13
La Habra	33	90	0	0	0	0	0	15	0	109	338	0	300	0	0	0	0	0	0	481	1,236	900	0	0	0	0	0	0	221.65
La Palma	0	0	0	0	0	0	0	0	0	0	0	0	46	505	0	0	0	0	0	56	505	0	0	0	0	0	0	0	4.65
Laguna Beach	763	0	0	3,596	0	2,948	878	0	2,879	1,971	0	1,390	0	0	0	0	0	0	0	12,139	2,896	0	0	0	0	0	0	0	224.61
Mesa Water	297	277	0	270	0	361	0	361	0	229	0	166	0	0	0	0	0	0	0	1,917	385	343	0	0	0	0	0	0	121.71
Moulton Niguel	1,225	0	0	512	1,385	0	361	227	0	1,596	4,587	0	5,492	1,441	0	30	116	0	0	11,751	14,759	2,945	0	0	0	0	0	0	994.01
Newport Beach	640	3,273	0	25,365	50	0	19,349	6,835	0	460	3,857	0	348	670	0	0	0	0	0	46,678	21,413	0	0	0	0	0	0	0	1,178.02
Orange	343	0	0	264	0	0	245	120	0	304	668	0	631	91	0	0	0	0	0	3,170	1,072	0	0	0	0	0	0	0	69.27
San Clemente	4,266	117	1,343	631	172	0	415	5,074	0	326	0	0	426	0	0	0	0	0	0	9,989	7,538	1,343	0	0	0	0	0	0	415.75
San Juan Capistrano	949	0	0	684	30	0	370	0	0	495	737	0	310	593	0	0	0	0	0	5,420	8,729	0	0	0	0	0	0	0	256.24
Santa Margarita	4,817	0	0	983	0	0	389	0	0	1,207	1,513	0	1,820	837	0	0	0	0	0	16,150	6,921	611	0	0	0	0	0	0	450.27
Seal Beach	0	0	0	0	0	0	0	0	0	40	5,261	0	0	2,300	0	0	0	0	0	155	7,852	0	0	0	0	0	0	0	90.55
Serrano	58	0	0	190	0	0	105	0	0	377	0	0	695	0	0	0	0	0	0	3,405	0	0	0	0	0	0	0	0	55.23
South Coast	688	359	0	435	0	0	70	0	0	4,993	13,717	0	1,421	2,889	0	0	0	0	0	8,114	18,870	0	0	0	0	0	0	0	323.24
Trabuco Canyon	379	0	0	34	0	0	0	0	0	56	0	0	130	0	0	0	0	0	0	2,086	791	0	0	0	0	0	0	0	53.52
Tustin	476	1,013	0	378	0	0	329	0	0	408	0	0	317	386	0	34	0	0	0	3,340	1,399	0	0	0	0	0	0	0	69.61
Westminster	26	0	0	15	0	0	0	0	0	54	0	0	73	0	0	72	0	0	0	431	0	0	0	0	0	0	0	0	6.39
Yorba Linda	559	0	0	730	0	0	40	990	0	921	0	0	1,715	0	0	107	0	0	0	5,975	4,359	500	0	0	0	0	0	0	277.95
MWDOC Totals	19,072	9,460	1,343	59,970	11,647	0	36,622	21,669	0	19,818	65,250	0	20,883	24,634	0	481	2,151	0	0	191,920	249,385	14,752	0	0	0	0	0	0	9,965.15

Anaheim	742	38,554	0	459	813	0	338	0	0	498	712	0	794	5,221	0	67	0	0	0	3,940	45,846	105	0	0	0	0	0	0	614.04
Fullerton	409	0	0	119	0	0	107	0	0	684	1,196	0	521	7,015	0	0	0	0	0	2,845	8,275	1,484	0	0	0	0	0	0	374.01
Santa Ana	22	65	0	99	0	0	86	2,533	0	310	0	0	0	1,420	0	0	0	0	0	859	4,646	0	0	0	0	0	0	0	80.93
Non-MWDOC Totals	1,173	38,619	0	677	813	0	531	2,533	0	1,492	1,908	0	1,315	13,656	0	67	0	0	0	7,644	58,767	1,589	0	0	0	0	0	0	1,068.98

Orange County Totals	20,245	48,079	1,343	60,647	12,460	0	37,153	24,202	0	21,310	67,158	0	22,198	38,290	0	548	2,151	0	0	199,564	308,152	16,341	0	0	0	0	0	0	11,034.12
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**SOCAL WATER\$MART COMMERCIAL PLUMBING FIXTURES REBATE PROGRAM<sup>[1]</sup>**  
**INSTALLED BY AGENCY**  
 through MWDOC and Local Agency Conservation Programs

Agency	FY 07/08	FY 08/09	FY 09/10	FY 10/11	FY 11/12	FY 12/13	FY 13/14	FY 14/15	FY 15/16	FY 16/17	Totals	Cumulative Water Savings across all Fiscal Years
Brea	27	113	24	4	1	234	0	10	91	0	631	394
Buena Park	153	432	122	379	290	5	23	56	591	0	2,356	1,070
East Orange CWD RZ	0	0	0	0	0	0	0	0	0	0	0	0
El Toro WD	0	92	143	1	137	0	212	6	288	0	1,027	585
Fountain Valley	17	35	0	2	314	0	0	1	249	0	872	584
Garden Grove	5	298	130	22	0	4	1	167	676	310	2,351	1,480
Golden State WC	46	414	55	68	135	0	1	0	1,008	0	2,812	1,893
Huntington Beach	48	104	126	96	156	104	144	7	783	0	2,313	1,541
Irvine Ranch WD	121	789	2,708	1,002	646	1,090	451	725	11,100	2,679	24,587	7,247
La Habra	191	75	53	4	0	0	0	0	340	0	883	544
La Palma	0	140	21	0	0	0	0	0	0	0	166	84
Laguna Beach CWD	20	137	189	0	0	0	27	0	0	0	446	312
Mesa Water	141	543	219	669	41	6	0	79	661	763	4,235	2,068
Moulton Niguel WD	9	69	151	6	0	0	0	3	413	0	996	811
Newport Beach	98	27	245	425	35	0	0	566	0	0	1,834	1,279
Orange	18	374	67	1	73	1	271	81	275	1,525	3,704	1,768
San Juan Capistrano	2	1	1	0	0	0	14	0	0	0	260	397
San Clemente	2	18	43	0	19	0	0	1	0	0	432	381
Santa Margarita WD	6	23	11	0	0	0	0	2	90	0	207	206
Santiago CWD	0	0	0	0	0	0	0	0	0	0	0	0
Seal Beach	1	2	124	0	0	0	0	0	0	0	354	420
Serrano WD	0	0	0	0	0	0	0	0	0	0	0	0
South Coast WD	9	114	56	422	84	148	0	382	0	0	1,320	509
Trabuco Canyon WD	0	4	0	0	0	0	0	0	0	0	11	15
Tustin	115	145	25	230	0	0	0	75	358	0	1,190	814
Westminster	40	161	16	63	35	1	28	0	146	79	1,040	995
Yorba Linda	10	24	8	30	0	1	0	0	226	0	511	555
<b>MWDOC Totals</b>	<b>1,079</b>	<b>4,134</b>	<b>4,537</b>	<b>3,424</b>	<b>1,966</b>	<b>1,594</b>	<b>1,172</b>	<b>2,161</b>	<b>17,275</b>	<b>5,356</b>	<b>54,538</b>	<b>25,953</b>
Anaheim	766	3,298	582	64	48	165	342	463	3,072	0	13,444	6,896
Fullerton	133	579	29	4	0	94	0	178	476	0	2,157	1,604
Santa Ana	493	815	728	39	12	16	17	5	1,293	139	5,638	4,665
<b>Non-MWDOC Totals</b>	<b>1,392</b>	<b>4,692</b>	<b>1,339</b>	<b>107</b>	<b>60</b>	<b>275</b>	<b>359</b>	<b>646</b>	<b>4,841</b>	<b>139</b>	<b>21,239</b>	<b>13,165</b>
<b>Orange County Totals</b>	<b>2,471</b>	<b>8,826</b>	<b>5,876</b>	<b>3,531</b>	<b>2,026</b>	<b>1,869</b>	<b>1,531</b>	<b>2,807</b>	<b>22,116</b>	<b>5,495</b>	<b>75,777</b>	<b>39,118</b>

[1] Retrofit devices include ULF Toilets and Urinals, High Efficiency Toilets and Urinals, Multi-Family and Multi-Family 4-Liter HETs, Zero Water Urinals, High Efficiency Clothes Washers, Cooling Tower Conductivity Controllers, Ph Cooling Tower Conductivity Controllers, Flush Valve Retrofit Kits, Pre-rinse Spray heads, Hospital X-Ray Processor Recirculating Systems, Steam Sterilizers, Food Steamers, Water Pressurized Brooms, Laminar Flow Restrictors, and Ice Making Machines.

# Water Smart Landscape Program

Total Number of Meters  
in Program by Agency

Agency	FY 07-08	FY 08-09	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	Overall Water Savings To Date (AF)
Brea	0	0	0	0	22	22	22	22	22	0	64.37
Buena Park	0	0	17	103	101	101	101	101	101	0	462.69
East Orange CWD RZ	0	0	0	0	0	0	0	0	0	0	0.00
El Toro WD	352	384	371	820	810	812	812	812	812	0	4,856.93
Fountain Valley	0	0	0	0	0	0	0	0	0	0	0.00
Garden Grove	0	0	0	0	0	0	0	0	0	0	0.00
Golden State WC	14	34	32	34	32	32	32	32	32	0	200.59
Huntington Beach	0	0	31	33	31	31	31	31	31	0	148.43
Irvine Ranch WD	708	1,008	6,297	6,347	6,368	6,795	6,797	6,769	6,780	0	38,304.89
Laguna Beach CWD	0	57	141	143	141	124	124	124	124	0	733.07
La Habra	0	23	22	24	22	22	22	22	22	0	136.72
La Palma	0	0	0	0	0	0	0	0	0	0	0.00
Mesa Water	165	286	285	288	450	504	511	514	515	0	2,943.57
Moulton Niguel WD	180	473	571	595	643	640	675	673	661	0	4,120.71
Newport Beach	58	142	171	191	226	262	300	300	300	0	1,501.19
Orange	0	0	0	0	0	0	0	0	0	0	0.00
San Clemente	227	233	247	271	269	269	299	407	459	0	2,368.77
San Juan Capistrano	0	0	0	0	0	0	0	0	0	0	0.00
Santa Margarita WD	945	1,571	1,666	1,746	1,962	1,956	2,274	2,386	2,386	0	14,178.10
Seal Beach	0	0	0	0	0	0	0	0	0	0	0.00
Serrano WD	0	0	0	0	0	0	0	0	0	0	0.00
South Coast WD	62	117	108	110	118	118	118	164	164	0	829.91
Trabuco Canyon WD	12	49	48	62	60	60	60	60	60	0	350.52
Tustin	0	0	0	0	0	0	0	0	0	0	0.00
Westminster	10	18	18	20	18	18	18	18	18	0	116.46
Yorba Linda WD	0	0	0	0	0	0	0	0	0	0	0.00
<b>MWDOC Totals</b>	<b>2,733</b>	<b>4,395</b>	<b>10,025</b>	<b>10,787</b>	<b>11,273</b>	<b>11,766</b>	<b>12,196</b>	<b>12,435</b>	<b>12,487</b>	<b>0</b>	<b>71,316.9</b>
Anaheim	0	0	142	146	144	190	190	190	190	0	1,351.53
Fullerton	0	0	0	0	0	0	0	0	0	0	0.00
Santa Ana	0	0	0	0	0	0	0	0	0	0	0.00
<b>Non-MWDOC Totals</b>	<b>0</b>	<b>0</b>	<b>142</b>	<b>146</b>	<b>144</b>	<b>190</b>	<b>190</b>	<b>190</b>	<b>190</b>	<b>0</b>	<b>1,351.53</b>
<b>Orange Co. Totals</b>	<b>2,733</b>	<b>4,395</b>	<b>10,167</b>	<b>10,933</b>	<b>11,417</b>	<b>11,956</b>	<b>12,386</b>	<b>12,625</b>	<b>12,677</b>	<b>0</b>	<b>72,668.45</b>

# INDUSTRIAL PROCESS WATER USE REDUCTION PROGRAM

Number of Process Changes by Agency

Agency	FY 09/10	FY 10/11	FY 11/12	FY 12/13	FY 13/14	FY 14/15	FY 15/16	FY 16/17	Overall Program Interventions	Annual Water Savings[1]	Cumulative Water Savings across all Fiscal Years[1]
Brea	0	0	0	0	0	0	0	0	0	0	0
Buena Park	0	0	0	0	0	0	0	0	1	54	414
East Orange	0	0	0	0	0	0	0	0	0	0	0
El Toro	0	0	0	0	0	0	0	0	0	0	0
Fountain Valley	0	0	0	0	0	0	0	0	0	0	0
Garden Grove	0	0	0	0	0	0	0	0	0	0	0
Golden State	0	0	0	0	0	0	0	0	1	3	25
Huntington Beach	0	0	0	2	0	1	0	0	3	127	351
Irvine Ranch	2	1	1	1	1	0	0	0	6	98	456
La Habra	0	0	0	0	0	0	0	0	0	0	0
La Palma	0	0	0	0	0	0	0	0	0	0	0
Laguna Beach	0	0	0	0	0	0	0	0	0	0	0
Mesa Water	0	0	0	0	0	0	0	0	0	0	0
Moulton Niguel	0	0	0	0	0	0	0	0	0	0	0
Newport Beach	0	0	0	0	0	1	0	0	1	21	37
Orange	0	0	0	0	0	0	1	0	2	45	371
San Juan Capistrano	0	0	0	0	0	0	0	0	0	0	0
San Clemente	0	0	0	0	0	0	0	0	0	0	0
Santa Margarita	0	0	0	0	0	0	0	0	0	0	0
Seal Beach	0	0	0	0	0	0	0	0	0	0	0
Serrano	0	0	0	0	0	0	0	0	0	0	0
South Coast	0	0	0	0	0	0	0	0	0	0	0
Trabuco Canyon	0	0	0	0	0	0	0	0	0	0	0
Tustin	0	0	0	0	0	0	0	0	0	0	0
Westminster	0	0	0	0	0	0	0	0	0	0	0
Yorba Linda	0	0	0	0	0	0	0	0	0	0	0
<b>MWDOT Totals</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>3</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>14</b>	<b>348</b>	<b>1654</b>
Anaheim	0	0	0	0	0	0	0	0	0	0	0
Fullerton	0	0	0	0	0	0	0	0	0	0	0
Santa Ana	0	0	0	0	0	0	1	0	1	11	146
<b>OC Totals</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>3</b>	<b>1</b>	<b>2</b>	<b>2</b>	<b>0</b>	<b>15</b>	<b>359</b>	<b>1800</b>

[1] Acre feet of savings determined during a one year monitoring period.  
If monitoring data is not available, the savings estimated in agreement is used.



**TURF REMOVAL BY AGENCY<sup>(1)</sup>**  
through MWDOC and Local Agency Conservation Programs

Agency	FY 11/12		FY 12/13		FY 13/14		FY 14/15		FY 15/16		FY 16/17		Total Program		Cumulative Water Savings across all Fiscal Years
	Res	Comm.	Res	Comm.	Res	Comm.	Res	Comm.	Res	Comm.	Res	Comm.	Res	Comm.	
Brea	3,397	9,466	7,605	0	5,697	0	71,981	30,617	118,930	404,411	250	0	207,860	444,494	208,98
Buena Park	0	0	0	0	0	0	11,670	1,626	77,127	16,490	250	0	89,047	18,116	31.83
East Orange	0	0	0	0	1,964	0	18,312	0	27,844	0	0	0	48,120	0	16.59
El Toro	4,723	0	4,680	72,718	4,582	0	27,046	221,612	63,546	162,548	2,438	0	107,015	456,878	228.79
Fountain Valley	1,300	0	682	7,524	4,252	0	45,583	5,279	65,232	0	0	0	117,049	12,803	48.84
Garden Grove	14,013	0	4,534	0	8,274	0	67,701	22,000	177,408	49,226	0	0	271,930	117,403	165.96
Golden State	42,593	30,973	31,813	3,200	32,725	8,424	164,507	190,738	310,264	112,937	0	0	581,902	346,272	377.04
Huntington Beach	27,630	48,838	9,219	12,437	20,642	0	165,600	58,942	305,420	270,303	2,862	21,534	532,174	415,705	364.23
Irvine Ranch	6,450	1,666	32,884	32,384	36,584	76,400	234,905	317,999	782,844	2,675,629	57,620	23,455	1,156,710	3,140,327	1,345.54
La Habra	0	8,262	0	0	0	0	14,014	1,818	49,691	72,164	0	0	63,705	90,019	55.33
La Palma	0	0	0	0	0	0	4,884	0	10,257	59,760	0	0	15,141	59,760	21.66
Laguna Beach	2,533	0	2,664	1,712	4,586	226	13,647	46,850	47,614	0	0	0	72,022	48,788	47.58
Mesa Water	6,777	0	10,667	0	22,246	0	131,675	33,620	220,815	106,896	670	0	392,850	140,516	186.89
Moulton Niguel	4,483	26,927	11,538	84,123	14,739	40,741	314,250	1,612,845	889,748	1,059,279	38,852	0	1,274,566	2,840,054	1,501.68
Newport Beach	3,454	0	3,548	2,346	894	0	33,995	65,277	76,675	375,404	0	0	118,566	443,027	175.80
Orange	12,971	0	15,951	8,723	11,244	0	120,093	281,402	289,990	106,487	550	2,366	450,799	398,978	314.51
San Clemente	21,502	0	16,062	13,165	18,471	13,908	90,349	1,137	215,249	438,963	0	0	361,633	467,173	278.25
San Juan Capistrano	22,656	103,692	29,544	27,156	12,106	0	101,195	32,366	197,290	143,315	576	0	363,367	306,529	304.14
Santa Margarita	1,964	11,400	10,151	11,600	17,778	48,180	211,198	514,198	534,048	550,420	1,390	25,912	781,012	1,167,271	685.36
Seal Beach	0	0	3,611	0	0	0	15,178	504	17,349	15,911	0	0	36,138	16,415	18.43
Serrano	0	0	0	0	2,971	0	41,247	0	127,877	4,403	0	0	172,095	4,403	56.02
South Coast	6,806	0	9,429	4,395	15,162	116,719	84,282	191,853	181,102	128,290	1,472	0	298,253	457,581	308.05
Trabuco Canyon	272	0	1,542	22,440	2,651	0	14,771	0	42,510	88,272	0	0	61,746	110,712	61.32
Tustin	0	0	9,980	0	1,410	0	71,285	14,137	232,697	33,362	6,993	0	322,365	47,499	119.13
Westminster	0	0	0	0	0	0	14,040	34,631	71,833	23,902	553	0	86,426	58,533	47.32
Yorba Linda	0	0	0	0	0	0	112,136	12,702	360,279	116,985	2,200	0	485,964	129,687	197.49
<b>MWDOC Totals</b>	<b>183,524</b>	<b>241,224</b>	<b>216,104</b>	<b>303,923</b>	<b>238,978</b>	<b>304,598</b>	<b>2,195,544</b>	<b>3,692,153</b>	<b>5,493,639</b>	<b>7,015,357</b>	<b>116,676</b>	<b>73,267</b>	<b>8,468,455</b>	<b>11,738,943</b>	<b>7,166.76</b>

Anaheim	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-
Fullerton	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5.16
Santa Ana	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-
<b>Non-MWDOC Totals</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>9,214</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>9,214</b>	<b>5.16</b>

<b>Orange County Totals</b>	<b>183,524</b>	<b>241,224</b>	<b>216,104</b>	<b>303,923</b>	<b>238,978</b>	<b>313,812</b>	<b>2,195,544</b>	<b>3,692,153</b>	<b>5,493,639</b>	<b>7,015,357</b>	<b>116,676</b>	<b>73,267</b>	<b>8,468,455</b>	<b>11,748,157</b>	<b>7,162</b>
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<sup>(1)</sup> Installed device numbers are listed as square feet

# **HIGH EFFICIENCY TOILETS (HETs) INSTALLED BY AGENCY** through MWDOC and Local Agency Conservation Programs

Agency	FY05-06	FY 06-07	FY 07-08	FY 08-09	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	Total	Cumulative Water Savings across all Fiscal Years
Brea	0	2	7	43	48	8	0	0	38	146	154	0	446	77.33
Buena Park	0	1	2	124	176	7	0	0	96	153	112	0	671	156.23
East Orange CWD RZ	0	0	10	12	1	0	0	0	13	26	24	0	86	16.77
EI Toro WD	0	392	18	75	38	18	0	133	218	869	264	6	2,031	437.29
Fountain Valley	0	69	21	262	54	17	0	0	41	132	220	4	820	207.77
Garden Grove	0	14	39	443	181	24	0	0	63	350	363	1	1,478	347.96
Golden State WC	2	16	36	444	716	37	80	2	142	794	512	2	2,783	638.77
Huntington Beach	2	13	59	607	159	76	0	0	163	1,190	628	2	2,899	574.72
Irvine Ranch WD	29	1,055	826	5,088	2,114	325	0	1,449	810	1,777	2,798	371	16,642	4,552.76
Laguna Beach CWD	0	2	17	91	28	11	0	0	45	112	81	0	387	84.69
La Habra	0	3	18	296	34	20	0	0	37	94	83	1	586	165.38
La Palma	0	1	10	36	26	13	0	0	21	59	52	0	218	46.77
Mesa Water	0	247	19	736	131	7	0	0	147	162	162	1	1,612	511.86
Moulton Niguel WD	0	20	104	447	188	46	0	0	400	2,497	1,939	27	5,668	855.65
Newport Beach	0	5	19	163	54	13	0	0	49	168	243	5	719	145.81
Orange	1	20	62	423	79	40	0	1	142	978	416	3	2,165	421.89
San Juan Capistrano	0	10	7	76	39	11	0	0	35	140	202	0	520	94.35
San Clemente	0	7	22	202	66	21	0	0	72	225	246	8	869	181.00
Santa Margarita WD	0	5	14	304	151	44	0	0	528	997	1,152	67	3,262	507.35
Seal Beach	0	678	8	21	12	1	0	2	17	50	69	0	858	348.81
Serrano WD	2	0	0	13	5	0	0	0	2	40	55	1	119	18.30
South Coast WD	2	2	29	102	41	12	23	64	102	398	235	5	1,015	178.79
Trabuco Canyon WD	0	0	4	23	23	0	0	0	10	108	169	1	338	48.26
Tustin	0	186	28	387	479	17	0	0	64	132	201	3	1,497	460.36
Westminster	0	17	25	541	167	23	0	0	35	161	359	5	1,333	346.81
Yorba Linda WD	0	14	89	323	96	18	0	0	40	280	379	4	1,243	281.19
<b>MWDOC Totals</b>	<b>38</b>	<b>2,779</b>	<b>1,494</b>	<b>11,282</b>	<b>5,106</b>	<b>809</b>	<b>103</b>	<b>1,651</b>	<b>3,330</b>	<b>12,038</b>	<b>11,118</b>	<b>517</b>	<b>50,265</b>	<b>11,706.89</b>
Anaheim	0	255	78	2,771	619	114	0	0	156	1,188	614	19	5,814	1,689.98
Fullerton	0	4	28	286	60	23	0	0	61	293	286	10	1,051	223.18
Santa Ana	0	11	25	925	89	23	0	0	33	602	293	4	2,005	514.84
<b>Non-MWDOC Totals</b>	<b>0</b>	<b>270</b>	<b>131</b>	<b>3,982</b>	<b>768</b>	<b>160</b>	<b>0</b>	<b>0</b>	<b>250</b>	<b>2,083</b>	<b>1,193</b>	<b>33</b>	<b>8,870</b>	<b>2,427.99</b>
<b>Orange County Totals</b>	<b>38</b>	<b>3,049</b>	<b>1,625</b>	<b>15,264</b>	<b>5,874</b>	<b>969</b>	<b>103</b>	<b>1,651</b>	<b>3,580</b>	<b>14,121</b>	<b>12,311</b>	<b>550</b>	<b>59,135</b>	<b>14,134.89</b>

# HOME WATER SURVEYS PERFORMED BY AGENCY

through MWDOC and Local Agency Conservation Programs

Agency	FY 13/14		FY 14/15		FY 15/16		Total		Cumulative Water Savings
	Surveys	Cert Homes	Surveys	Cert Homes	Surveys	Cert Homes	Surveys	Cert Homes	
Brea	1	0	2	0	0	0	3	0	0.16
Buena Park	0	0	1	0	0	0	1	0	0.05
East Orange	19	0	1	0	0	0	20	0	1.39
El Toro	0	0	3	0	0	0	3	0	0.14
Fountain Valley	3	0	4	0	1	0	8	0	0.42
Garden Grove	0	0	6	0	1	0	7	0	0.31
Golden State	0	0	0	0	0	0	0	0	0.00
Huntington Beach	2	0	5	0	2	0	9	0	0.42
Irvine Ranch	1	0	3	0	6	0	10	0	0.35
La Habra	0	0	1	0	0	0	1	0	0.05
La Palma	0	0	0	0	0	0	0	0	0.00
Laguna Beach	4	0	8	0	1	0	13	0	0.68
Mesa Water	0	0	0	0	0	0	0	0	0.00
Moulton Niguel	4	0	4	0	0	0	8	0	0.47
Newport Beach	2	0	8	0	6	0	16	0	0.66
Orange	2	0	18	0	1	0	21	0	1.01
San Clemente	15	0	13	0	0	0	28	0	1.67
San Juan Capistrano	4	0	13	0	2	0	19	0	0.94
Santa Margarita	15	0	40	1	14	0	69	1	3.27
Seal Beach	0	0	1	0	2	0	3	0	0.09
Serrano	0	0	2	0	0	0	2	0	0.09
South Coast	6	0	4	0	1	0	11	0	0.64
Trabuco Canyon	0	0	4	0	0	0	4	0	0.19
Tustin	0	0	10	0	5	0	15	0	0.59
Westminster	0	0	0	0	0	0	0	0	0.00
Yorba Linda	0	0	13	0	10	0	23	0	0.85
<b>MWDOC Totals</b>	<b>78</b>	<b>0</b>	<b>164</b>	<b>1</b>	<b>52</b>	<b>0</b>	<b>294</b>	<b>1</b>	<b>14.44</b>

Anaheim	0	0	0	0	0	0	0	0	0.00
Fullerton	0	0	17	0	1	0	18	0	0.82
Santa Ana	0	0	0	0	0	0	0	0	0.00
<b>Non-MWDOC Totals</b>	<b>0</b>	<b>0</b>	<b>17</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>18</b>	<b>0</b>	<b>0.82</b>
<b>Orange County Totals</b>	<b>78</b>	<b>0</b>	<b>181</b>	<b>1</b>	<b>53</b>	<b>0</b>	<b>312</b>	<b>1</b>	<b>15.266</b>

# **SYNTHETIC TURF INSTALLED BY AGENCY<sup>[1]</sup>** **through MWDOC and Local Agency Conservation Programs**

Agency	FY 07/08		FY 08/09		FY 09/10		FY 10/11		Total Program		Cumulative Water Savings across all Fiscal Years
	Res	Comm.	Res	Comm.	Res	Comm.	Res	Comm.	Res	Comm.	
Brea	0	0	2,153	2,160	500	0	0	0	2,653	2,160	3.30
Buena Park	0	0	1,566	5,850	0	0	0	0	1,566	5,850	5.19
East Orange	0	0	0	0	983	0	0	0	983	0	0.55
El Toro	3,183	0	2,974	0	3,308	0	895	0	10,360	0	6.98
Fountain Valley	11,674	0	1,163	0	2,767	0	684	0	16,288	0	12.46
Garden Grove	1,860	0	0	0	3,197	0	274	0	5,331	0	3.47
Golden State	6,786	0	13,990	0	15,215	0	2,056	0	38,047	0	24.88
Huntington Beach	15,192	591	12,512	0	4,343	1,504	0	0	32,047	2,095	25.29
Irvine Ranch	11,009	876	13,669	0	2,585	0	0	0	27,263	876	21.00
La Habra	0	0	0	0	0	0	0	0	0	0	-
La Palma	429	0	0	0	0	0	0	0	429	0	0.36
Laguna Beach	3,950	0	3,026	0	725	0	0	0	7,701	0	5.84
Mesa Water	4,114	0	3,005	78,118	4,106	0	2,198	0	13,423	78,118	63.46
Moulton Niguel	14,151	0	25,635	2,420	7,432	0	0	0	47,218	2,420	35.69
Newport Beach	2,530	0	6,628	0	270	0	0	0	9,428	0	6.92
Orange	4,169	0	7,191	0	635	0	0	0	11,995	0	8.89
San Clemente	9,328	0	11,250	455	2,514	1,285	500	0	23,592	1,740	18.37
San Juan Capistrano	0	0	7,297	639	2,730	0	4,607	0	14,634	639	9.02
Santa Margarita	12,922	0	26,069	0	21,875	0	7,926	0	68,792	0	44.68
Seal Beach	0	0	817	0	0	0	0	0	817	0	0.57
Serrano	7,347	0	1,145	0	0	0	0	0	8,492	0	6.97
South Coast	2,311	0	6,316	0	17,200	0	1,044	0	26,871	0	16.43
Trabuco Canyon	1,202	0	9,827	0	0	0	0	0	11,029	0	7.89
Tustin	6,123	0	4,717	0	2,190	0	0	0	13,030	0	9.67
Westminster	2,748	16,566	8,215	0	890	0	0	0	11,853	16,566	22.47
Yorba Linda	11,792	0	12,683	0	4,341	5,835	0	0	28,816	5,835	24.48
<b>MWDOC Totals</b>	<b>132,820</b>	<b>18,033</b>	<b>181,848</b>	<b>89,642</b>	<b>97,806</b>	<b>8,624</b>	<b>20,184</b>	<b>0</b>	<b>432,658</b>	<b>116,299</b>	<b>384.83</b>

Anaheim	4,535	0	7,735	20,093	13,555	65,300	4,122	0	29,947	85,393	69.18
Fullerton	4,865	876	5,727	0	6,223	0	105	0	16,920	876	12.36
Santa Ana	0	0	2,820	0	525	0	0	0	3,345	0	2.27
<b>Non-MWDOC Totals</b>	<b>9,400</b>	<b>876</b>	<b>16,282</b>	<b>20,093</b>	<b>20,303</b>	<b>65,300</b>	<b>4,227</b>	<b>0</b>	<b>50,212</b>	<b>86,269</b>	<b>83.81</b>

<b>Orange County Totals</b>	<b>142,220</b>	<b>18,909</b>	<b>198,130</b>	<b>109,735</b>	<b>118,109</b>	<b>73,924</b>	<b>24,411</b>	<b>0</b>	<b>482,870</b>	<b>202,568</b>	<b>468.63</b>
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[1] Installed device numbers are calculated in square feet

**ULF TOILETS INSTALLED BY AGENCY**  
through MWDOC and Local Agency Conservation Programs

Agency	Previous Years	FY 95-96	FY 96-97	FY 97-98	FY 98-99	FY 99-00	FY 00-01	FY 01-02	FY 02-03	FY 03-04	FY 04-05	FY 05-06	FY 06-07	FY 07-08	FY 08-09	Total	Cumulative Water Savings across all Fiscal Years
Brea	378	189	299	299	122	144	867	585	341	401	26	48	17	4	0	3,720	1,692.64
Buena Park	361	147	331	802	520	469	524	1,229	2,325	1,522	50	40	18	9	0	8,347	3,498.37
East Orange CWD RZ	2	0	33	63	15	17	15	50	41	44	19	18	13	2	0	332	138.23
El Toro WD	1,169	511	678	889	711	171	310	564	472	324	176	205	61	40	0	6,281	3,091.16
Fountain Valley	638	454	635	858	1,289	2,355	1,697	1,406	1,400	802	176	111	58	32	0	11,911	5,383.10
Garden Grove	1,563	1,871	1,956	2,620	2,801	3,556	2,423	3,855	3,148	2,117	176	106	67	39	0	26,298	12,155.41
Golden State WC	3,535	3,141	3,141	1,113	3,024	2,957	1,379	2,143	3,222	1,870	167	116	501	43	0	24,607	11,731.47
Huntington Beach	3,963	1,779	2,600	2,522	2,319	3,492	3,281	2,698	3,752	1,901	367	308	143	121	0	29,246	13,854.70
Irvine Ranch WD	4,016	841	1,674	1,726	1,089	3,256	1,534	1,902	2,263	6,741	593	626	310	129	0	26,700	11,849.23
Laguna Beach CWD	283	93	118	74	149	306	220	85	271	118	32	26	29	6	0	1,810	845.69
La Habra	594	146	254	775	703	105	582	645	1,697	1,225	12	31	6	7	0	6,782	2,957.73
La Palma	65	180	222	125	44	132	518	173	343	193	31	27	20	17	0	2,090	927.52
Mesa Water	1,610	851	1,052	2,046	2,114	1,956	1,393	1,505	2,387	988	192	124	56	14	0	16,288	7,654.27
Moulton Niguel WD	744	309	761	698	523	475	716	891	728	684	410	381	187	100	0	7,607	3,371.14
Newport Beach	369	293	390	571	912	1,223	438	463	396	1,883	153	76	36	16	0	7,219	3,166.77
Orange	683	1,252	1,155	1,355	533	2,263	1,778	2,444	2,682	1,899	193	218	88	53	4	16,600	7,347.93
San Juan Capistrano	1,234	284	193	168	323	1,319	347	152	201	151	85	125	42	39	0	4,663	2,324.42
San Clemente	225	113	191	65	158	198	667	483	201	547	91	66	37	34	0	3,076	1,314.64
Santa Margarita WD	577	324	553	843	345	456	1,258	790	664	260	179	143	101	29	0	6,522	3,001.01
Seal Beach	74	66	312	609	47	155	132	81	134	729	29	10	6	12	0	2,396	1,073.80
Serrano WD	81	56	68	41	19	52	95	73	123	98	20	15	14	2	0	757	338.66
South Coast WD	110	176	177	114	182	181	133	358	191	469	88	72	32	22	0	2,305	990.05
Trabuco Canyon WD	10	78	42	42	25	21	40	181	102	30	17	20	12	14	0	634	273.02
Tustin	968	668	557	824	429	1,292	1,508	1,206	1,096	827	69	89	26	12	0	9,571	4,423.88
Westminster	747	493	969	1,066	2,336	2,291	2,304	1,523	2,492	1,118	145	105	70	24	0	15,683	7,064.28
Yorba Linda WD	257	309	417	457	404	1,400	759	1,690	1,155	627	158	136	81	41	0	7,891	3,409.49
<b>MWDOC Totals</b>	<b>24,256</b>	<b>12,879</b>	<b>18,778</b>	<b>20,765</b>	<b>21,136</b>	<b>30,242</b>	<b>24,918</b>	<b>27,175</b>	<b>31,827</b>	<b>27,568</b>	<b>3,654</b>	<b>3,242</b>	<b>2,031</b>	<b>861</b>	<b>4</b>	<b>249,336</b>	<b>113,878.61</b>

Anaheim	447	1,054	1,788	3,661	1,755	7,551	4,593	6,346	9,707	5,075	473	371	462	341	1	43,625	18,359.52
Fullerton	1,453	1,143	694	1,193	1,364	2,138	1,926	2,130	2,213	1,749	172	77	44	23	2	16,321	7,435.23
Santa Ana	1,111	1,964	1,205	2,729	2,088	8,788	5,614	10,822	10,716	9,164	279	134	25	5	0	54,644	22,887.95
<b>Non-MWDOC Totals</b>	<b>3,011</b>	<b>4,161</b>	<b>3,687</b>	<b>7,583</b>	<b>5,207</b>	<b>18,477</b>	<b>12,133</b>	<b>19,298</b>	<b>22,636</b>	<b>15,983</b>	<b>924</b>	<b>582</b>	<b>531</b>	<b>369</b>	<b>3</b>	<b>114,590</b>	<b>48,682.70</b>

<b>Orange County Totals</b>	<b>27,267</b>	<b>17,040</b>	<b>22,465</b>	<b>28,348</b>	<b>26,343</b>	<b>48,719</b>	<b>37,051</b>	<b>46,473</b>	<b>54,463</b>	<b>43,556</b>	<b>4,578</b>	<b>3,824</b>	<b>2,562</b>	<b>1,230</b>	<b>7</b>	<b>363,926</b>	<b>162,561.30</b>
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