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Assistant General Manager/CFO
El Toro Water District
24251 Los Alisos Blvd.
Lake Forest, CA 92630

Subject: 2013 Water, Sewer and Recycled Water Cost of Service Rate Study (Study)

Dear Mr. Grandy:

Raftelis Financial Consultants, Inc. (RFC) reviewed the latest purchased water costs, as well as the operating budget and calculated the fiscal year (FY) 2013-14 water, sewer and recycled water rates for El Toro Water District (ETWD or District), to reflect projected changes in net revenue requirements. The updated rates are scheduled to be effective on July 1st, 2013. This letter report summarizes the methodologies used in the 2013 Water, Sewer and Recycled Water Cost of Service Rate Study (Study) and the resulting water, sewer and recycled water rates for FY 2013-14.

1. Introduction

The District's water, sewer and recycled water rate structure consists of the following components to ensure that rates are charged equitably to all customers, provide adequate revenues to fund operating and capital costs and are simple to administer and implement.

- Water
 - Monthly Service Charges by meter size to recover a portion of operating costs
 - Capital R&R Charges by meter size to pay for capital replacement and refurbishment of the existing water system
 - Variable Rates comprised of:
 - Water Supply Cost to fund water supply related costs, including purchased water and recycled water expansion costs
 - Delivery Rate to recover the remaining operating costs
 - Revenue Offset to provide a rate incentive and affordability for essential water use in Tier 1
 - Conservation Rate to fund the District's conservation program

- Sewer
 - O&M charges (by dwelling units for residential customers and by usage for non-residential customers) by customer classes
 - Capital R&R Charges by meter size to pay for capital R&R of the existing sewer system
- Recycled Water (RW)
 - Operating Cost (used to recover the operating costs related to RW activities)
 - Administration Costs (to recover the administrative labor expended on RW activities)
 - Depreciation Cost included in the commodity charges to recover a portion of the costs of recycling facilities

This Study addresses the pass-through water supply cost component of the water rates and the operating revenue requirements for water, sewer and recycled water services within ETWD. The following is an outline of the structure of the Study.

- Section 2 - Pass-through water supply costs
- Section 3 – Water Rates
- Section 4 – Sewer Rates
- Section 5 – Recycled Water Rates
- Section 6 – Customer Impacts
- Appendix – Chart containing Pass-through information

2. Pass-through Water Supply Costs

ETWD purchases water from the Municipal Water District of Orange County (MWDOC), a member agency of Metropolitan Water District of Southern California (MET or MWD). MET rates are scheduled to increase in January 2014. The MET rate increases, along with other MWDOC's costs, will be included in the melded rates charged to ETWD. The weighted average purchased water costs from MWDOC for FY 2013 and FY 2014 are shown in **Table 1** and include the direct cost of purchased water and the cost of the sold water which considers impacts of water losses that are normal in a water system.

Table 1: Current and Projected MWDOC Unit Cost

	MWDOC Water Unit Cost (\$ / Unit Purchased)	MWDOC Water Unit Rate ¹ (\$ / Unit Sold)
Current – FY 2012-13	\$894.10 / AF ²	\$927.83/ AF or \$2.13 / ccf ³
Projected – FY 2013-14	\$947.15 / AF	\$980.10/ AF or \$2.25 / ccf
Increase / Change	\$53.05 / AF	\$52.27 / AF or \$0.12 / ccf

The net increase in the cost of purchased water from FY 2013 to FY 2014 is \$0.12 per ccf. Since all users in the District use water purchased from MWDOC, the cost of each tier of water applied to residential customers and the cost of the uniform rate should increase by \$0.12 per ccf as shown in **Table 2** below.

Table 2: Water Supply Cost Component of the Water Rates (\$/ccf)

Tiers	Descriptions	Current	Proposed
Tier 1	MWDOC Blended	\$2.13	\$2.25
Tier 2	MWDOC Blended	\$2.13	\$2.25
Tier 3	Efficient Recycled Water Program Cost	\$4.07	\$4.19
Tier 4	Full Recycled Water Program Cost	\$5.97	\$6.09
Uniform (for CII)	MWDOC Blended	\$2.13	\$2.25

¹ Includes 300 AF water loss. See Appendix for detailed water supply costs breakdown.

² 1 acre foot (AF) = 435.6 ccf

³ 1 ccf or hcf = 100 cubic feet = 748 gallons

3. ETWD Water Revenue Requirements and Proposed Rates

The water operating budget consists of purchased water supply costs from MWDOC (or Pass-through water supply costs) and the District’s operations and maintenance (O&M) expenses for delivering water to end users. In addition to the increase in water supply costs which will be passed-through to customers, O&M expenses are projected to increase 3.4% (or \$146K) which is within normal inflationary trends. Non-operating revenues are projected to decrease by \$1.6M in FY 2014 as the District will stop collecting \$1.3 million to pay for the Laguna Hill Water Company debt which will be paid off in FY 2014 from debt reserves. Additionally, the District will not be receiving \$240K consisting of the one-time, non-recurring revenue from the MWDOC Tier 2 Reserve Fund (\$172K) and Budget Based Tiered Rate Study Grant Funds (\$68K) which it received in FY 2013. The remaining changes in the non-operating revenues are due to projected changes in miscellaneous revenues such as site lease, interest income, etc... The resulting net revenue requirements from rates in FY 2014, including funding from reserves (\$663K), total \$11.3M with water supply costs (shown in **Table 3**).

Table 3: Water Revenue Requirements from Rates (in thousands of dollars)

	Estimated FY 2013	Budget FY 2014	\$ Change	% Change
Pass-through Water Supply Costs	\$7,875	\$8,342 ⁴	\$467	5.9%
Water O&M Expenses	\$4,286	\$4,432	\$146	3.4%
Less (-) Non-Operating Revenues	\$2,902	\$1,287	-\$1,615	-55.7%
Plus(+) Debt Service	\$894	\$447	-\$447	-50%
Plus (+) Reserve Funding	\$474	-\$663	-\$1,137	-239.9%
Total Rev Requirements from Rates	\$10,627	\$11,271	\$644	6.1%

Revenues from water rates, excluding incremental revenues in upper tiers dedicated for restricted reserves, are used to recover the revenue requirements (through baseline water supply costs⁵ (see Section 2), monthly service charges and delivery rates). In order to enhance revenue stability, current delivery rates have been held constant and all of ETWD’s revenue requirement increases have been passed on to the monthly service charges. The projected revenues from rates are summarized in **Table 4**.

⁴ Assume water purchase of 8,800 AF, including 300 AF water loss

⁵ Includes only purchased water cost from MWDOC, incremental supply rates above MWDOC rates are dedicated to restricted reserves

Table 4: Revenues from Water Rates ⁶ (in thousands of dollars)

Revenues from Water Rates	Estimated FY 2013	Budget FY 2014	\$ Change	% Change
Baseline Water Supply Costs	\$7,783	\$8,227 ⁷	\$444	5.7%
Monthly Service Charges	\$2,299	\$2,499	\$200	8.7%
Delivery Revenues	\$545	\$545	\$0	0.0%
Total Revenues from Rates	\$10,627	\$11,271	\$644	6.1%

Monthly service charges are proposed to increase by 8.7% in order to pass-on all the revenue requirement increases (except for water supply costs) for the District. The current and proposed monthly service charges are shown in **Table 5**.

Table 5: Monthly Service Charges

Monthly Service Charges	Current	FY 2014
5/8	\$8.56 /mo	\$9.31 /mo
3/4	\$11.42 /mo	\$12.42 /mo
1	\$17.12 /mo	\$18.61 /mo
1 1/2	\$31.38 /mo	\$34.12 /mo
2	\$59.93 /mo	\$65.15 /mo

Water capital R&R charges will remain unchanged from FY 2013 levels and are shown in **Table 6**.

Table 6: Water Capital R&R Charges

Water Capital R&R Charges	Current	FY 2014
5/8	\$4.66 /mo	\$4.66 /mo
3/4	\$4.66 /mo	\$4.66 /mo
1	\$7.78 /mo	\$7.78 /mo
1 1/2	\$18.91 /mo	\$18.91 /mo
2	\$47.47 /mo	\$47.47 /mo

Water supply rates are increased by \$0.12 per ccf for all usage (see Section 2). The delivery rate remains unchanged at \$0.34 per ccf for Tier 2 and Tier 3 usage and at \$0.17 for uniform commercial usage. The

⁶ Excludes revenues for restricted reserves to fund conservation and recycled water expansion program

⁷ Assumed water sales = 8,500 AF

revenue offset remains at \$0.06 per ccf to provide affordability for essential use. The conservation program costs are unchanged at \$100,000 and the conservation rate remains at \$0.38 per ccf.

Table 7: Proposed Water Commodity Rates

Water Rates	FY 2014	Water Supply	Delivery	Conservation	Rev Offset
Tier 1	\$2.19 /ccf	\$2.25	\$0.00	\$0.00	-\$0.06
Tier 2	\$2.59 /ccf	\$2.25	\$0.34	\$0.00	\$0.00
Tier 3	\$4.91 /ccf	\$4.19	\$0.34	\$0.38	\$0.00
Tier 4	\$6.47 /ccf	\$6.09	\$0.00	\$0.38	\$0.00
CII ⁸ / Uniform	\$2.42 /ccf	\$2.25	\$0.17	\$0.00	\$0.00

Based on the individual rate components shown in **Table 7**, the resulting commodity rates effective July 1, 2013 are shown in **Table 8**.

Table 8: Water Commodity Rates

Water Rates	Current	FY 2014
Tier 1	\$2.07 /ccf	\$2.19 /ccf
Tier 2	\$2.47 /ccf	\$2.59 /ccf
Tier 3	\$4.79 /ccf	\$4.91 /ccf
Tier 4	\$6.35 /ccf	\$6.47 /ccf
CII / Uniform	\$2.30 /ccf	\$2.42 /ccf

⁸ CII – Commercial / Industrial / Institutional

4. ETWD Sewer Revenue Requirements and Proposed Rates

The sewer O&M expenses in FY 2014 are budgeted to increase by 5.5% (or \$364K). Non-operating revenues are projected to decrease by \$348K mainly due to the estimated reduction in standby fees (~\$344K) and changes in other revenues. Debt service also decreases by \$310K as the District made the last payment for the Certificate of Participation in FY 2013 and budgeted to make the last payment to Laguna Hills Sanitation Company in FY 2014. Altogether, the increase in revenue requirements from rates is \$400K (**Table 9**), which translates to an across-the-board 6.8% increase on sewer rates (**Table 11**). The sewer capital R&R charges remain unchanged (**Table 10**).

Table 9: Sewer Revenue Requirements from Rates (in thousands of dollars)

	Estimated FY 2013	Budget FY 2014	\$ Change	% Change
Sewer O&M Expenses	\$6,673	\$7,037	\$364	5.5%
Less (-) Non-Operating Revenues	\$1,165	\$817	-\$348	-29.9%
Plus(+) Debt Service	\$1,341	\$1,031	-\$310	-23.1%
Plus (+) Reserve Funding	-\$989	-\$991	-\$2	0.2%
Total Rev Requirements from Rates	\$5,860	\$6,260	\$400	6.8%

Table 10: Sewer Capital R&R Charges

Sewer Capital R&R	FY 2013	FY 2014
Residential Unrestricted	\$4.93 / EDU	\$4.93 / EDU
Multi-Family Restricted	\$3.95 / EDU	\$3.95 / EDU
Multi-Family Unrestricted	\$4.69 / EDU	\$4.69 / EDU
Non-Residential	\$4.93 / EDU	\$4.93 / EDU

Table 11: Sewer Rates by Customer Classes

Sewer Rates	FY 2013	FY 2014
Residential Unrestricted	\$17.77 / EDU	\$18.99 / EDU
Multi-Family Restricted	\$14.09 / EDU	\$15.06 / EDU
Multi-Family Unrestricted	\$16.75 / EDU	\$17.90 / EDU
Animal Kennel/Hospital	\$2.91 /ccf	\$3.11 /ccf
Car Wash	\$2.89 /ccf	\$3.09 /ccf
Department/Retail Store	\$2.91 /ccf	\$3.11 /ccf
Dry Cleaners	\$2.54 /ccf	\$2.72 /ccf
Golf Course/Camp/Park	\$2.53 /ccf	\$2.71 /ccf
Health Spa	\$2.90 /ccf	\$3.10 /ccf
Hospital/Convalescent Home	\$2.54 /ccf	\$2.72 /ccf
Hotel	\$4.40 /ccf	\$4.71 /ccf
Market	\$5.77 /ccf	\$6.17 /ccf
Mortuary	\$5.75 /ccf	\$6.15 /ccf
Nursery/Greenhouse	\$2.58 /ccf	\$2.76 /ccf
Professional/Financial Office	\$2.91 /ccf	\$3.11 /ccf
Public Institution	\$2.85 /ccf	\$3.05 /ccf
Repair/Service Station	\$2.90 /ccf	\$3.10 /ccf
Restaurant	\$2.74 /ccf	\$2.93 /ccf
Schools	\$3.00 /ccf	\$3.21 /ccf
Theater	\$2.91 /ccf	\$3.11 /ccf
Warehouse/Storage	\$2.29 /ccf	\$2.45 /ccf
Basic Commercial	\$2.54 /ccf	\$2.72 /ccf

5. Recycled Water Revenue Requirements and Proposed Rates

The District currently provides an annual average of approximately 425 acre-feet of recycled water to the Laguna Woods Village Golf Course operated by the Golden Rain Foundation (GRF). GRF is contractually obligated to purchase a minimum of 300 acre-feet of recycled water per year. The current rate of \$417 per acre-foot equates to 39 percent of the current Tier 2 potable water rate. Pricing for recycled water service recovers operating, administration and depreciation costs. The total revenue requirement for Recycled Water is \$217,613. This is equal to \$435 per-acre foot or \$1.00 per ccf, which is 38.6% of the proposed Tier 2 Potable water rate. The net increase from the prior fiscal year in the cost of recycled water is \$0.04 per ccf.

The recycled water facility serves the Laguna Woods Village Golf Course as well as irrigation and plant process water demands at the ETWD Water Recycling Plant. An analysis of total recycled water production over the last four years yields an average annual production of approximately 500 acre feet. This figure consists of approximately 425 acre-feet for the Laguna Woods Village Golf Course and approximately 75 acre-feet at the ETWD plant. This total production number is used to develop a unit cost for the Operations & Maintenance component of the rate. Unitizing the cost in this fashion ensures that the Laguna Woods Village Golf Course pays only for the water purchased.

1. Recycled Water Pricing

The recycled water cost of service analysis considers three cost components.

1. Operating Cost
2. Administration Cost
3. Depreciation Cost

a) Operating Cost

Operating costs consist of miscellaneous operations and maintenance expenses, chemicals, labor and power. The O&M and chemicals costs are based on the historical expenses. The labor cost is calculated based on an allocation of 15% of the Water Recycling Plant labor cost and 5% of the Laboratory labor cost to the recycled water facilities. Power for the recycled water facilities is not directly metered and must be estimated. The power calculation is based primarily on the power necessary to operate the recycled water pump station. An additional 10% is added thereafter to account for power costs for the chemical metering pumps, the sample pumps, the chlorine analyzers lighting and air conditioning in the electrical room. The pump station power calculation assumes the following:

Table 12: Recycled Water Power Cost

Description	
Average Flow @ 500 afy	310 GPM
Total Head @ 124 psi discharge pressure	286 feet
Wire to Water Efficiency	76%
SCE Power Rate	\$0.12 / kW-HR
Power Cost	\$23,134
Miscellaneous Equipment Power @ 10%	\$2,313
Recycled Water Power Cost	\$25,448

The total Operating Cost is summarized as follows

Table 13: Recycled Water Operating Cost

Description	Cost
O&M Cost	\$7,000
Chemicals	\$41,200
Labor	\$94,443
Power	\$25,448
Total Operating Cost	\$168,090

b) Administration Cost

Administration costs are estimated to be 15% of total operating costs.

Table 14: Recycled Water Administration Cost

Operating Cost	\$168,090
Administration Cost Factor	15%
Administration Cost	\$25,214

c) Depreciation Cost

The recycled water disinfection facilities were converted from gaseous chlorine to sodium hypochlorite in 1999. The asset value of these facilities was booked at \$536,956. The Golden Rain Foundation did not pay the capital cost of this conversion. The depreciation cost is therefore included in the cost of service commodity rate for recycled water. The depreciation calculation breaks the total asset value into equipment and structure categories. The equipment category useful life is 15 years while the structure category useful life is 30 years. The depreciation is calculated as follows:

Table 15: Recycled Water Depreciation Cost

Descriptions	Asset Value	Useful Life	Depreciation
Equipment	\$192,317	15 Years	\$12,821
Structure	\$344,640	30 Years	\$11,488
Total Rev Requirements from Rates	\$536,957		\$24,309

d) Total Recycled Water Cost

The total recycled water cost is summarized as follows:

Table 16: Total Recycled Water Cost (at 500 AFY)

Category	Cost	Proposed Rates	Current Rates
Operating Cost	\$168,090	\$336 / AF	\$320 / AF
Administration Cost	\$25,214	\$50 / AF	\$48 / AF
Depreciation Cost	\$24,309	\$49 / AF	\$49 / AF
Total	<u>\$217,613</u>	<u>\$435 / AF</u>	<u>\$417 / AF</u>

Proposed Recycled water, \$ per AF	\$435
Proposed Recycled water, \$ per ccf	\$1.00
Proposed Tier 2 Potable Water, \$ per ccf	\$2.59
Recycled Rate as a Percent of Potable Water	38.6%

6. Customer Impacts

Figure 1 shows a breakdown of water and sewer bills for a single family residential user with 4 occupants and 4,000 sq ft landscape area who uses 20 ccf on average per month and is served by ¾-in meter. The inclusive total bill is projected to increase 5.5% from the current bill at FY 2013 rates.

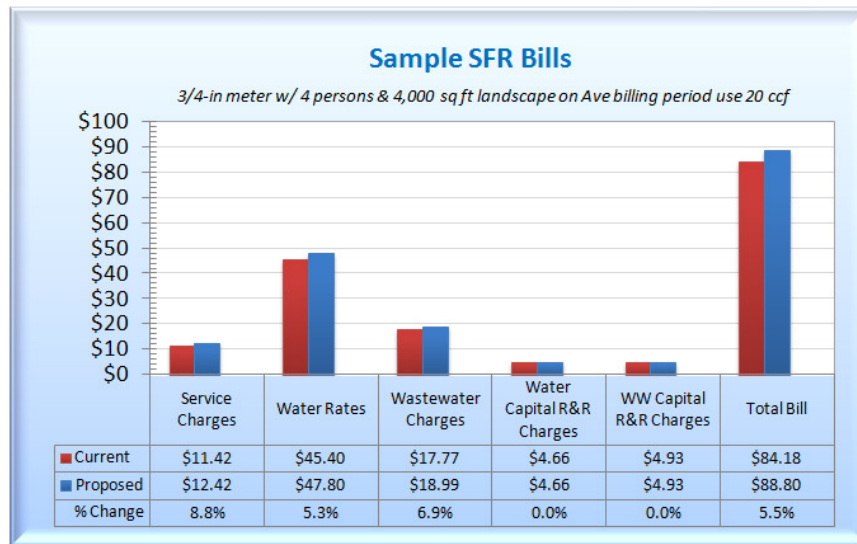


Figure 1: Sample Single Family Residential Bills

Figure 2 shows the impacts at different usage levels for the same residential customer.

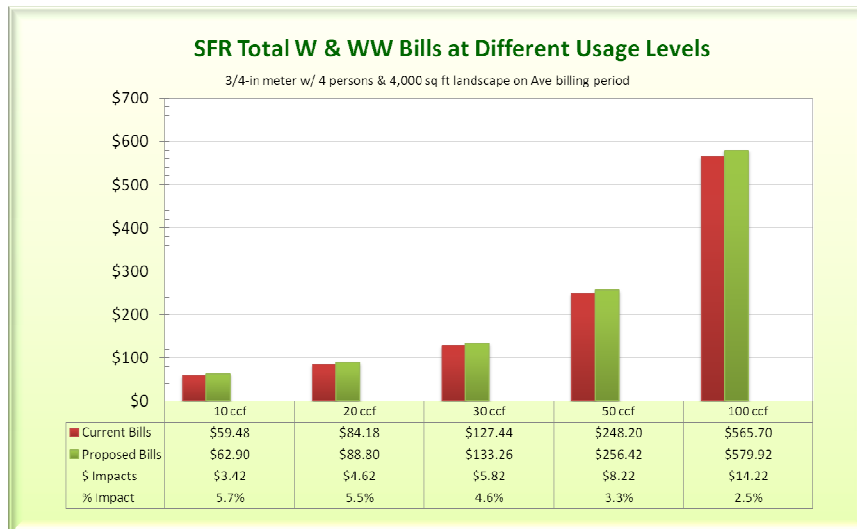


Figure 2: SFR Total Bills at Different Usage Levels

Single family residents do not purchase recycled water. Hence, their impacts are not shown.

It has been a pleasure working with the District. We would like to thank you for your assistance during the course of the study. If we can be of further assistance please call me at 626-583-1894.

Sincerely,



Sudhir Pardiwala

Vice President and Director of Western Operations



Khanh Phan

Sr. Consultant

Appendix – Pass-through Water Supply Cost

EL TORO WATER DISTRICT 2012/13 PURCHASED WATER BUDGET

	2012/13 Budget		2012/13 Actual		2013/14 Budget	
	Jul	Jan	Jul	Jan	Jul	Jan
	2012	2013	2012	2013	2013	2014
Period Demand (AF)	5,000	3,800	5,000	3,800	5,000	3,800
Annual Demand (AF)		8,800		8,800		8,800
System Access Rate	217.00	223.00	217.00	223.00	223.00	243.00
System Power Rate	136.00	189.00	136.00	189.00	189.00	161.00
Water Stewardship Rate	43.00	41.00	43.00	41.00	41.00	41.00
Delta Surcharge	58.00	0.00	58.00	0.00	-	0.00
MWD Tier 1 Rate	106.00	140.00	106.00	140.00	140.00	148.00
MWDOC Incremental Rate	3.75	3.75	3.75	3.75	3.25	3.25
Subtotal Untreated Full Service	563.75	596.75	563.75	596.75	596.25	596.25
Treatment Surcharge	234.00	254.00	234.00	254.00	254.00	297.00
Total Treated Full Service	797.75	850.75	797.75	850.75	850.25	893.25
Imported Water Charges						
RTS (\$)	239,637	233,072	223,733	225,168	225,168	263,224.6
MWDOC Connection Rate (\$/meter)	7.25		7.25		8.40	
ETWD Meters	9,806		9,806		9,806	
MWDOC Connection Charge (\$)	71,094		71,094		82,370	
Capacity Reservation Charge Rate						
Capacity Reservation Charge Rate (\$/CFS)	7,400	6,400	7,400	6,400	6,400	8,600
ETWD CFS	24.0			22	22.0	
Total Capacity Reservation Charge	62,545	54,093	62,545	50,601	50,601	67,995
MWDOC Choice Programs						
Water Use Efficiency						
School Program						
Huntington Beach Desal	2,300		2,300			
Second Lower Cross Feeder	11,000		11,000			
Total Choice Program	13,300		13,300		-	
Total Period Water Cost	4,375,326	3,520,015	4,359,422	3,508,619	4,609,389	3,725,569
Total MWDOC Purchased Water Cost		7,895,341		7,868,041		8,334,958
Percent Increase Budget to Budget per Unit						5.57%
Percent Increase Budget to Actual per Unit						5.93%
Overall Imported Water Effective Rate	875.07	926.32	871.88	923.32	921.88	980.41
Fiscal Year Cost per Acre Foot Purchased		897.20		894.10		947.15
Fiscal Year Cost per CCF Purchased		2.06		2.05		2.17
Fiscal Year Rate per AF Sold		927.83		927.83		980.10
Fiscal Year Rate per CCF Sold		2.13		2.13		2.25