

WATER SUPPLY CHARGE COMPONENT STUDY REPORT

EL TORO WATER DISTRICT
FINAL MARCH 22, 2016

Prepared By





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March 22, 2016

Mr. Dennis Cafferty
Assistant General Manager/District Engineer
El Toro Water District
24251 Los Alisos Blvd.
Lake Forest, CA 92630

Subject: Report for Water Supply Charge Component of Water Capital Facilities Fees

Dear Mr. Cafferty;

Raftelis Financial Consultants, Inc. (RFC) is pleased to provide this Report for the Water Supply Charge Component of the Water Capital Facilities Fees (Report) for El Toro Water District (District), which develops the Water Supply Charge (WSC) Component as an added fee to the current Water Capital Facilities Fee. The revenues collected from the WSC will be dedicated to water supply projects to offset the impact of new demand created by future development projects.

The District engaged Raftelis Financial Consultants, Inc. (RFC) to conduct the Water Supply Charge Component Study (Study) to document the nexus between the fees and the program costs. The Study includes:

- Cost development of Water Supply Project
- Calculations of Water Supply Charge Component
- Survey of other agencies in California implementing water supply charges

The Report summarizes the key findings and results of the development of the Water Supply Charge Component.

It has been a pleasure working with you, and we thank you and the District staff for the support provided during the course of this study.

Sincerely,

Raftelis Financial Consultants, Inc.

A blue ink signature of Sudhir Pardiwala, written in a cursive style.

Sudhir Pardiwala
Executive Vice President

A blue ink signature of Khanh Phan, written in a cursive style.

Khanh Phan
Senior Consultant

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1 Introduction

1.1 Background

The entire state of California is experiencing a severe and continual drought. Such conditions have prompted Governor Brown in 2015 to issue an executive order mandating a 25 percent reduction in urban water use inclusive of specific restrictions and prohibitions on outdoor water use. In response to the critical water supply situation, the El Toro Water District (District) proposes to establish a Water Supply Charge (WSC) component to be included with the current Water Capital Facilities Fee to ensure that new developments pay their fair share of the costs to generate additional water supply and to help create a sustainable water footprint development. The funds generated from the WSC will be dedicated to water supply projects to offset the impact of new demand created by future development. Implementation of the Water Supply Program is a key component of supporting sustainable new development while mitigating additional net demand on the existing system.

In early 2016, the District engaged Raftelis Financial Consultants (RFC) to conduct the Study to develop the nexus and justifications for the Water Supply Charge Component. The District is proposing the WSC be added to the current Water Capital Facilities Fee to form a new, encompassing fee. The current Water Capital Facilities Fee would then become the Meter Charge component of a new Water Capital Facilities Fee and the WSC will be based on the demand that the new development places on the water system expressed in dollars per acre foot per year (\$/AFY).

1.2 What is Water Supply Charge Component?

The goal of the Water Supply Charge Component is to fund water supply projects to offset the impact of demands created by new development. The new Water Supply Charge Component is a funding mechanism for developing water supply projects to release demand on existing potable water supplies to accommodate growth that has been approved by applicable land use approval agencies. It is a unique means by which to ensure that development reasonably bears the cost of the water supply needs brought about by the development. The implementation of this program will permit the District to channel its resources into other areas that are beneficial to both old and new customers without impacting current users. New developments will pay the Water Supply Charge Component as part of the Water Capital Facilities Fee that will help fund water supply programs to offset potable demand and provide potable water to new developments.

2 Economic and Legal Framework for Capital Facilities Fees

For publicly owned water and wastewater systems, most assets are typically paid for by the contributions of existing customers through rates, charges, and taxes. In service areas that incorporate new customers, the infrastructure developed by previous customers is generally extended towards the service of new customers. Current customers' investment in the existing system capacity allows newly connecting customers to take advantage of unused surplus capacity. To further economic equality among new and existing customers, new connectors will in turn typically buy-in to the existing and pre-funded facilities based on the percentage of remaining available system capacity, effectively putting them on par with

existing customers. In other words, the new users are buying into the existing system through a payment for the portion of facilities that has already been constructed in advance of new development. This is the basis for the current Water Capital Facilities Fee. Where, users need additional capacity, the District has to undertake or develop facilities that will provide capacity to new users. Since supply is limited the District will need to develop alternate supply and this is the basis for the WSC.

2.1 Economic Framework

The basic economic philosophy behind capital facilities fees is that the costs of providing water service should be paid for by those that receive utility from the product. In order to effect fair distribution of the cost of the water supply, the fee should reflect a reasonable estimate of the cost of providing capacity to new users, and not unduly burden existing users. Accordingly, many utilities make this philosophy one of their primary guiding principles when developing their capital facilities fee structures.

The philosophy that service should be paid for by those that receive utility from the product is often referred to as “growth-should-pay-for-growth.” The principal is summarized in the American Water Works Association (AWWA) Manual M26, Water Rates and Related Charges:

“The purpose of designing customer-contributed[capital facilities fees] is to prevent or reduce the inequity to existing customers that results when these customers must pay the increase in water rates that are needed to pay for added plant costs for new customers. Contributed capital reduces the need for new outside sources of capital, which ordinarily has been serviced from the revenue stream. Under a system of contributed capital, many water utilities are able to finance required facilities by use of a ‘growth-pays-for-growth’ policy.”

2.2 Legal Framework¹

The District reserves broad authority over the pricing of water capital facilities fees. The most salient limitation on this authority is the requirement that recovery costs on new development bear a reasonable relationship to the needs brought about by the development. Courts have long used a standard of reasonableness to evaluate the legality of capital facilities fees. The basic statutory standards governing water capital facilities fees are embodied by Government Code Sections 66013, 66016, 66022 and 66023. Government Code Section 66013, in particular, contains requirements specific to pricing water capital facilities fees:

“Notwithstanding any other provision of law, when a local agency imposes fees for water connections or sewer connections, or imposes capacity charges, those fees or charges shall not exceed the estimated reasonable cost of providing the service for which the fee or charge is imposed, unless a question regarding the amount the fee or charge in excess of the estimated reasonable cost of providing the services or materials is submitted to, and approved by, a popular vote of two-thirds of those electors voting on the issue.”

¹ RFC does not practice law nor does it provide legal advice. The above discussion means to provide a general review of apparent state institutional constraints and is labeled “legal framework” for literary convenience only. The District should consult with its counsel for clarification and/or specific review of any of the above or other matters.

Section 66013 also includes the following general requirements:

- Local agencies must follow a process set forth in the law, making certain determinations regarding the purpose and use of the fee; they must establish a nexus or relationship between a development project and the public improvement being financed with the fee.
- The capital facilities fee revenue must be segregated from the general fund in order to avoid commingling of capital facilities fees and the general fund.

Since the WSC is proposed to be added to the existing Water Capital Facilities Fees charge to new development, it is subject to similar legal statutory standards as the current Capital Facilities Fees.

3 Methodology and Cost Development of the Water Supply Charge (WSC) Component

Some water supply augmentation programs require developers to implement water-saving projects directly, while others require developers to pay a fee into an enterprise fund dedicated to water conservation or water supply development activities. As an example, the use of recycled water is critical for sustainable management of the District's long-term water supplies. Since the supply of reliable imported water has become constrained along with increasing costs to acquire supply, using treated recycled water instead of potable water to irrigate parks, schools, and commercial properties has a significant positive impact on reducing dependence on imported potable water. To proactively manage the water supply, in FY 2015, the District completed the expansion of its recycled water (RW) system, including Water Recycling Plant (WRP) upgrades to include tertiary treatment, and expansion of the RW distribution system to make recycled water available to more customers.

The District proposes to establish the WSC Component to fund the costs of future water supply projects including, but not limited to, expansions of the District's recycled water system. This will release a portion of existing demand on the potable water supply. This released supply will then be available to meet the water needs of new development.

The revenue generated by the implementation of the WSC Component will be used to fund any type of water supply projects, such as recycled water expansion projects, desalination projects, conservation projects etc. The costs associated with the District's recently expanded recycled water system, including the WRP upgrades to Tertiary Treatment Plant and on-site retrofit costs for converting sites, are the most recent true water supply project costs. Thus RFC proposes to use the most recently known costs to estimate the unit cost of future water supply projects. The WSC Component consists of two cost elements. These elements include the cost of supply capacity at the District's Tertiary Treatment Plant as well as the cost of the on-site retrofits necessary to convert potable use sites to recycled water.

3.1 Tertiary Treatment Plant (TTP)

The Tertiary Treatment Plant (TTP) was completed and put into service in late 2014. The total cost to design and construct the Tertiary Treatment Plant, as detailed in the Appendix, was \$10.6 million (line 1 of Table 3-1). The District financed 100% construction of the TTP through a State Revolving Fund Loan

(SRF Loan) for 20 years at an interest rate of 1.7%. The total costs for the TTP (\$12.7M) includes all the construction (\$10.6M) and financing (\$2.1M) costs.

In order to calculate the TTP cost per acre foot per year (AFY), RFC examined the capacity of the TTP. The production capacity of the TTP is limited by the amount of raw wastewater influent that flows into the WRP. The total recycled water production capacity is therefore defined by the equivalent annual demand associated with the ability to accommodate summer maximum day demand conditions. The District estimates the total available annual production capacity without expensive investments in seasonal storage to be 1,950 AFY. Total costs of the TTP (\$12.7M) divided by the production capacity (1,950 AFY) yield the unit cost for the TTP at \$6,500² per AFY as shown in Table 3-1.

Table 3-1: Tertiary Treatment Plant Unit Cost

Descriptions		Notes	
1	Borrowed Amount (TTP Construction Costs)	\$10,605,010	See Appendix 6
2	Construction Period Interest	\$88,123	
3	Total Principal	\$10,693,133	Line 1 + Line 2
4	SRF Loan Interest Rate	1.7%	
5	Terms (Years)	20	
6	Annual SRF Loan Payment	\$635,178	
7	Total Interest Payments and Financing Costs	\$2,010,427	
8	Total TTP Cost	\$12,703,560	Line 3 + Line 7
9	Annual Production Capacity without Seasonal Storage	1,950 AFY	
10	TTP Unit Cost	\$6,500 / AFY	Line 8 / Line 9 (rounded to the nearest \$100)

3.2 Retrofit Costs

To encourage customers, the District funded the costs of the on-site retrofits required to convert potable water irrigation sites to recycled water. Retrofits cover the cost of the plumbing changes that need to be made to the existing potable plumbing to receive recycled water. These costs are added to the TTP costs to determine the total water supply cost estimate that defines the WSC Component.

The District, as part of its Phase I Recycled Water Expansion Project, funded the conversion of over 200 irrigation meters representing nearly 950 AFY of converted irrigation demand. The total cost of these retrofits, including design, construction, material and inspections was over \$2 million. Dividing this total cost by the converted demand of approximately 950 AFY amounts to approximately \$2,400³ per AFY of converted demand.

² Rounded to the nearest \$100 (from \$6,515)

³ Rounded to the nearest \$100 (from \$2,394)

Table 3-2: RW On-site Retrofit Unit Cost for RW Expansion Program

	Cost
Contractor Construction Costs	\$1,408,000
District Supplied Material Costs	\$600,000
On-Site Retrofit Design	\$231,000
Inspection & Permitting	\$30,000
Total Retrofit Costs	\$2,269,000
Converted Demand	947.8 AF
Retrofit Unit Costs	\$2,400 / AFY

4 Proposed Water Supply Charge Component

The proposed WSC Component consists of two cost elements: the TTP Supply Cost and On-Site Retrofit unit costs, as described above in Section 3. The WSC revenue will offset the cost of water supply and conservation projects thereby releasing potable water supply for new development. This allows the District to meet new demand without creating additional strain on the current water supply. The proposed WSC Component (\$8,900 / AFY) is shown in Table 4-1. It is comprised of the TTP unit cost (\$6,500 / AFY) and average retrofit unit cost (\$2,400 / AFY).

Table 4-1: Proposed Water Supply Charge Component

	\$ / AFY
Tertiary Treatment Plant Unit Cost	\$6,500
Retrofit Unit Cost	\$2,400
Water Supply Charge Component	\$8,900

5 Survey of Water Supply Charge as part of Capital Facilities Fees for Agencies in California

To meet the supply demand of new development many agencies have implemented the water supply fees, aka demand offset fees, water supply fees, water source acquisition charges, etc. The table below is a survey of other water providers that have implemented such fees to minimize water foot print and continue sustainable development in their service areas.

Olivenhain Municipal Water District’s (OMWD) program is a voluntary demand offset program that funds recycled water projects. Effective July 1, 2009, OMWD will not set any new potable water meters unless the applicant has committed to offset the new demand for the meter via OMWD’s Demand Offset Program. In April 2015, OMWD adopted the revised voluntary demand offset fee in the amount of \$7,120 per equivalent dwelling unit. Palmdale Water District’s water supply fee of \$10,970 per AFY for new development is charged in order to fund the development or acquisition of new water supplies. The City

of Redlands assesses a water source acquisition in order to fund the City’s acquisition of water supplies. Finally, San Dieguito Water District (SDWD) utilizes its recycled water conversion fee to fund recycled water conversions. In 2015, SDWD conducted the Recycled Water Demand Offset Fee Study to update its Water Demand Offset Fee. The proposed fees calculated was \$8,167 per AFY. A single family dwelling with an estimated demand of 0.40 AFY would pay a fee of \$3,267.

Table 5-1: Survey of Water Supply Charge for Agencies in California

Agency	Program Description	Offset Fee	Notes
Olivenhain Municipal Water District	Voluntary Demand Offset Program - Recycled Water Projects to develop "new water supply" and supply reliability for the District	\$7,120 per EDU ⁴	average 1 EDU = 1 AFY
Palmdale Water District	Water Supply Fee	Single family: \$8,665 per single family dwelling unit Commercial/Industrial/Irrigation: \$10,970 /AFY ⁵	N/A
City of Redlands	Water Source Acquisition Charge (WSAC)	Residential: \$810 / DU < 11,000 sq ft ⁶ \$1,050 / DU 11,000 – 21,000 sq ft \$1,760 / DU > 1 acre Multi Family - \$405/ DU Senior Restricted - \$203/ DU Non-residential: \$33.70 / ccf of estimated monthly demand	DU: Dwelling unit WSAC have not been increased since 2009.
San Dieguito Water District	Water Demand Offset Fees	\$8,167 / AFY ⁷	Average Recycled Water Conversion Cost, updated May 2015

⁴ Adopted April 22, 2015 https://olivenhain.com/files/docs/Board/board_meetings/2015/04-22-15%20Minutes.pdf

⁵ Adopted October 23, 2013 http://www.palmdalewater.org/wp-content/uploads/2014/08/Resolution_No._13_12.pdf

⁶ Adopted July 2009 – Ordinance 2717 <http://ci.redlands.ca.us/clerk/agenda/staffreports/090721D7-2717.pdf>

⁷ Updated May 2015 http://encinitas.granicus.com/MetaViewer.php?view_id=2&event_id=180&meta_id=49147

6 Appendix – Tertiary Treatment Plant Costs

Table 6-1: Recycled Water Expansion Project – Tertiary Treatment Plant Costs

Project Components	Costs
Tertiary Treatment Plant	
Pacific Hydrotech Bid	\$8,015,879
Miscellaneous TTP Construction Costs	\$167,689
Miscellaneous Contingency	\$43,307
Subtotal Tertiary Treatment Plant	\$8,226,875
Feasibility Analysis	\$7,912
Engineering Design (TTP)	\$901,500
Engineering Construction Support	\$357,099
Construction Management & Inspection	\$766,274
Construction Management & Inspection - Specialty Subs	\$87,213
CEQA MND	\$61,196
CEQA Construction Support	\$23,919
Labor Compliance Consultant	\$22,297
Labor Compliance (State)	\$1,335
Administration (Legal)	\$31,304
Miscellaneous Construction Management	\$27,385
Permitting	\$11,388
HDR SRF Loan Assistance	\$11,315
Dudek LRP Application Assistance	\$6,321
Raftelis Financial Report	\$9,385
Public Relations	\$52,294
Project Support Subtotal	\$2,378,135
Tertiary Treatment Plant Costs	\$10,605,010