Municipal & Financial
Services Group

JURUPA COMMUNITY SERVICES DISTRICT

Comprehensive Water and Sewer Rate Study

September 2014

jurupa
COMMUNITY SERVICES DISTRICT

MFSG ◆ 911-A Commerce Road ◆ Annapolis, MD 21401 ◆ 410.266.9101 ◆ mfsgllc.com

Municipal & Financial Services Group

September 18, 2014

Steven Popelar
Director of Finance and Administration
Jurupa Community Service District
11201 Harrel Street
Jurupa Valley, CA 91752

Subject: Comprehensive Water and Sewer Rate Study Report

Dear Mr. Popelar,

The Municipal & Financial Services Group is pleased to submit to the Jurupa Community Service District the enclosed Comprehensive Water and Sewer Rate study. The document represents the results of our analysis of the cost of providing water and sewer service to the District's customers and our recommendations for how the District should recover these costs. The study should provide a clear path forward for the District to ensure the financial health and stability of its water and sewer systems. The accompanying financial plan was developed using a revenue rate projection model prepared by MFSG.

As discussed in the report, we are recommending that the District make modest adjustments to water and sewer revenues over the next five years to ensure the financial health of the water and sewer systems. We are also recommending modifications to the portions of the District's water rate structure as well as changes to how the District charges for sewer service based on the feedback and direction provided by the Board. The recommended water and sewer rates are designed to allocate costs appropriately among the District's customers and while providing rate structures that are easy for customers to understand.

It has been our distinct pleasure to work with you and the District's staff. The dedication that you, Ms. Mouser and Mr. Corbin provided during the study process should be acknowledged and was vital to the success of the study. Additionally, the input provided by the District Board members was essential in the completion of the study. Thank you for the opportunity to work with the District on this important study.

Very truly yours,

David A. Hyder
Vice President
The Municipal & Financial Services Group

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EXECUTIVE SUMMARY

This document was prepared to summarize the work performed by the Municipal & Financial Services Group (MFSG) during the water and sewer rate study authorized by the Jurupa Community Services District (the District). The study provides a financial plan for funding of the operating and capital costs of the District's water and sewer systems.

1. Background

The Jurupa Community Services District engaged the Municipal and Financial Services Group to conduct a comprehensive water and sewer rate study in order to determine a long term plan for the sustainability of the District's water and sewer funds. The study was designed to evaluate and enhance the set of user charges to ensure that there is appropriate recovery of costs from each individual customer class.

The District's water system provides potable and non-potable water service to about 28,200 residential, commercial, irrigation and industrial accounts. Currently the District purchases about 35% of their water supply from the Chino Basin Desalter ("CDA") and 3% of their water from the Rubidoux Community Services District ("RCSD"). The remaining 62% of the water supply comes from local ground water sources. The water system contains approximately 16 wells, 7 booster stations, 17 reservoirs and nearly 58 million gallons of storage capacity.

The District's sewer system provides sewer treatment service to nearly 26,700 residential, commercial and industrial accounts. Wastewater generated within the District is conveyed to three separate facilities where the District has capacity rights to discharge wastewater. It is also responsible for the operation and maintenance of a complex matrix of collection sewers, trunk sewers, force mains, manholes and sewer pump stations to route the District's wastewater to three external wastewater treatment plants ("WWTP").

The District operates the two systems as separate, self-supporting enterprises, with revenues and expenses accounted for separately. The rate study assumes that each system must be independently self-financing.

2. Water System Revenue Requirements

MFSG has identified the total revenue requirement for the water system and has projected it over a five year period in order to determine the adequacy of the District's current water rates. Exhibit 1 provides summary of the water system revenue requirements and the anticipated revenues from current water rates.

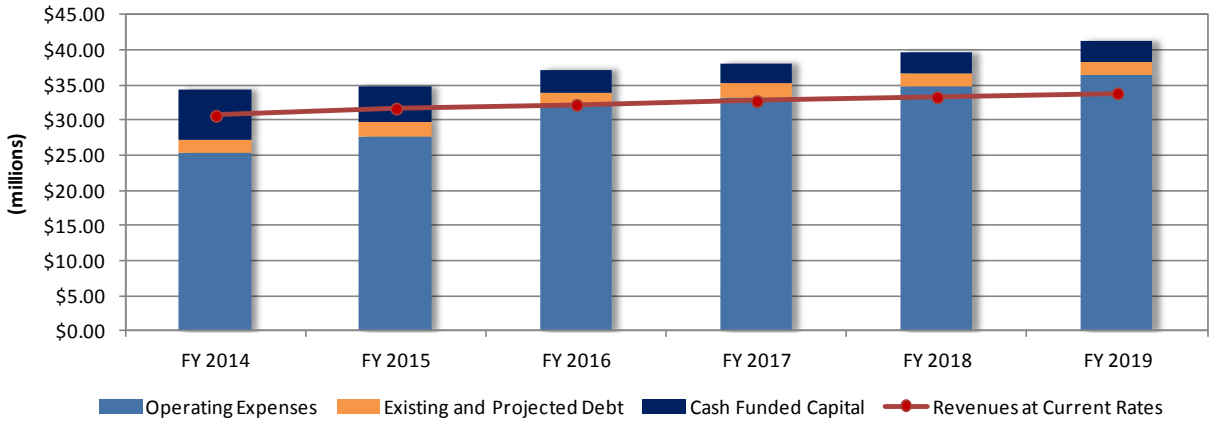
Exhibit 1. Water Revenue Requirements

	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019
Operating Expenses	$27,706,915	$32,026,550	$33,218,103	$34,777,430	$36,415,183
Non-Operating Expenses	$2,026,100	$1,993,176	$1,994,975	$1,952,154	$1,884,891
Total Operating and Debt Requirement	**$29,733,015**	**$34,019,726**	**$35,213,078**	**$36,729,583**	**$38,300,073**
Total Operating Revenues (Current Rates)	**$31,732,438**	**$32,258,826**	**$32,791,199**	**$33,337,067**	**$33,894,400**
Cash Available for Capital	$1,999,423	($1,760,901)	($2,421,879)	($3,392,517)	($4,405,673)
Planned Capital Spending	$5,039,740	$3,212,500	$2,892,500	$2,892,500	$2,892,500
Annual Surplus / (Shortfall)	**($3,040,317)**	**($4,973,401)**	**($5,314,379)**	**($6,285,017)**	**($7,298,173)**

Exhibit 1 shows that the water system operating expenses will increase significantly over the projection period. The primary reason for the increases is due to increased water supply costs.

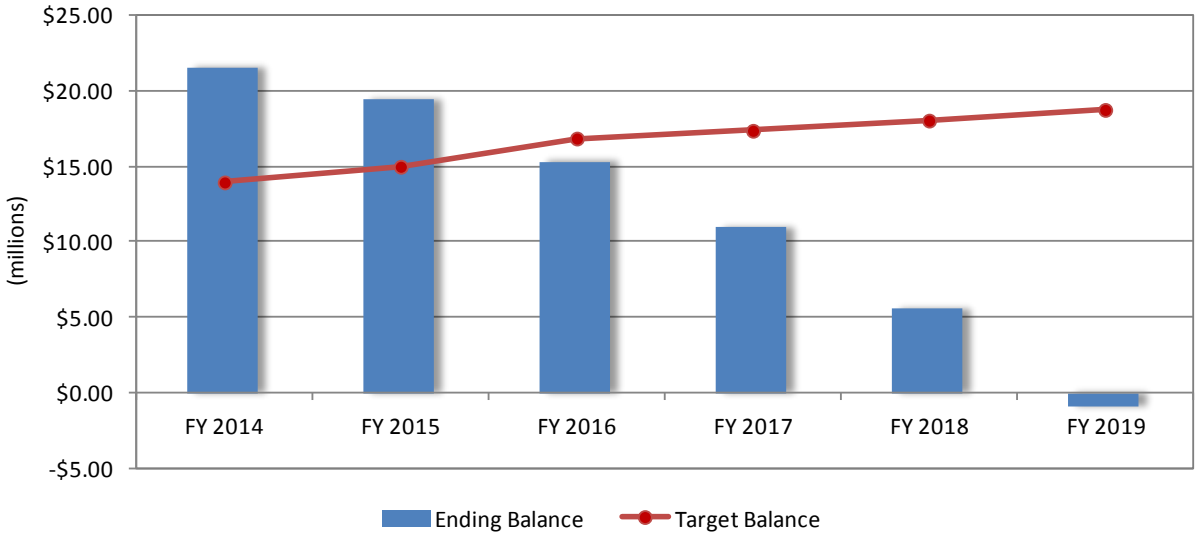
As shown in Exhibit 1, the current water rates will not produce sufficient revenue to fund the revenue requirements for FY 2015 or the years following. Based on projected revenues with existing rates, current water rates will produce cash revenues less than the required cash revenue in FY 2015 with subsequent shortfalls annually over the planning period, exhausting all cash reserves by FY 2019.

Exhibit 2. Water Net Revenue Requirement vs. Projected Revenues with Existing Rates



Due to the annual shortfalls resulting from the difference between expenses and revenues, the District will be forced to draw down on its operating reserve in order to fully fund the operation of the water system. The projected operating balance under the current rates is shown in Exhibit 3.

Exhibit 3. Water System Operating Fund Results under Current Rates



MFSG has identified the need for increased water revenue in order to maintain the minimum operating reserve balance required by the District.

3. Water System Financial Plan

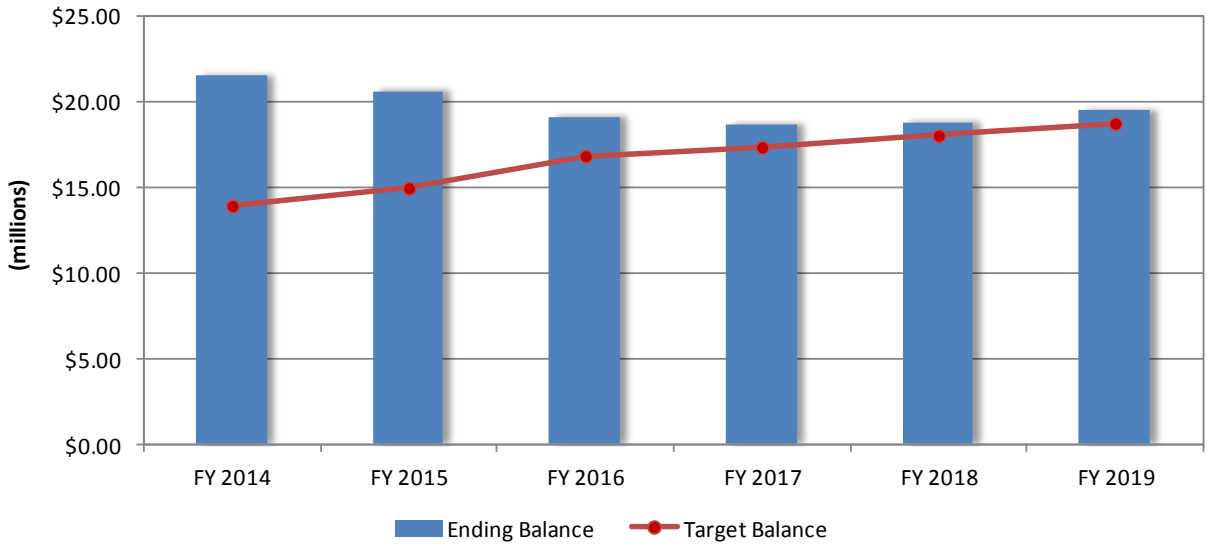
The District will be required to increase water revenues over the next five fiscal years in order to ensure the financial health and stability of the water system and to include the funding of increases in water supply costs. The recommend water revenue adjustments are shown in Exhibit 4.

Exhibit 4. Recommended Water Revenue Adjustments

	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019
Water Annual Revenue Increases	4.0%	4.0%	4.0%	4.0%	4.0%

The above stated revenue increases will allow the District to fully fund the water system's operational and capital expenses. Exhibit 5 shows the operating reserve balance under MFSG's proposed financial plan.

Exhibit 5. Water Operating Fund Balance Projections with Proposed Revenue Adjustments



Under MFSG's proposed financial plan, the District maintains the minimum required operating reserve while still funding the operating, debt and capital expenses related to providing water service.

4. Recommended Water Rates

As part of the rate study, the District's current water rate structure was reviewed and alternative structures were developed. Based on discussion with the District staff and Board members we recommend that the current rate structure remain in place with the exception of potable irrigation rates, which should be charged a separate uniform unit rate and capping the fixed charges for two years as an implementation method not to allocate increases disproportionality to low water users. The recommended water rates are presented in Exhibit 6.

Exhibit 6. Recommended Water Rates

	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019
Monthly Service Charge					
5/8"	$25.36	$25.36	$28.68	$30.54	$32.51
3/4"	$30.28	$30.28	$34.24	$36.46	$38.82
1"	$50.54	$50.54	$57.16	$60.86	$64.79
1-1/2"	$102.99	$102.99	$116.47	$124.03	$132.03
2"	$161.69	$161.69	$182.86	$194.72	$207.28
3"	$484.18	$484.18	$547.57	$583.08	$620.69
4"	$950.56	$950.56	$1,075.00	$1,144.72	$1,218.56
6"	$1,548.78	$1,548.78	$1,751.54	$1,865.13	$1,985.44
8"	$1,736.05	$1,736.05	$1,963.32	$2,090.65	$2,225.51
10"	$2,208.71	$2,208.71	$2,497.86	$2,659.86	$2,831.43
Variable Rates					
Single Family, Multi-Family, Commercial, Irrigation					
Tier 1 - 0 to 20 HCF	$1.41	$1.51	$1.46	$1.49	$1.52
Tier 2 - 21 to 50 HCF	$1.79	$1.92	$1.85	$1.89	$1.93
Tier 3 - 51 to 100 HCF	$2.06	$2.21	$2.13	$2.18	$2.22
Tier 4 - Over 100 HCF	$2.30	$2.46	$2.38	$2.43	$2.48
Uniform Rates					
Irrigation Rate per HCF	$1.94	$2.05	$2.08	$2.16	$2.23
Non-Potable Rate per HCF	$0.90	$0.94	$0.98	$1.02	$1.06

The District currently allows for temporary connections to the water system in order to accommodate the need for construction water within the District. The temporary use of water from a hydrant does not require payment of capital facilities charges like a permanent metered account, therefore we recommend that a charge per HCF for temporary hydrant usage. The recommended fire hydrant rates for temporary water use are presented in Exhibit 7.

Exhibit 7. Recommended Hydrant Rates

	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019
Hydrant Rates per HCF					
Tier 1 - 0 to 20 HCF	$2.62	$2.72	$2.67	$2.70	$2.73
Tier 2 - 21 to 50 HCF	$3.00	$3.13	$3.06	$3.10	$3.14
Tier 3 - 51 to 100 HCF	$3.27	$3.42	$3.34	$3.39	$3.43
Tier 4 - Over 100 HCF	$3.51	$3.67	$3.59	$3.64	$3.69

The District provides water connections and service for private fire protection to customers throughout its service area. These accounts are for emergency use only to provide fire suppression. The District does not currently charge customers for private protection but incurs

the cost of providing this standby service. Based on our review of the cost of providing this service we recommend that the District charge $29.00 per month per private fire line.

In addition to charges for private fire protection, we also propose that the District adopt a policy for unauthorized use of fire line services. The policy would be adopted in an attempt to deter the unauthorized use of fire service. We recommend the following policy for unauthorized use of private fire protection services.

- Upon the first unauthorized use of fire service: 3 times the highest water rate.
- Upon subsequent unauthorized use of fire service: 10 times the highest water rate.
- If unauthorized use continues the District may install a full-flow meter and bill the customer for all costs associated with the meter, including the standard Water Capital Facility Charge for the size of meter installed.

The "highest water rate" is defined as the highest rate charged to domestic customers for water use, namely the Tier 4 rate. Exhibit 8 outlines the recommended unauthorized use of fire protection service rates.

Exhibit 8. Recommended Unauthorized Use of Fire Protection Service Rates

	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019
First Unauthorized Use	$6.90	$7.38	$7.14	$7.29	$7.44
Subsequent Unauthorized Use	$23.00	$24.60	$23.80	$24.30	$24.80

The District should review water rates and charges on an annual basis and revise rates and charges as needed. Consider a full cost of service study for all water rates and surcharges every five years. Although it is recommended to adopt rates and charges for five years so they do not have to be revisited and voted on every year by the District's Board, it is financially prudent to review expenses and revenues annually to ensure actual values are relatively in line with those projected.

5. Sewer System Revenue Requirements

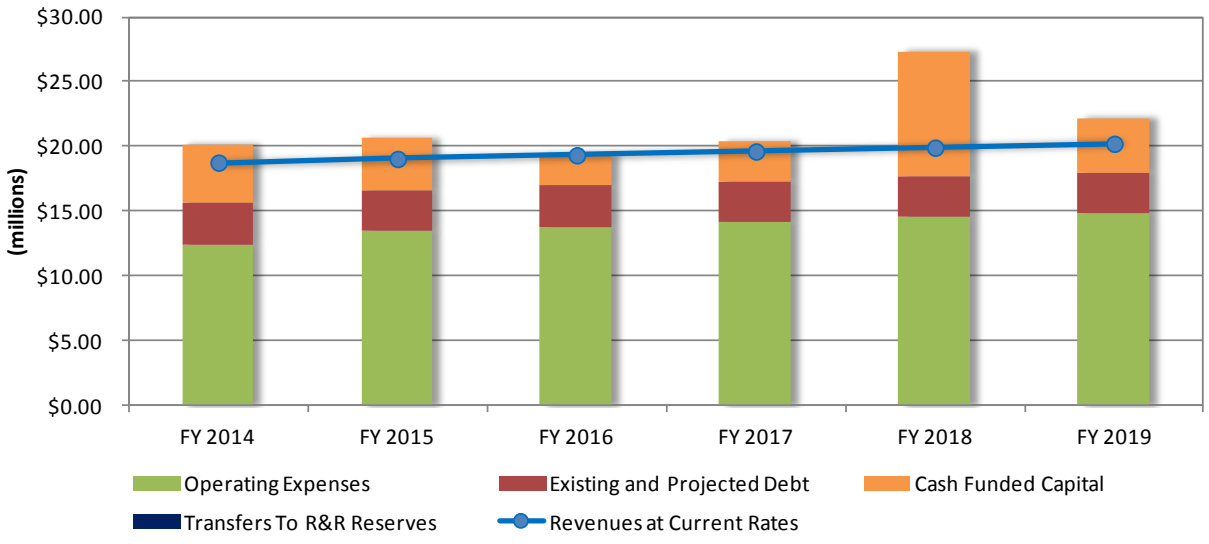
MFSG has identified the total revenue requirement for the sewer system and has projected it over a five year period in order to determine the adequacy of the District's current sewer rates. Exhibit 9 provides summary of the sewer system revenue requirements and the anticipated revenues from current sewer rates.

Exhibit 9. Sewer Revenue Requirement

	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019
Operating Costs	$13,465,488	$13,761,405	$14,130,775	$14,510,484	$14,900,844
Non-Operating Expenses	$3,172,567	$3,181,397	$3,207,967	$3,213,631	$3,114,399
Total Operating and Debt Requirement	**$16,638,056**	**$16,942,802**	**$17,338,743**	**$17,724,116**	**$18,015,243**
Total Operating Revenues (Current Rates)	$19,114,435	$19,395,506	$19,688,769	$19,984,806	$20,260,359
Available for Cash Funded Capital	$2,476,379	$2,452,704	$2,350,026	$2,260,691	$2,245,116
Planned Cash Funded Capital	**$4,000,000**	**$2,370,000**	**$3,060,000**	**$9,610,000**	**$4,200,000**
Surplus / (Deficit)	**($1,523,621)**	**$82,704**	**($709,974)**	**($7,349,309)**	**($1,954,884)**

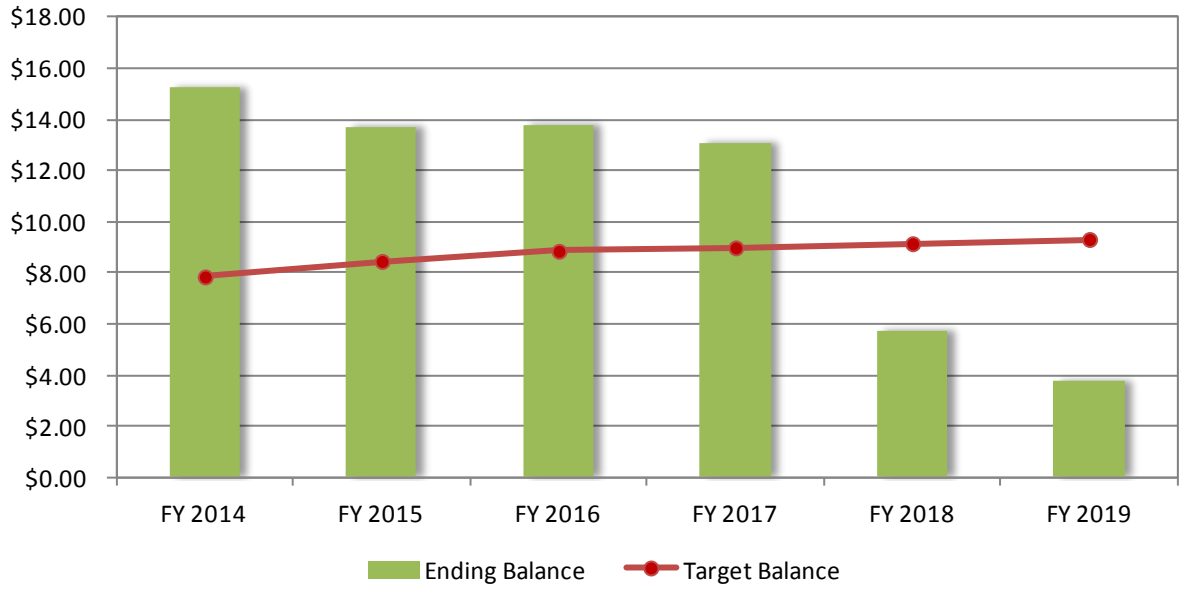
Current sewer rates will not produce sufficient revenue to fund the revenue requirements for FY 2015 and most of the years following. Based on projected revenues with existing rates, current sewer rates will produce cash revenues less than the required cash revenue in FY 2015 with subsequent shortfalls in most years of the planning period.

Exhibit 10. Sewer Revenue Requirement vs. Projected Revenues with Existing Rates



Similar to the water fund, the sewer fund must draw down on its operating reserve in order to maintain the operational and capital requirements of the sewer system. The projected operating reserve balance is shown in Exhibit 11.

Exhibit 11. Projected Sewer Operating Fund Balance under Existing Rates (millions)



MFSG has identified the need for increased sewer revenues in order to maintain the operating reserve requirement of the District and to ensure the District's ability to borrow for capital projects as projected.

6. Sewer System Financial Plan

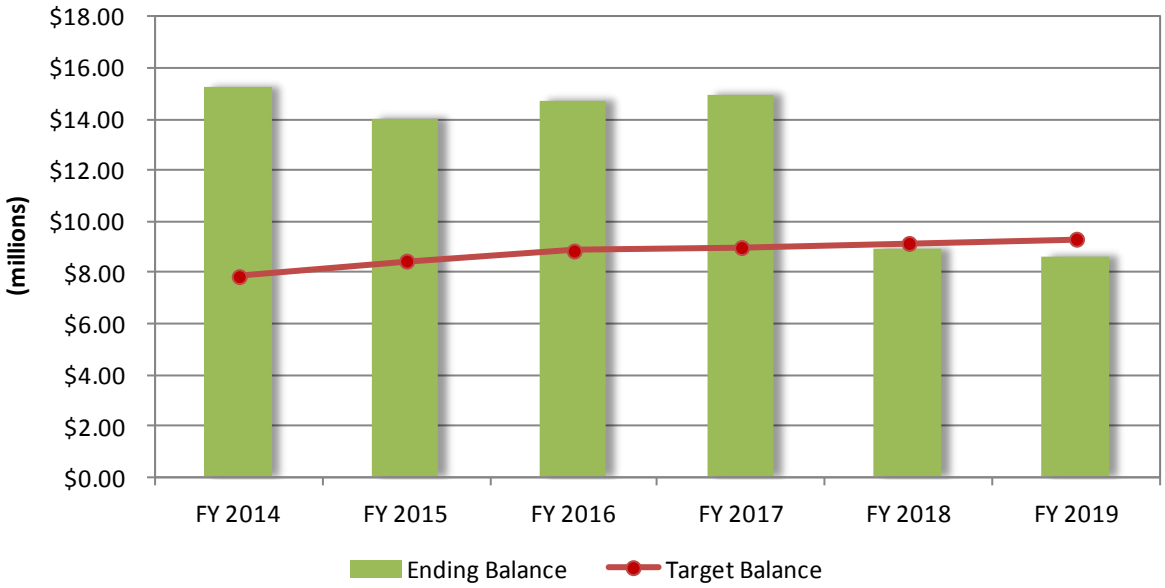
The District will be required to increase sewer revenues over the next five fiscal years in order to ensure the financial health and stability of the sewer system. The recommended sewer revenue adjustments are shown in Exhibit 12.

Exhibit 12. Recommended Sewer Revenue Adjustments

	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019
Sewer Annual Revenue Increases	2.0%	2.0%	2.0%	2.0%	2.0%

Under the above stated financial plan, the District is able to maintain the operating fund balance for most of the projection period as shown below.

Exhibit 13. Sewer Operating Fund Balance Projections with Proposed Revenue Adjustments



MFSG's revenue forecast for the sewer fund allows for the operating balance to fall slightly below the target in FY 2019. However, under the proposed plan, the operating balance recovers and is maintained above the target for all years following FY 2019.

7. Recommended Sewer Rates

As part of the rate study, the District's current sewer rate structure was reviewed and alternative structures were developed. Based on discussion with the District staff and Board members we recommend that an alternative sewer rate structure be adopted by the District. The alternative structure will simplify the sewer rate structure, better match the charges for sewer service with the amount of sewer produced by the customer, and provide consistent charges throughout the District's service area. The recommended sewer rates under the proposed alternative structure are presented in Exhibit 14.

Exhibit 14. Proposed Sewer Rates

	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019
Monthly Service Charge	$23.95	$23.95	$24.89	$25.39	$25.90
Charge per HCF	$1.51	$1.61	$1.57	$1.60	$1.64

The proposed HCF rate methodology by rate class is as follows:

- Single Family Residential – Charged based on actual water usage, capped at 8 HCF
- Multi-Family Residential – Charged based on actual water usage, capped at 8 HCF per EDU
- Commercial – Charged based on actual water usage, with no cap
- Institutional – Charged based on actual water usage, capped at 8 HCF per EDU

- Industrial – Continued to be charged treatment allocations based on location of treatment

The District should review sewer rates and charges on an annual basis and revise rates and charges as needed. Consider a full cost of service study for all sewer rates and surcharges every five years. While it is recommended to adopt rates and charges for five years so they do not have to be revisited and voted on every year by the District's Board, it is financially prudent to review expenses and revenues annually to ensure actual values are relatively in line with those projected.

I. BASIS FOR THE STUDY

1. Background

The Jurupa Community Services District engaged the Municipal and Financial Services Group to conduct a comprehensive water and sewer rate study in order to determine a long term plan for the sustainability of the District's water and sewer funds. The study was designed to evaluate and enhance the set of user charges to ensure that there is appropriate recovery of costs from each individual customer class.

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The District operates the two systems as separate, self-supporting enterprises, with revenues and expenses accounted for separately. The rate study assumes that each system must be independently self-financing.

2. Scope of Work

The scope of services set forth in the contract between The Jurupa Community Services District ("The District") and the Municipal and Financial Services Group ("MFSG") consists of several related tasks:

- **Revenue Requirements** - Determine the full cost of providing water and sewer service by developing comprehensive revenue requirements for the each system.

- **Cost of Service and Financial Plan** - Perform a cost of service analysis to determine appropriate cost allocations and develop a financial plan to ensure that water and sewer rates, fees and charges provide adequate revenues over the projection period.

- **Rate Design Analysis** - Determine the performance of the water and sewer rate structures based on the District's objectives and policies and develop alternative rate structures where appropriate to better meet the objectives.

- **Customer Impacts and Benchmarking** - Document the impact of the proposed rate adjustments and rate structures on the District's customers.

The study was performed with the following guiding principles in mind:

- The water and sewer systems must be self-supporting. It is assumed that the cost of operating and maintaining the water system must be supported by the water rates and fees and the cost of operating and maintaining the sewer system must be supported by the sewer rates and fees. There should be no cross subsidy between the two systems.

- Water and sewer rates must be based on cost of service principles to ensure that users of the systems are proportionately charged based on the cost of providing service.

- The District should maintain reserves to provide for contingencies and unplanned expenses and to ensure that funds are generated to allow for appropriate system replacement. Revenues must increase if cash reserves fall below the required reserve level, per District policy.

- Water and sewer rates and fees shall be kept as low as possible over time. It is possible to keep rates low for a period of time by not investing sufficiently in the maintenance of the water and sewer systems, but eventually the system will deteriorate and require substantial investments leading to the need for significant and immediate rate increases. The assumption that the District will continually reinvest in the water and sewer systems to replace assets as they reach their useful lives is built into the analysis and allows for timely and predictable rate increases.

The water and sewer rate study has been completed based on these tasks, which are documented in this report. Depending on availability, actual FY 2014 data or budgeted FY 2015 data was used as the base upon which forecasted figures were developed. All years within this report refer to the District's fiscal year (July 1 to June 30). While the study and associated financial models project all necessary data for a 10-year planning period (FY 2015 – 2024), this report provides data for the first five years in which rates have been calculated (FY 2015 – 2019).

3. Major Assumptions

In order to project and identify future costs to the water and sewer systems, certain assumptions must be used. The following guiding principles were used to guide the cost of service and rate study and were developed with the assistance of the District's Staff:

Element	Assumption
Inflation Rate - Water O&M Expenses	2.5% to 5.0%
Inflation in Cost of Purchased Water	8.0% per year (average)
Customer Growth Rate	0.0% to 1.8%
Consumption Growth Rate	0.0% to 2.0%
Interest Rate on Borrowing	2.5% to 5.0%
Debt Maturity	30 years
Interest Earned on Investments	0.4% per year
Debt Reserve Contributions	6.5% of principal issued

These assumptions were used after discussions with the District's Staff, utilizing our experience and the Staff's knowledge of its customer base and historical costs. The District Staff should monitor the assumptions used in the model over the forecast period to ensure that they continue to match reality. The model used to complete the study is designed to be a valuable tool for the District to monitor the financial health of the water and sewer funds and review annual revenues and expenses.

4. Structure of Report

The remainder of the report documents the analysis completed for the comprehensive water and sewer rate study. To allow for clearer understanding of the study, the analysis for water and sewer systems are broken out separately with the water system analysis presented first followed by the sewer system analysis.

II. WATER CUSTOMERS AND USAGE

This section provides a summary of historical and projected water customer accounts and consumption.

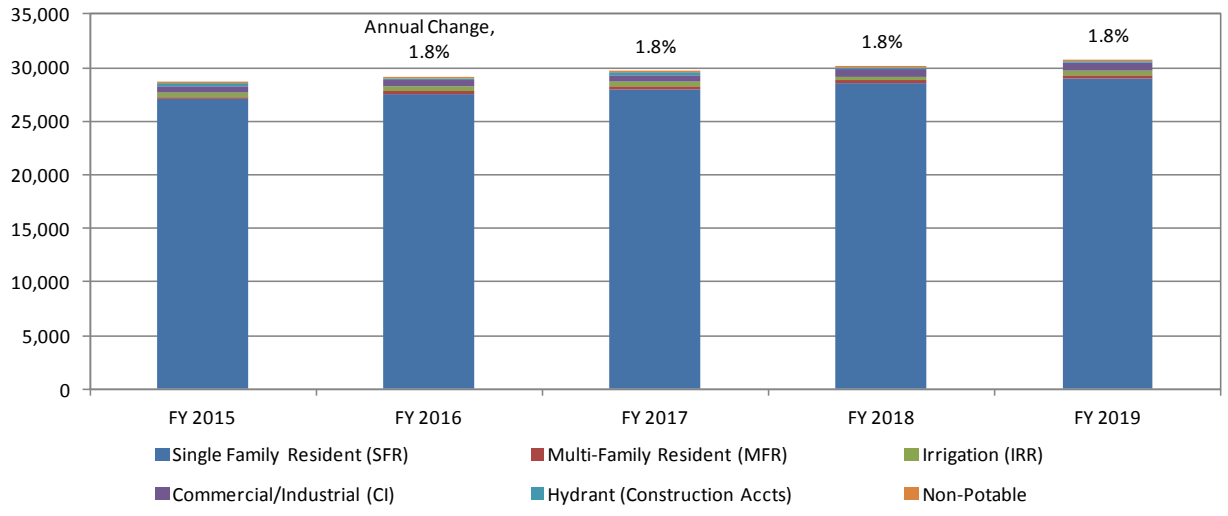
1. Water Customers

In FY 2013, the District's water customer base included 27,515 accounts, most of which are residential customers. To project future usage, our modeling assumes minimal annual increase in customers and consumption over the five year projection period based on historical average increases by customer class. Exhibit 15 and Exhibit 16 show the projected customer growth over the five year projection period.

Exhibit 15. Projected Water Customers

	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019
Single Family Resident (SFR)	27,038	27,525	28,019	28,524	29,038
Multi-Family Resident (MFR)	259	262	265	268	271
Irrigation (IRR)	386	391	396	401	406
Commercial/Industrial (CI)	635	644	653	662	671
Hydrant (Construction Accts)	169	169	169	169	169
Non-Potable	9	9	9	9	9
Total Customer Accounts	**28,496**	**29,000**	**29,511**	**30,033**	**30,564**
Percent Change		*1.8%*	*1.8%*	*1.8%*	*1.8%*

Exhibit 16. Projected Water Customers



We recommend that the District annually update the water model with actual customer data in an effort to ensure that future projections remain as accurate as possible.

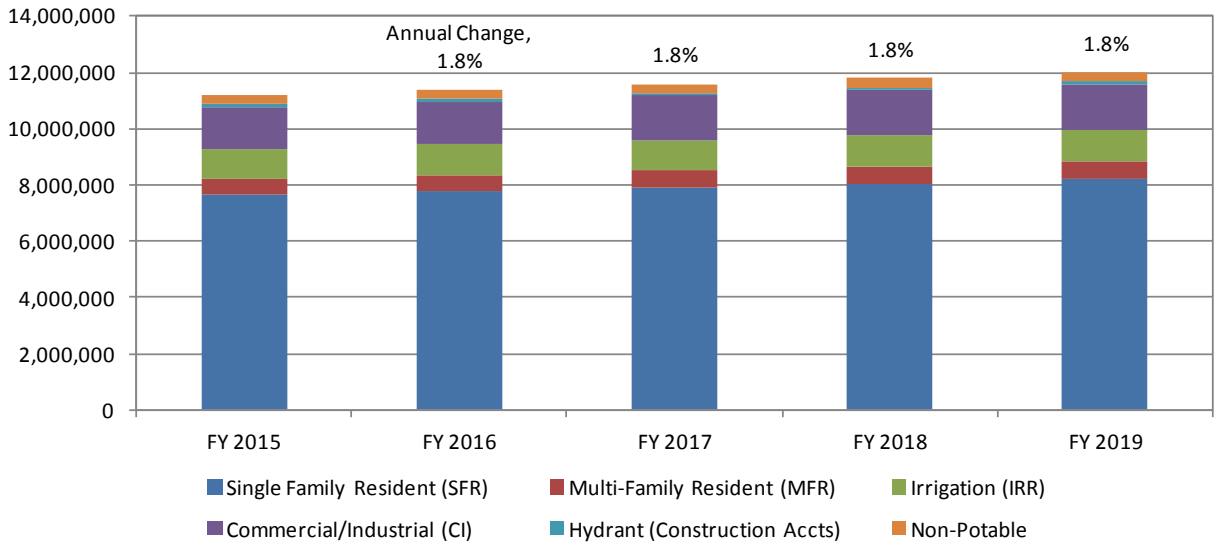
2. Water Consumption

The total water consumed by the District's water customers in FY 2013 was approximately 10.5 billion gallons. To project the annual amounts of water consumed it was assumed that there would be no increase in usage per account, so increases in water volumes will result only from growth in customers. The following two exhibits show the projected increase in water consumption.

Exhibit 17. Water Consumption Projections (1,000 gallons)

	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019
Single Family Resident (SFR)	7,633,248	7,770,646	7,910,518	8,052,907	8,197,859
Multi-Family Resident (MFR)	579,289	589,716	600,331	611,137	622,137
Irrigation (IRR)	1,051,280	1,070,203	1,089,467	1,109,077	1,129,040
Commercial/Industrial (CI)	1,512,563	1,539,789	1,567,505	1,595,720	1,624,443
Hydrant (Construction Accts)	84,772	86,298	87,851	89,432	91,042
Non-Potable	319,123	322,314	325,537	328,792	332,080
Total Consumption	**11,180,275**	**11,378,966**	**11,581,209**	**11,787,065**	**11,996,601**
% Change		1.8%	1.8%	1.8%	1.8%

Exhibit 18. Water Consumption Projections (HCF)



III. WATER REVENUE REQUIREMENTS

This section of the report outlines the historical and future costs of operating and maintaining the District's water system. Our approach includes a detailed review of each of the water costs incurred by the District to ensure the true cost of service is developed. The cost analysis can be broken down into four main categories of costs: operating and maintenance costs, capital improvements, existing debt service and any contributions to reserves. The following section of the report describes each of the categories of expenses incurred by the District as it provides water service. The costs are all based on official documents and data provided by the District.

1. Water Operating and Maintenance Expenses

The day-to-day operating and maintenance (O&M) expense divisions associated with water operations have been grouped into the following eight categories:

1. Source Water
2. Water Treatment
3. Transmission and Distribution
4. Customer Accounts
5. Administration
6. Operations - Wells
7. Other Expenses
8. Operations - Irrigation (Non-Potable)

The O&M budget for Fiscal Year 2014 was used to forecast future water O&M expenditures. The breakdown of the O&M budget and forecast are provided in Exhibit 19 and Exhibit 20.

Exhibit 19. Breakdown of FY 2014 Water O&M Budget by Category

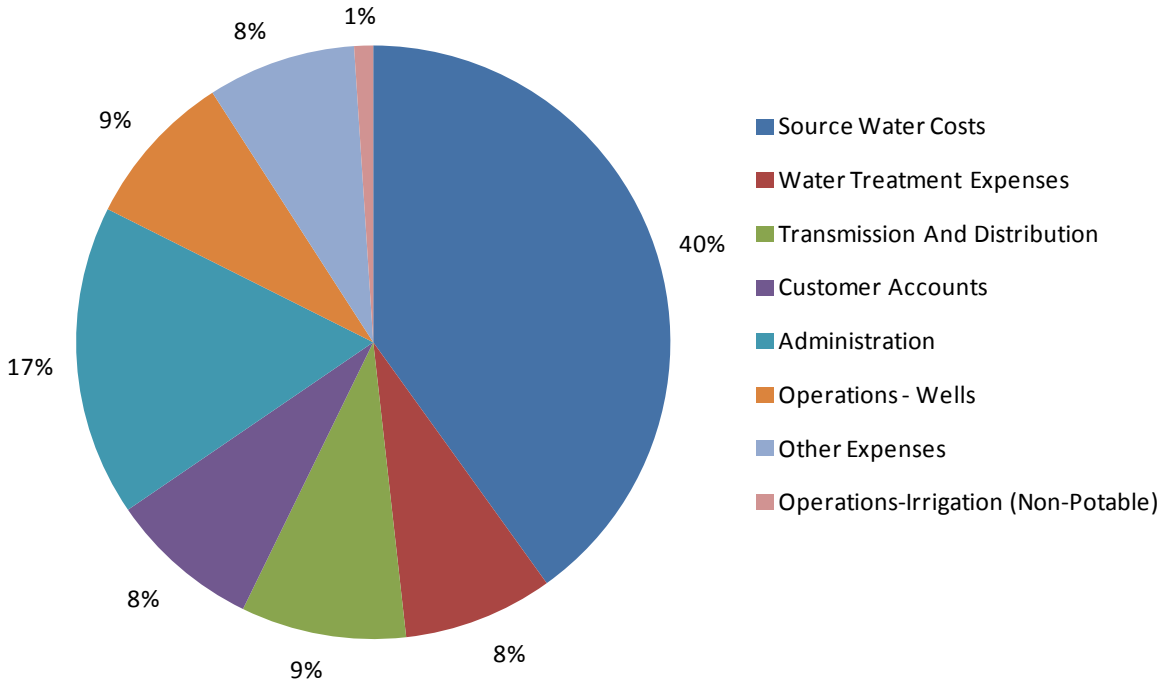
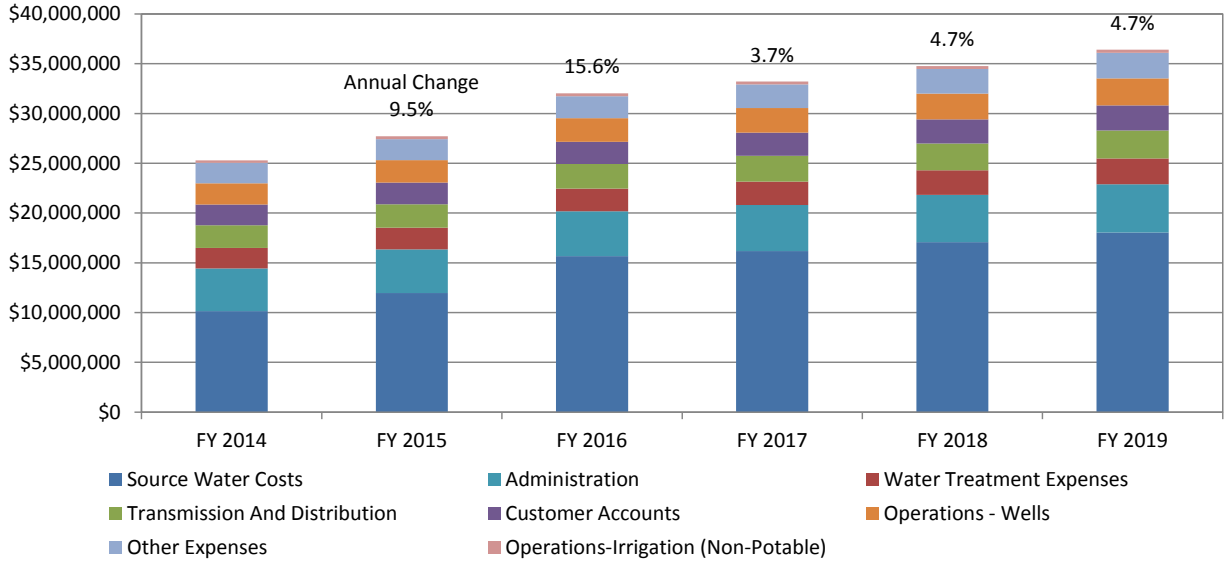


Exhibit 20. Projected Water O&M Expenses



1a. Purchased Water Cost Projections

A major component of the District's operating budget is the cost of purchased and/or pumped ground water. MFSG included a detailed analysis of these costs in the rate model. Exhibit 21 shows the projected purchased water costs including water rights and groundwater costs over the next five years.

Exhibit 21. Projected Purchased Water Costs - Acre Feet (AF)

	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019
Produced Water Supply (AF)*					
Desalter (CDA)	8,200	11,733	11,733	11,733	11,733
CDA Make-up Water	0	0	0	0	0
Rubidoux (RCSD)	850	1,700	1,700	1,700	1,700
DYY City of Ontario	2,000	2,000	2,000	2,000	2,000
Groundwater	16,377	12,488	12,990	13,502	14,023
Total Produced Water Supply	**27,427**	**27,921**	**28,423**	**28,935**	**29,456**
% Change		1.8%	1.8%	1.8%	1.8%
Water Supply Costs					
Desalter (CDA)	$7,462,000	$11,210,882	$11,771,426	$12,359,997	$12,977,997
CDA LRP Credit	($688,800)	($820,000)	($1,173,300)	($1,173,300)	($1,173,300)
CDA Make-up Water	$0	$0	$0	$0	$0
Rubidoux (RCSD)	$382,500	$731,000	$731,000	$731,000	$731,000
Groundwater	$1,968,474	$1,576,043	$1,721,444	$1,878,704	$2,048,732
DYY City of Ontario	$1,800,000	$1,890,000	$1,984,500	$2,083,725	$2,187,911
Recycled Water Storage Cost	$335,000	$351,750	$369,338	$387,804	$407,195
SARWC water right purchase	$600,000	$630,000	$661,500	$694,575	$729,304
Prior Year Assessment Adjustment	$105,000	$110,250	$115,763	$121,551	$127,628
Total Water Supply Costs	**$11,964,174**	**$15,679,924**	**$16,181,670**	**$17,084,056**	**$18,036,467**
% Change		*31.1%*	*3.2%*	*5.6%*	*5.6%*

* One Acre Foot equals 325,851 gallons

As shown above, although the quantity of produced water is only increasing 1.8% per year, the costs of water and water rights is rising at an average of 11.4% per year for the next four years. These increases in water supply costs will have a significant impact on the total cost of providing water within the District.

2. Water Capital Costs

The annualized capital costs related to providing water service are generally comprised of existing debt service and any anticipated capital projects, which may be funded via the issuance of debt (typically bonds, loans or similar financial instruments) or funded from cash (either on hand or cash derived from operations).

2a. Water Existing Debt

On occasion, the District issues bonds to fund capital projects to mitigate the financial burden on customers and the District's available fund balance by spreading the costs of projects over several years. As of FY 2014, the District pays debt on three separate debts issues totaling about $1.9 million annually. The Exhibit 22 shows the existing debt payments through FY 2019.

Exhibit 22. Existing Total Debt Service Payments

	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019
Series A Certificates	$971,050	$937,250	$938,150	$938,050	$941,850
Series B Certificates	$904,346	$904,346	$904,346	$904,346	$904,346
EDA Notes	$115,649	$115,649	$115,649	$72,007	$ -
Total Existing Debt Payments	**$1,991,045**	**$1,957,245**	**$1,958,145**	**$1,914,403**	**$1,846,196**

The above debt obligations are allocated based on the use of the funds when the debt was issued. That is, the cost of extinguishing the debt should be allocated to those customers who benefited from the revenue generated at the time of the debt's issuance. These allocations are adjustable within the rate model. Currently, all existing debt payments are recovered through existing user rates.

2b. Water Planned Capital Improvements

As a part of the proper maintenance and rehabilitation of it's system, the District plans certain capital projects over the course of the next five years called a Capital Improvement Plan (CIP). As a part of this study, MFSG modeled the currently planned capital improvements over the next five year.

The CIP is projected to be funded by various sources of income including annual revenues ("Pay-go" cash funding), existing bond proceeds, future bond proceeds, and, if at all possible, grants from various organizations. Exhibit 23 presents a summary of the District's CIP.

Exhibit 23. District Planned CIP, FY 2015 through FY 2019

	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019
Water Source Development	$13,458,652	$7,765,000	$14,520,000	$1,145,000	$1,145,000
Water Reservoir Projects	-	$1,000,000	-	$1,000,000	-
Water Distribution Projects	$4,320,000	$2,200,000	$1,700,000	$1,700,000	$1,700,000
Water O&M Projects	$2,644,740	$1,887,500	$1,567,500	$1,567,500	$1,567,500
Third Party Projects	$150,000	$50,000	$50,000	$50,000	$50,000
Total Planned CIP Spending	**$20,573,392**	**$12,902,500**	**$17,837,500**	**$5,462,500**	**$4,462,500**
Funded by Existing Users					
Cash	$5,039,740	$3,212,500	$2,892,500	$2,892,500	$2,892,500
Existing Bond Proceeds	-	-	-	-	-
Debt	-	-	-	-	-
Funded by System Expansion					
Cash	$13,675,000	$9,690,000	$2,570,000	$2,570,000	$1,570,000
Existing Bond Proceeds	$1,858,652	-	-	-	-
Debt	-	-	$12,375,000	-	-

The above exhibit shows that the District plans to cash fund an average of $4.0 million each year from FY 2015 to FY 2019 from existing rate payers. The majority of capital spending will be sustained by the District's Capital Facility Fee Fund, as shown in the exhibit under "System Expansion". The projects funded from this fund are related to the expansion of the water system.

3. Water Operating Reserve

An operating reserve serves as working capital and is important to provide funds for the potential lag between operating revenues and operating expenditures, unplanned minor repairs or fluctuations in the operating budget. Operating reserves are typically established as a percentage of a system's operating budget. The District's current reserve policy includes three components:

- An O&M Reserve equal to 33% of annual O&M expenses
- A Capital Reserve contribution of $3,000,000 per year
- A Rate Stabilization Fund equal to 10% of annual O&M expenses

The District's policy is that all revenue generated above and beyond the operating and capital expenses of the District should be placed in the operating reserve. MFSG has set forth a financial plan that ensures that this reserve will be maintained over the course of the projection period.

4. Water Revenue Requirement

The total revenue requirement of the water system includes operation and maintenance costs, existing debt payments and any planned capital improvements. In order to project the sufficiency of the revenue stream from rates, first we account for operational and debt expenses. Then we determine the cash available for capital spending and compare that to planned capital spending. This determines the annual surplus or deficit within the water system. Exhibit 24 presents the revenue requirement, miscellaneous revenues and the net revenue requirement from water **current** user rates for the five years of the planning period (FY 2015 to FY 2019).

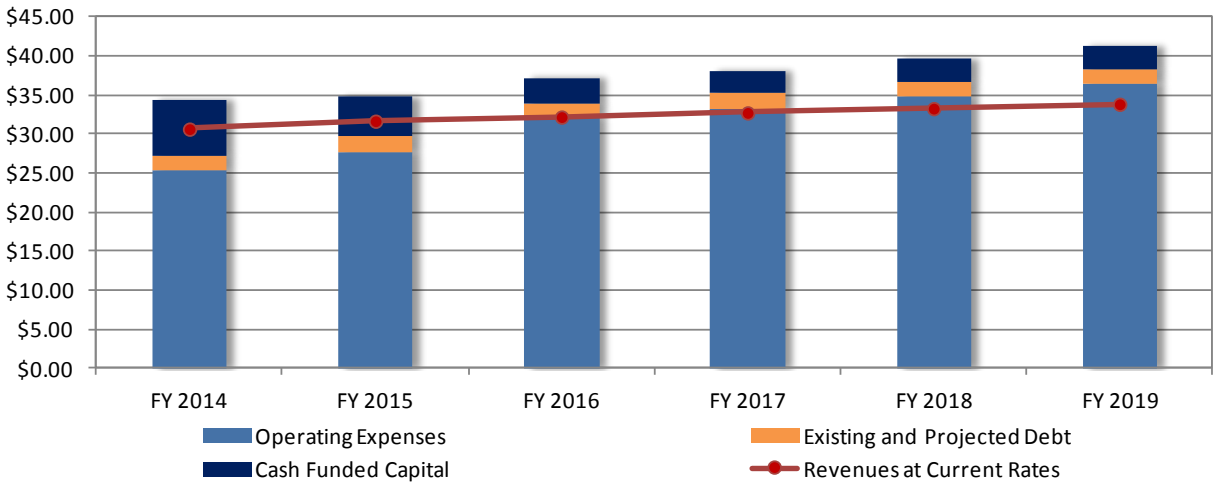
Exhibit 24. Water Revenue Requirement

	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019
Operating Expenses	$27,706,915	$32,026,550	$33,218,103	$34,777,430	$36,415,183
Non-Operating Expenses	$2,026,100	$1,993,176	$1,994,975	$1,952,154	$1,884,891
Total Operating and Debt Requirement	**$29,733,015**	**$34,019,726**	**$35,213,078**	**$36,729,583**	**$38,300,073**
Total Operating Revenues (Current Rates)	**$31,732,438**	**$32,258,826**	**$32,791,199**	**$33,337,067**	**$33,894,400**
Cash Available for Capital	$1,999,423	($1,760,901)	($2,421,879)	($3,392,517)	($4,405,673)
Planned Capital Spending	$5,039,740	$3,212,500	$2,892,500	$2,892,500	$2,892,500
Annual Surplus / (Shortfall)	**($3,040,317)**	**($4,973,401)**	**($5,314,379)**	**($6,285,017)**	**($7,298,173)**

As demonstrated in the exhibit, the District's current water rates will not be able to support the operating, debt and capital requirements over the entire projection period.

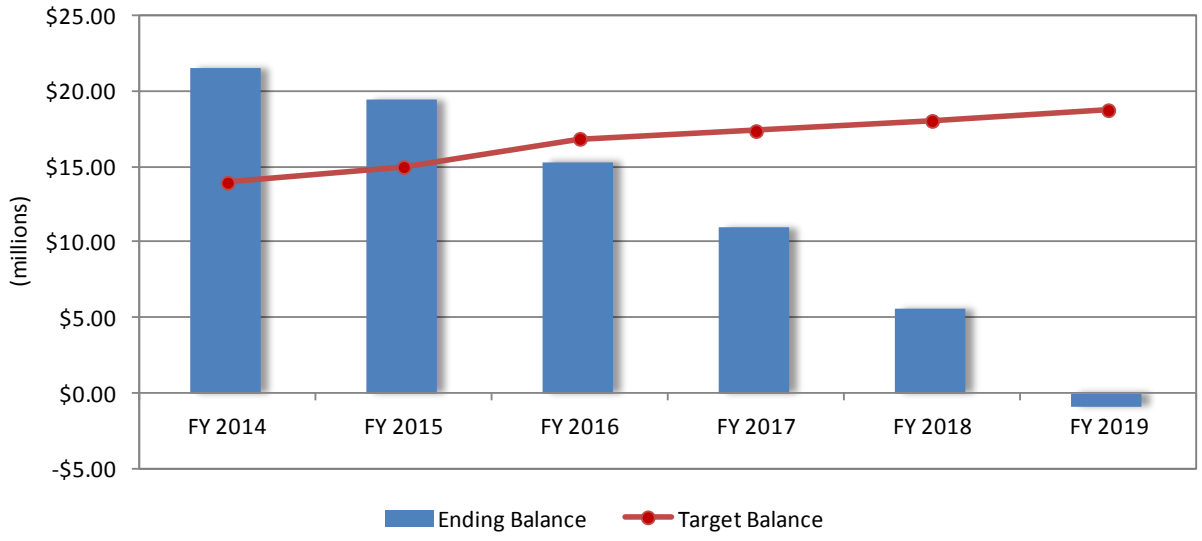
Exhibit 25 presents the components of the annual revenue requirements compared to the projected revenues with the current water rates.

Exhibit 25. Water Net Revenue Requirement vs. Projected Revenues with Existing Rates



Without adjustments to water rates and given the planned spending, the District's operating reserve would fall under the target balance in FY 2016 and be completely depleted in FY 2019. Exhibit 26 presents the annual cash balance results under the current water rates.

Exhibit 26. Water System Operating Fund Results under Current Rates



5. Proposed Water Revenue Adjustments

Given the financial shortfalls forecasted within the water system under the current rates, the District will be required to increase water revenues. The District currently has adequate reserves to allow for a phased in approach to adjusted revenues. A phased in approach, rather than a significant one time increase, will reduce the one-time impact on customers. The recommended water revenue adjustments over the next five years are shown in Exhibit 27.

Exhibit 27. Recommended Water Revenue Adjustments

	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019
Water Annual Revenue Increases	4.0%	4.0%	4.0%	4.0%	4.0%

6. Results of Financial Plan

The recommended water revenue adjustments are designed to bring annual water revenues in line with annual expenditures. Exhibit 28 and Exhibit 29 present the financial results of the proposed rate plan.

Exhibit 28. Financial Conditions with Proposed Rates

	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019
Total Revenue Requirement	$34,772,755	$37,232,226	$38,105,578	$39,622,083	$41,192,573
Miscellaneous Revenues	($2,120,559)	($2,134,129)	($2,145,669)	($2,160,954)	($2,178,517)
Net Revenue Requirement	**$32,652,196**	**$35,098,097**	**$35,959,909**	**$37,461,130**	**$39,014,056**
Revenues from Rates	**$31,777,073**	**$33,598,427**	**$35,485,414**	**$37,592,459**	**$39,697,924**
Surplus / Deficit	($875,122)	($1,499,670)	($474,495)	$131,330	$683,869
End of Year Balance	**$20,676,538**	**$19,176,868**	**$18,702,373**	**$18,833,703**	**$19,517,571**

Exhibit 29. Water Operating Fund Balance Projections with Proposed Rates

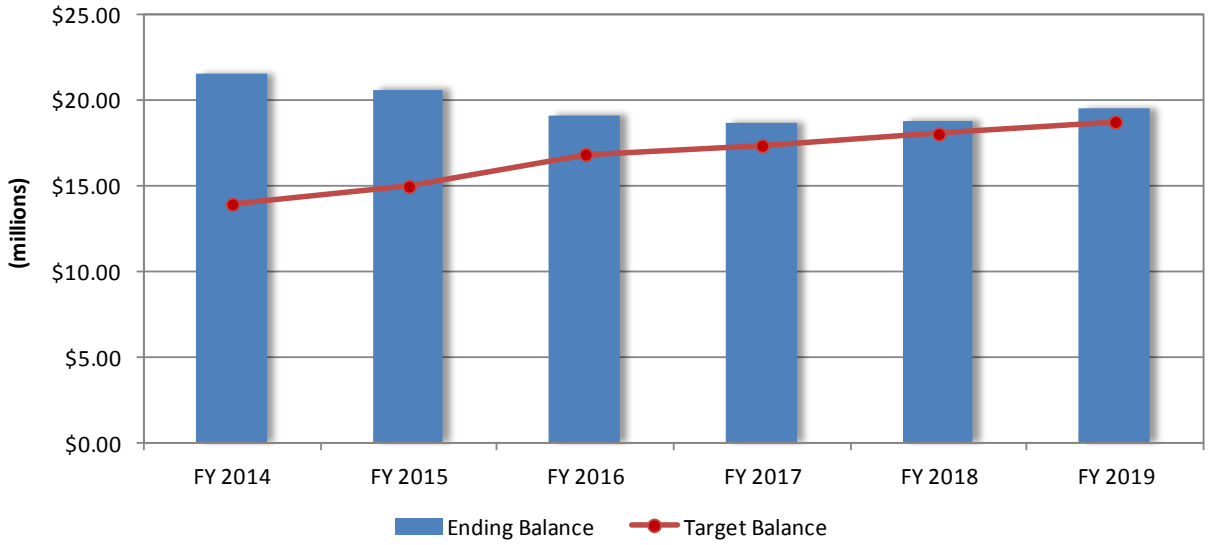
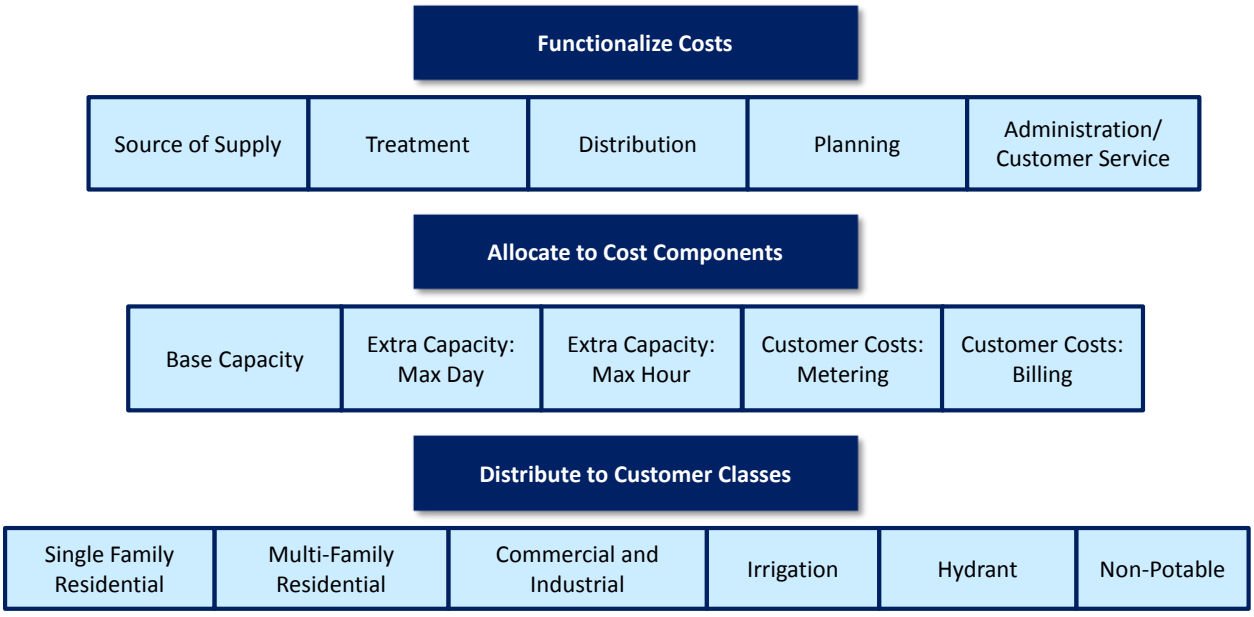


Exhibit 29 demonstrates that the District's water fund will maintain its target balance over the entire projection period under the recommended water revenue adjustments.

IV. WATER COST OF SERVICE ANALYSIS

As a part of the water rate study, MFSG performed a cost of service analysis for the District's water system. The results of the cost of service analysis show how much revenue should be generated by each customer class as a whole, based on class characteristics of each class. To complete the cost of service analysis we used the industry standard approach as presented in Exhibit 30.

Exhibit 30. Water Cost of Service Process



The cost of service analysis for the water system reveals the cost of providing service to each customer class which can be compared to the amount that is currently collected from each class based on the current set of water rates. The difference between the calculated cost of service and actual revenue collection demonstrates how rates should be adjusted by class to ensure appropriate cost allocation. Exhibit 31 presents the results of the water cost of service analysis.

Exhibit 31. Cost of Service Results

Customer Class	Current Revenue Percentage	Calculated Revenue Percentage	Difference
Single Family Resident (SFR)	69.97%	70.88%	0.91%
Multi-Family Resident (MFR)	4.36%	5.01%	0.65%
Irrigation (IRR)	9.10%	8.50%	(-0.61%)
Commercial and Industrial (CI)	14.36%	13.57%	(-0.79%)
Hydrant (Construction Accts)	1.23%	0.95%	(-0.29%)
Non-Potable	0.98%	1.10%	0.13%

V. RECOMMENDED WATER RATES

The section of the report outlines our review of the current water rate structure, alternative water rate structures developed during the study and the recommended rate structure for the water system. The section also outlines additional water fees and charges the District should consider implementing to ensure that costs incurred by the District are appropriately assessed to users of the water system.

1. Current Water Rates

The current water rates charged by the District are shown in Exhibit 32:

Exhibit 32. Current FY 2014 Water Rates

	FY 2014 Rates
Monthly Service Charge	
5/8"	$25.36
3/4"	$30.28
1"	$50.54
1-1/2"	$102.99
2"	$161.69
3"	$484.18
4"	$950.56
6"	$1,548.78
8"	$1,736.05
10"	$2,208.71
Variable Rates per HCF	
Single Family, Multi-Family*, Commercial, Irrigation	
Tier 1 - 0 to 20 HCF	$1.30
Tier 2 - 21 to 50 HCF	$1.65
Tier 3 - 51 to 100 HCF	$1.90
Tier 4 - Over 100 HCF	$2.12
Non-Potable Rate per HCF	$0.72

* Multi-family accounts tier allowance is based on each account's EDUs

As shown in Exhibit 32, the District currently charges a fixed monthly service charge based on the size of the customers meter. The service charges increase based on the hydraulic capacity associated with each meter. Customers are billed based on metered water use in a four tier inclining block rate structure. This structure applies to all customer classes except non-potable irrigation customers that are charged a flat unit rate.

2. Current Water Rate Structure Observations

As part of the rate study, MFSG reviewed the District's current water rate structure to determine if the structure appropriate for the District. Based our review the following observations where developed for each component of the current rate structure:

Fixed Service Charges

- The meter size based charge is appropriate and consistent with industry standards.
- The current fixed service charges generate approximately 43% of the water revenue and fund an appropriate portion of the fixed costs of providing water service.
- The fixed charges do have an impact on customers that use small quantities of water.

Variable Charges

- The current usage tiers are not completely consistent with the customer class usage characteristics.
- The differentials between the current water tiers are minimal resulting in limited incentive to conserve.
- Potable irrigation customers are given the benefit of the lower tiers.

3. Water Rate Structure Alternatives

Based on our review of the current water rate structure several alternative rate structures were considered. Three specific rate structures were developed. Each of the alternatives focuses on the variable portion of the rate structure, as it was determined that the current water service charges are appropriately structured. The three alternatives considered during the study include:

- **Alternative A: Uniform Unit Rate** - All customers are charged uniform unit rate for all metered water. This structure would eliminate the consumption tiers, pricing each unit of water the same.

- **Alternative B: Alternative Tiers** – The consumption tiers are modified to match the usage patterns for single-family and multi-family customers. The differentials between the tiers are increases substantially to encourage water conservation and all other customer classes pay a uniform unit rate.

- **Alternative C: Current Rate Structure with Separate Irrigation Rate** - Update the current rate structure and separate out potable irrigation customers to be billed at a uniform rate based the cost of service to eliminate the benefit of lower tiered water use.

Each of the alternatives was reviewed with the District Board and Staff. Based on the review it was determined that Alternative C would be the preferred structure. The primary reason why Alternatives A and B were not selected are provided below:

- Alternative A would significantly increase water bills for customers that use small quantities of water and reduce water bills for customers that use significant quantities of water. Alternative A would potentially reduce customers' incentive to use water wisely.

- Alternative B would result in significant increases to customers that use moderate to large quantities of water, including those with large families.

The proposed water rate structure is shown in Exhibit 33. It should be noted that the proposed water rates maintain the same fixed charge for the first two years of the projection period followed by adjustments in the final three years of the period. The fixed charges are adjusted in future years to ensure that the District continues to collect approximately 43% of revenues from the fixed service charge (the current amount of revenue generated from the service charge).

Exhibit 33. Proposed Water Rates

	FY 2015 Rates	FY 2016 Rates	FY 2017 Rates	FY 2018 Rates	FY 2019 Rates
Monthly Service Charge					
5/8"	$25.36	$25.36	$28.68	$30.54	$32.51
3/4"	$30.28	$30.28	$34.24	$36.46	$38.82
1"	$50.54	$50.54	$57.16	$60.86	$64.79
1-1/2"	$102.99	$102.99	$116.47	$124.03	$132.03
2"	$161.69	$161.69	$182.86	$194.72	$207.28
3"	$484.18	$484.18	$547.57	$583.08	$620.69
4"	$950.56	$950.56	$1,075.00	$1,144.72	$1,218.56
6"	$1,548.78	$1,548.78	$1,751.54	$1,865.13	$1,985.44
8"	$1,736.05	$1,736.05	$1,963.32	$2,090.65	$2,225.51
10"	$2,208.71	$2,208.71	$2,497.86	$2,659.86	$2,831.43
Variable Rates per HCF					
Single Family, Multi-Family*, Commercial					
Tier 1 - 0 to 20 HCF	$1.41	$1.51	$1.46	$1.49	$1.52
Tier 2 - 21 to 50 HCF	$1.79	$1.92	$1.85	$1.89	$1.93
Tier 3 - 51 to 100 HCF	$2.06	$2.21	$2.13	$2.18	$2.22
Tier 4 - Over 100 HCF	$2.30	$2.46	$2.38	$2.43	$2.48
Uniform Rates					
Irrigation (Potable)	$1.94	$2.05	$2.08	$2.16	$2.23
Non-Potable Rate per HCF	$0.90	$0.94	$0.98	$1.02	$1.06

* Multi-family accounts tier allowance is based on each account's EDUs

4. Fire Hydrant Water Usage Rates

The District currently allows for temporary connections to the water system in order to accommodate the need for construction water within the District. The temporary use of water from a hydrant does not require payment of capital facilities charges like a permanent metered account, and therefore we recommend that a charge per HCF for temporary use of capacity in capital facilities on all temporary hydrant usage. The charge allows for a temporary buy-in to the existing water system that is not being captured in the regular HCF rates. Hydrant meters will still pay the same monthly service charge as all other customer classes. Exhibit 34 presents the proposed hydrant HCF rates.

Exhibit 34. Proposed Fire Hydrant Water Usage Rates

Hydrant Rates per HCF	FY 2015 Rates	FY 2016 Rates	FY 2017 Rates	FY 2018 Rates	FY 2019 Rates
Tier 1 - 0 to 20 HCF	$2.62	$2.72	$2.67	$2.70	$2.73
Tier 2 - 21 to 50 HCF	$3.00	$3.13	$3.06	$3.10	$3.14
Tier 3 - 51 to 100 HCF	$3.27	$3.42	$3.34	$3.39	$3.43
Tier 4 - Over 100 HCF	$3.51	$3.67	$3.59	$3.64	$3.69

5. Private Fire Protection Charges

The District provides water connections and service for private fire protection to customers throughout its service area. Fire protection service differs from most other services provided by the District. Essentially, it is a standby service that the District makes available on demand. While fire lines are rarely used by the customer, the District must be ready to provide water quantities (often very significant quantities) and pressures at all times throughout the distribution system for fire-fighting purposes. As a result, the District incurs an ongoing cost associated with providing these services.

The District currently does not charge customers with private fire lines for this service. It is common industry practice to charge a private fire protection charge based on the cost of providing fire protection service. Since the District does not specifically track the costs associated with fire protection, the Maine Formula (a formula developed by the Maine PUC to allocate fire protection costs) was used to calculate the estimate cost associated with fire protection. The approach is outlined in American Water Works Association (AWWA) M1 Manual, *Principles of Water Rates, Fees, and Charges*. Exhibit 35 presents the calculation of the private fire protection costs.

Exhibit 35. Calculation of Private Fire Protection Charges

Calculation of Private Fire Protection Charges	
Water System Revenue Requirements: FY15	$34,772,755
Percentage of Costs Associated with Fire Protection[(1)]	5.00%
Total Fire Protection Costs	**$1,738,638**
Percentage of Public Fire Protection[(2)]	97.13%
Percentage of Private Fire Protection[(2)]	2.87%
Total Private Fire Protection Costs	**$49,399**
Number of Private Fire Lines	142
Monthly Private Fire Protection Charge Per Fire Line	**$29.00**

(1) Based on Maine Formula – Ratio of Peak Hour to Fire Flow Requirement
(2) Based on ratio of public to private fire protection fixtures

Based on our analysis shown in Exhibit 35, we recommend that the District adopt a monthly private fire protection charge of $29.00 per fire line.

In addition to charges for private fire protection, we also propose that the District adopt a policy for unauthorized use of fire line services. The policy would be adopted in an attempt to deter the unauthorized use of fire service. MFSG suggests the following policy for unauthorized use of private fire protection services.

- First unauthorized use: Bill customer for water use at 3 times highest water rate.
- Subsequent unauthorized use: Bill customers for water use at 10 times the highest water rate.
- If unauthorized use continues the District may install a full-flow meter and bill the customer for all costs associated with meter and Water Capital Facility Charge for the size of the meter installed.

Exhibit 36 presents the proposed surcharge rates.

Exhibit 36. Proposed Unauthorized Private Fire Protection HCF Rates

	FY 2015 Rates	FY 2016 Rates	FY 2017 Rates	FY 2018 Rates	FY 2019 Rates
First Unauthorized Use	$6.90	$7.38	$7.14	$7.29	$7.44
Subsequent Unauthorized Use	$23.00	$24.60	$23.80	$24.30	$24.80

The implementation of the policy for unauthorized use of private fire service should allow for identification of true unauthorized use, realizing that there are instances where accounts with private fire protection service will be required to use the service.

6. Water Customer Impacts

As discussed earlier, a multi-year approach will help mitigate rate increases in future years. The impact of the proposed rate structure on the bills of residential customers is summarized in Exhibit 37. The impacts on District customers will vary based on the amount of water used by the account and the size of the customers' meter. It should be noted that the average District customer has a ¾" meter and uses 23 HCF per month.

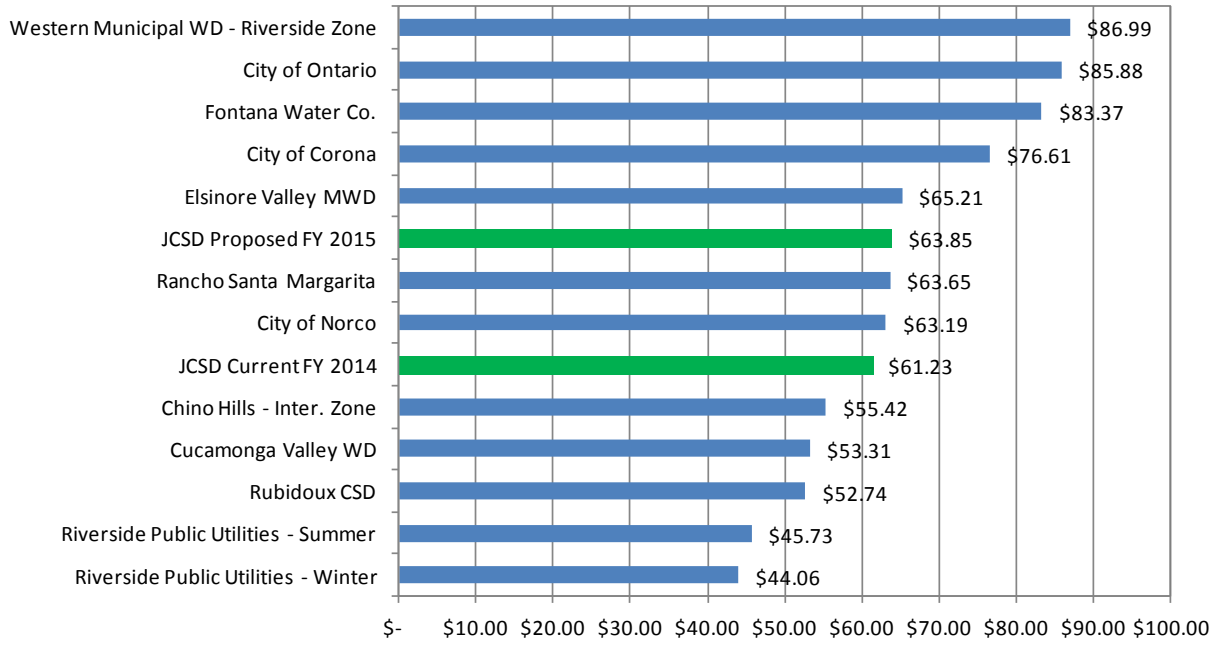
Exhibit 37. Sample Bill Comparison

Single Family Residential 3/4" Meter Customer - Sample Water Bills										
			Current Rates			Recommended FY15				
Cumulative %	% of Annual Bills	Monthly Usage (HCF)	Fixed Portion	Variable Portion	Total Monthly Bill	Fixed Portion	Variable Portion	Total Monthly Bill	$ Change	% Change
0.51%	0.51%	1	$30.28	$1.30	**$31.58**	$30.28	$1.41	**$31.69**	$0.11	0.3%
1.22%	0.71%	2	$30.28	$2.60	**$32.88**	$30.28	$2.82	**$33.10**	$0.22	0.7%
2.25%	1.03%	3	$30.28	$3.90	**$34.18**	$30.28	$4.23	**$34.51**	$0.33	1.0%
3.70%	1.45%	4	$30.28	$5.20	**$35.48**	$30.28	$5.64	**$35.92**	$0.44	1.2%
5.56%	1.86%	5	$30.28	$6.50	**$36.78**	$30.28	$7.05	**$37.33**	$0.55	1.5%
7.80%	2.23%	6	$30.28	$7.80	**$38.08**	$30.28	$8.46	**$38.74**	$0.66	1.7%
10.44%	2.65%	7	$30.28	$9.10	**$39.38**	$30.28	$9.87	**$40.15**	$0.77	2.0%
13.35%	2.91%	8	$30.28	$10.40	**$40.68**	$30.28	$11.28	**$41.56**	$0.88	2.2%
16.38%	3.03%	9	$30.28	$11.70	**$41.98**	$30.28	$12.69	**$42.97**	$0.99	2.4%
19.68%	3.30%	10	$30.28	$13.00	**$43.28**	$30.28	$14.10	**$44.38**	$1.10	2.5%
23.07%	3.40%	11	$30.28	$14.30	**$44.58**	$30.28	$15.51	**$45.79**	$1.21	2.7%
26.45%	3.37%	12	$30.28	$15.60	**$45.88**	$30.28	$16.92	**$47.20**	$1.32	2.9%
29.87%	3.43%	13	$30.28	$16.90	**$47.18**	$30.28	$18.33	**$48.61**	$1.43	3.0%
33.27%	3.39%	14	$30.28	$18.20	**$48.48**	$30.28	$19.74	**$50.02**	$1.54	3.2%
36.70%	3.44%	15	$30.28	$19.50	**$49.78**	$30.28	$21.15	**$51.43**	$1.65	3.3%
40.05%	3.35%	16	$30.28	$20.80	**$51.08**	$30.28	$22.56	**$52.84**	$1.76	3.4%
43.33%	3.28%	17	$30.28	$22.10	**$52.38**	$30.28	$23.97	**$54.25**	$1.87	3.6%
46.51%	3.18%	18	$30.28	$23.40	**$53.68**	$30.28	$25.38	**$55.66**	$1.98	3.7%
49.53%	3.02%	19	$30.28	$24.70	**$54.98**	$30.28	$26.79	**$57.07**	$2.09	3.8%
52.49%	2.97%	20	$30.28	$26.00	**$56.28**	$30.28	$28.20	**$58.48**	$2.20	3.9%
55.39%	2.89%	21	$30.28	$27.65	**$57.93**	$30.28	$29.99	**$60.27**	$2.34	4.0%
58.11%	2.73%	22	$30.28	$29.30	**$59.58**	$30.28	$31.78	**$62.06**	$2.48	4.2%
60.77%	2.66%	23	$30.28	$30.95	**$61.23**	$30.28	$33.57	**$63.85**	$2.62	4.3%
75.53%	1.71%	30	$30.28	$42.50	**$72.78**	$30.28	$46.10	**$76.38**	$3.60	4.9%
87.16%	0.80%	40	$30.28	$59.00	**$89.28**	$30.28	$64.00	**$94.28**	$5.00	5.6%
92.70%	0.39%	50	$30.28	$75.50	**$105.78**	$30.28	$81.90	**$112.18**	$6.40	6.1%

7. Water Bill Comparisons

It is important to give context to the rates and fees charged by the District as compared to similar utilities in Southern California. MFSG has performed a rate survey as a part of the water rate study. Exhibit 38 compares both the current and proposed the District bill for a Single Family customer with a ¾" meter consuming 23 HCF of water per month.

Exhibit 38. Comparative Monthly Water Bills, Single Family Residential, ¾" Meter, 23 HCF



The rates and fees charged by other utilities used in this analysis are based on the most up to date published information. It should be noted that although MFSG has endeavored to make an apples to apples comparison, some rate structures (such as water budgets) do not follow the pattern of equal consumption means equal bills. For example, two different accounts under a water budget approach could both consume 23 HCF but see very different monthly bills, based on their budget allocations. Many of the jurisdictions above may be planning additional rate increases beyond FY 2014.

VI. SEWER REVENUE REQUIREMENTS

1. Sewer Operating and Maintenance Expenses

The day-to-day operating and maintenance (O&M) expense divisions associated with sewer operations have been grouped into the following seven categories:

1. Sewer Collection Expenses
2. Pretreatment Expenses
3. Sewer Treatment Expenses
4. Sewer Lift Stations Expenses
5. Customer Accounts
6. Administration
7. Other Expenses

The O&M budget for Fiscal Year 2014 was used to forecast future water O&M expenditures. The breakdown of the O&M budget and forecast are provided in Exhibit 39 and Exhibit 40.

Exhibit 39. Breakdown of FY 2014 Sewer O&M Budget by Category

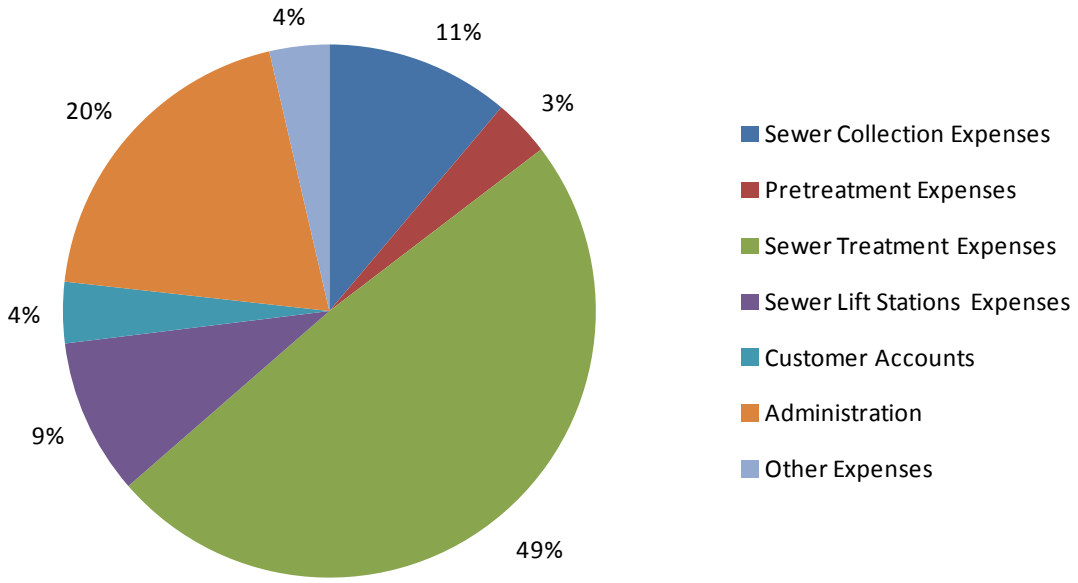
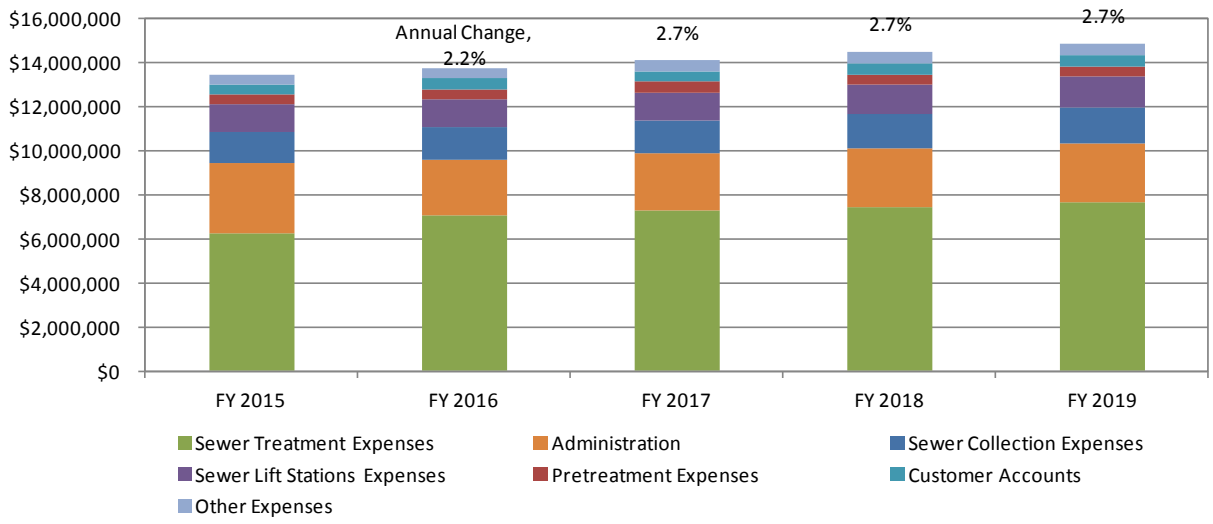


Exhibit 40. Projected Sewer O&M Expenses



2. Sewer Capital Costs

The annualized capital costs related to providing sewer service are generally comprised of existing debt service and any anticipated capital projects, which may be funded via the issuance of debt (typically bonds, loans or similar financial instruments) or funded from cash (either on hand or cash derived from operations).

2a. Sewer Existing Debt

On occasion, the District issues bonds to fund capital projects to mitigate the financial burden on current customers and the District's available fund balance by spreading the costs of projects over several years. As of FY 2014, the District will pay debt on four separate debt issues totaling about $2.9 million annually. Exhibit 41 presents the existing debt payments through FY 2019.

Exhibit 41. Existing Total Debt Service Payments

	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019
Series A Certificates	$1,019,406	$1,021,131	$1,020,531	$1,018,731	$1,020,631
Series B Certificates	$1,215,888	$1,215,888	$1,215,888	$1,215,888	$1,215,888
*SWRCB	$128,670	$128,670	$128,670	$128,670	$ -
**WRCRWA	$538,437	$538,437	$558,326	$558,326	$578,214
Total Existing Debt Payments	**$2,902,402**	**$2,904,127**	**$2,923,416**	**$2,921,616**	**$2,814,734**

*State Water Resources Control Board
**Western Riverside County Regional Wastewater Authority

The above debt obligations are allocated based on the use of the funds when the debt was issued. That is, the cost of extinguishing the debt should be allocated to those customers who

benefited from the revenue generated at the time of the debt's issuance. These allocations are adjustable within the rate model. Currently, existing users support 100% of these debt payments.

2b. Sewer Planned Capital Improvements

As a part of the proper maintenance and rehabilitation of the sewer system (collection, conveyance and treatment) the District has planned certain capital projects over the course of the next five years. As a part of this study, MFSG modeled the currently planned capital improvements over the next five year.

The CIP is projected to be funded by various sources of income including annual revenues (cash funding), existing debt proceeds, future debt proceeds, and, if at all possible, grants from various organizations. Exhibit 42 provides a summary of the District's CIP.

Exhibit 42. District Planned CIP, FY 2015 through FY 2019

	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019
Trunk Sewer	$16,160,000	$4,200,000	$250,000	$6,450,000	$1,040,000
Regional Lift Station and Force mains	$10,750,000	$ -	$150,000	$ -	$ -
Facility Construction	$6,150,000	$2,450,000	$ -	$ -	$ -
Capacity Purchase	$23,750,000	$10,500,000	$500,000	$500,000	$500,000
Sewer Operations and Maintenance	$1,620,000	$1,670,000	$1,970,000	$2,470,000	$2,470,000
IT and District	$155,000	$125,000	$115,000	$115,000	$115,000
Third Party Projects	$75,000	$75,000	$75,000	$75,000	$75,000
Total	**$58,660,000**	**$19,020,000**	**$3,060,000**	**$9,610,000**	**$4,200,000**
Funded by Existing Users					
Existing Bonds	$ -	$ -	$ -	$ -	$ -
Cash	$4,000,000	$2,370,000	$3,060,000	$9,610,000	$4,200,000
New Debt	$ -	$ -	$ -	$ -	$ -
Funded by Expansion					
Existing Bonds	$5,200,000	$4,200,000	$ -	$ -	$ -
Cash	$21,460,000	$12,450,000	$ -	$ -	$ -
New Debt	$28,000,000	$ -	$ -	$ -	$ -

Exhibit 42 demonstrates that the District plans to cash fund about $2.3 to $9.6 million each year from FY 2015 to FY 2019 from existing users. This is a key factor in determining the rate allocation for the District's customers, as this is a major component of the annual revenue requirements.

3. Sewer Operating Reserve

The District's reserve policy for the sewer system is the same as described for the water system and includes:

- An O&M Reserve equal to 33% of annual O&M expenses
- A Capital Reserve contribution of $3,000,000 per year
- A Rate Stabilization Fund equal to 10% of annual O&M expenses

The District's policy is that all revenue generated above and beyond the operating and capital expenses of the District be placed in the operating reserve. MFSG has set forth a financial plan that ensures that this reserve will be maintained over the course of the projection period.

4. Sewer Revenue Requirement

The total revenue requirements for the sewer system include the operation and maintenance costs, existing debt payments and any planned capital improvements. In order to project the health of the revenue stream from rates, first we account for operational and debt expenses. Then we determine the cash available for capital spending, and compare that to planned capital spending. This determines our annual surplus or deficit. Exhibit 43 shows the revenue requirement and projected sewer user revenue at existing rates for the five years of the planning period (FY 2015 to FY 2019).

Exhibit 43. Sewer Revenue Requirement

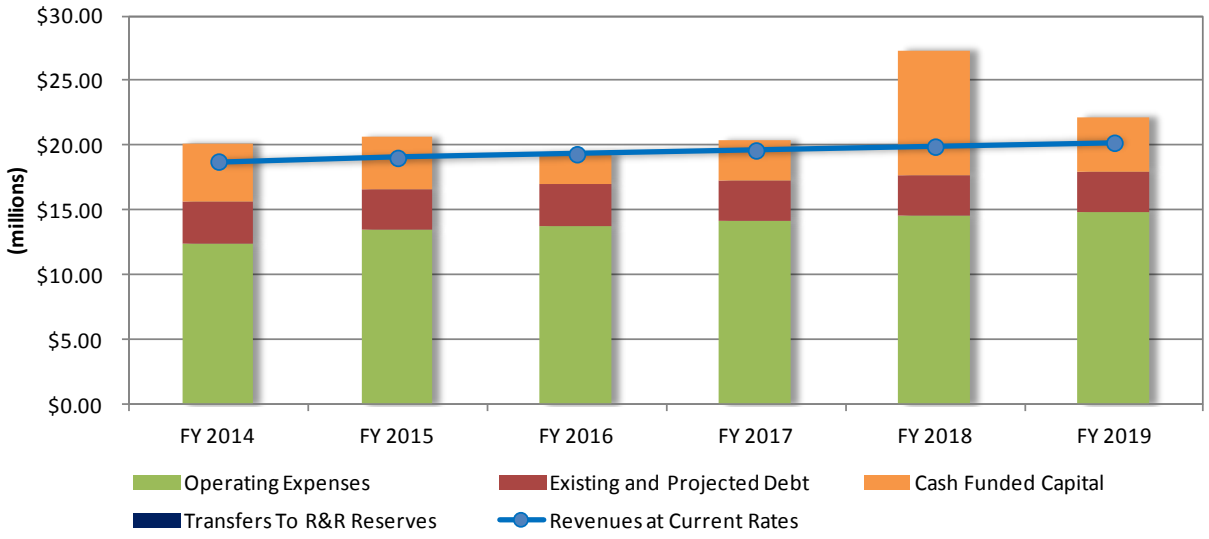
	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019
Operating Costs	$13,465,488	$13,761,405	$14,130,775	$14,510,484	$14,900,844
Non-Operating Expenses	$3,172,567	$3,181,397	$3,207,967	$3,213,631	$3,114,399
Total Operating and Debt Requirement	**$16,638,056**	**$16,942,802**	**$17,338,743**	**$17,724,116**	**$18,015,243**
Total Operating Revenues (Current Rates)	$19,114,435	$19,395,506	$19,688,769	$19,984,806	$20,260,359
Available for Cash Funded Capital	$2,476,379	$2,452,704	$2,350,026	$2,260,691	$2,245,116
Planned Cash Funded Capital	**$4,000,000**	**$2,370,000**	**$3,060,000**	**$9,610,000**	**$4,200,000**
Surplus / (Deficit)	**($1,523,621)**	**$82,704**	**($709,974)**	**($7,349,309)**	**($1,954,884)**

* Includes Sewer Maintenance, which is allocated directly to Retail customers.

As shown in Exhibit 43, current sewer rates will not be able to support the operating, debt and capital requirements of the sewer system over the next five projection years.

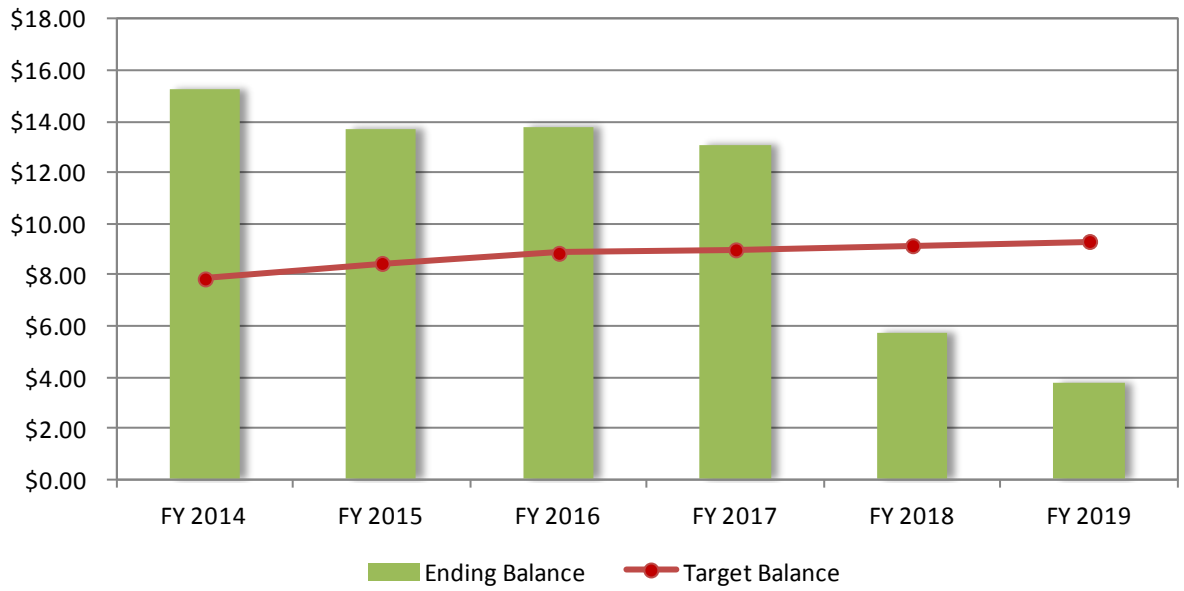
The following exhibit compares the total sewer annual revenue requirement to the projected sewer revenues using existing FY 2015 rates over the five years of the planning period.

Exhibit 44. Sewer Revenue Requirement vs. Projected Revenues with Existing Rates



Based on the shortfalls experienced within the sewer fund, the current sewer rates are not sufficient to maintain the operating cash balance requirements of the District and fund future debt service requirements, as shown in Exhibit 45.

Exhibit 45. Projected Sewer Operating Fund Balance under Existing Rates (millions)



The sewer operating fund drops below the target balance in FY 2018 under existing rates. MFSG's financial plan endeavors to keep the operating balance at the target level.

5. Recommended Sewer Revenue Adjustments

As demonstrated above, the sewer system will not be generating enough revenue during many of the years of the planning period. As discussed earlier, a multi-year approach will help mitigate rate increases over the planning period will help alleviate some of the financial burden for the District's customers during this period. Additionally, this approach will allow for proper planning and adjustment by customers and the District. The recommended sewer revenue adjustments over the next five years are shown in Exhibit 46.

Exhibit 46. Recommended Sewer Revenue Adjustments

	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019
Sewer Annual Revenue Increases	2.0%	2.0%	2.0%	2.0%	2.0%

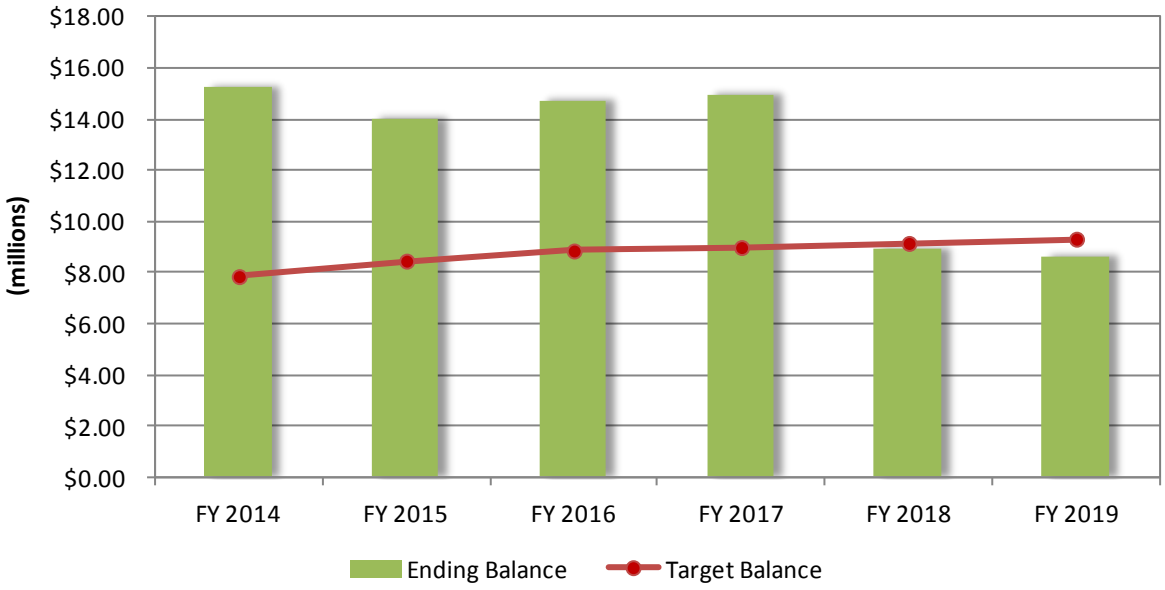
6. Results of Financial Plan

The recommended sewer revenue adjustments are designed to bring annual sewer revenues in line with annual expenditures. Exhibit 47 and Exhibit 48 present the financial results of the proposed rate plan. With the recommended revenue increases, the fund falls slightly below the target in FY 2019; however it recovers immediately in FY 2020 and remains above the target.

Exhibit 47. Financial Conditions with Proposed Rates

	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019
Total Revenue Requirement	$20,638,056	$19,312,802	$20,398,743	$27,334,116	$22,215,243
Miscellaneous Revenues	($3,952,695)	($4,006,317)	($4,068,746)	($4,130,474)	($4,168,203)
Net Revenue Requirement	**$16,685,361**	**$15,306,485**	**$16,329,996**	**$23,203,642**	**$18,047,040**
Revenues from Rates	**$15,464,975**	**$16,010,912**	**$16,576,093**	**$17,161,239**	**$17,767,040**
Surplus / Deficit	($1,220,386)	$704,428	$246,097	($6,042,402)	($280,000)
End of Year Balance	**$14,028,502**	**$14,732,929**	**$14,979,026**	**$8,936,623**	**$8,656,623**

Exhibit 48. End of Year Available Fund Balance



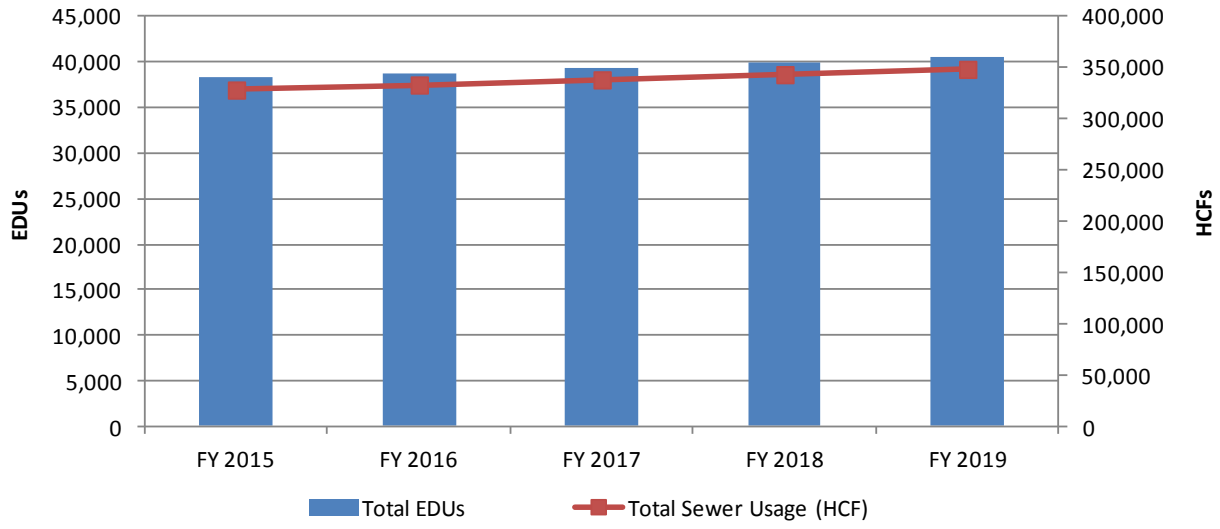
VII. SEWER CUSTOMERS AND USAGE

This section provides a summary of historical and projected sewer customer accounts and usage.

1. Sewer Customers and Usage

In FY 2013, the District's sewer customer base included 37,115 Equivalent Dwelling Units ("EDUs"), most of which are residential customers. In an effort to conservatively project future usage, MFSG and District staff included minimal annual increases in customers and flow over the five year projection period. The following exhibit shows the projected customers and usage over the five year projection period.

Exhibit 49. Projected Sewer Customers and Usage

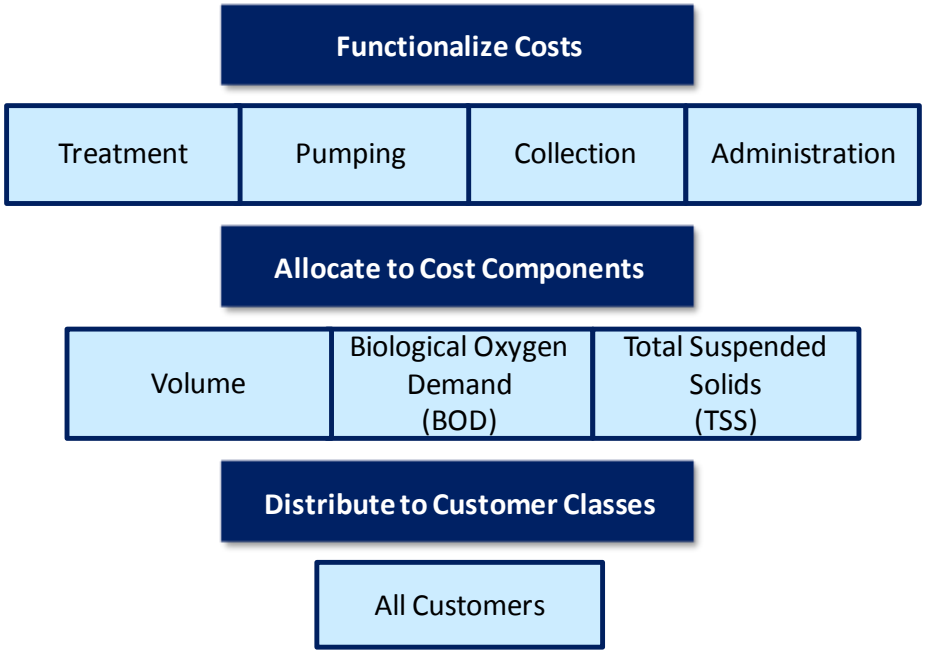


We recommend that the District annually update the sewer model with actual customer data in an effort to improve future projections.

VIII. SEWER COST OF SERVICE

This section describes the sewer cost of service analysis conducted as a part of the rate study. The following exhibit shows how cots are functionalized among the District's customer base.

Exhibit 50. Sewer Cost of Service Process



Because the District does not plan to charge different rates to different customer classes, the costs of service results are simply blended costs of treatment, pumping, collection and administration costs.

Customers who produce flow to the three different treatment plants used by the District are charged specific allocations based on the costs passed through to the District.

IX. RECOMMENDED SEWER RATES

The section of the report outlines our review of the current sewer rate structure, alternative sewer rate structures developed during the study and the recommended rate structure for the sewer system.

1. Current Sewer Rates

The District's current sewer rates are shown in Exhibit 51.

Exhibit 51. Current FY 2014 Sewer Rates

	FY 2014 Rates
Zone 1	
Service Charge	$17.72
R&R Charge	$6.23
HCF Rate	$1.17
Zone 2	
Service Charge	$17.72
R&R Charge	$4.67
HCF Rate	$1.17
Zone 3	
Service Charge	$17.72
R&R Charge	$4.67
Treatment Charge	Varies*

* Varies based on where treatment is sent.

As shown in Exhibit 51, the District currently imposes both fixed charges and variable rates for customer connected to the sewer system. While the service charge is consistent throughout the Districts service area, the Repair and Replacement (R&R) charge varies by zone. The service charge and the R&R charge are based on the number of equivalent dwelling units (EDU's) associated with the account.

The assessment of the variable or HCF charge is currently based on average of the lowest two winter month's water consumption. Residential sewer usage charges are currently capped at 20 HCF. Each account is billed the same amount for sewer usage for an entire fiscal year, which resets each July 1. Multi-family customers are billed similarly, with a cap of 20 times the account's EDUs. Commercial accounts are billed in the same manner but with no cap on usage.

2. Current Sewer Rate Structure Observations

As part of the rate study, MFSG reviewed the District's current sewer rate structure to determine if the structure appropriate for the District. Based our review the following observations where developed for each component of the current rate structure:

Fixed Charges (Service and R&R)

- The EDU based charge is appropriate and consistent with industry standards.
- The current fixed charges generate approximately 70% of the sewer revenue and fund an appropriate portion of the fixed costs of providing sewer service.
- The differences between the R&R charges by zone may not be appropriate based on future capital needs.

Variable Charges

- The usage charge cap of 20 HCF is high in comparison to average residential sewerage flows which are 8 HCF within the District service area.
- The use of the two lowest winter months of water use to determine billable sewer quantities requires examination. This approach bills customers for approximately 43% of annual water use.
- The use of the two lowest months may not be representative of actual sewer generation and may result in confusion among the Districts customers.

3. Alternative Sewer Rate Structures

Based on our review of the current sewer rate structure several alternative rate structures were considered. The alternatives were developed to try and simplify the sewer rate structure and appropriately charge sewer customers for the amount of sewerage they generate. Three specific rate structures were developed. The three alternatives considered during the study include:

- **Alternative A**: Bill customers based on actual water use, capped at 8 HCF per EDU, which represents the average sewer flows District-wide to the Sewer Treatment Plant Facilities.

- **Alternative B**: Bill customers based on a percentage of water use, capped at 11 HCF per EDU.

- **Alternative C**: Bill customers based on the average of the lowest winter two month, but lower the cap to from 20 HCF to 11 HCF per EDU.

Each of the alternatives was reviewed with the District Board and Staff. Based on the District's desire to simplify the sewer rate structure and move towards a more fixed based approach. Alternative A is recommended as the preferred alternative. The primary reason why Alternatives B and C were not selected are provided below:

- The primary concern with Alternative B relates to the use of a percentage of a customers' water use to calculate the sewer bill. This approach would result in significant fluctuation in the sewer bill throughout the year. Additionally, the increase in the amount of water used during certain months does not necessarily correlate with increased sewerage generation.

- The primary concern with Alternative C is that it would not eliminate many of the current concerns with using the two lowest winter months of water use to determine the sewer quantities. While the reduction in the cap would reduce the ultimate amount of the variable charge the approach still is tied to the two lowest winter month's calculation.

The proposed water rate structure is shown in Exhibit 52. It should be noted that the proposed sewer rates maintain the same fixed charge for the first two years of the projection period followed by adjustments in the final three years of the period. The fixed charges are adjusted in future years to ensure that the District continues to collect approximately 70% of revenues from the fixed service charge (the current amount of revenue generated from the service charge).

Exhibit 52. Proposed Sewer Rates

	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019
Monthly Service Charge	$23.95	$23.95	$24.89	$25.39	$25.90
Charge per HCF	$1.51	$1.61	$1.57	$1.60	$1.64

The proposed sewer rates shown in Exhibit 52 include a number of changes from the current structure. Under proposed rate structure, all customers in all zones will be charged the same rates. We believe that this will simplify the rate structure and recognizes that the District sewer system is "one system." Funds are not segregated between zones based on specific funding requirements. Single Family customers will be billed based on actual water usage capped at 8 HCF per month. Multi-Family and institutional customers (defined to include schools as well as State, Federal and local governmental entities) will be billed similarly, but with a cap of 8 times EDUs per month. Commercial customers will be billed on actual water usage with no cap.

4. Industrial Sewer Customers

The District provides wastewater treatment services for customers generating industrial wastewater within the District's service area. This type of wastewater contains waste generated from any producing, manufacturing, processing or treatment process. Industrial waste customers of the District are those that introduce industrial wastewater into the

District's sewer system or those commercial / industrial customers that discharge to the Inland Empire Brine Line ("IEBL"). For industrial waste dischargers, sewer service fees may include three components: (a) Fixed Monthly Service Charge to cover the District's expense in operating and maintaining the sewer collection system, (b) HCF Charge applied to quantities discharged (based on wastewater treatment expense), and (c) Treatment Charges to pay the contracted treatment agencies for wastewater conveyance, treatment and disposal. The District's HCF and Treatment Charges differ by the treatment agency responsible for providing wastewater treatment of the waste collected by the District. The three treatment agencies that provide treatment of wastes for the District are Orange County Sanitation District ("OCSD"), City of Riverside ("Riverside") and the Western Riverside County Regional Wastewater Authority ("WRCRWA"). Each treatment agency has a different rate structure for treatment of industrial wastes generated in the District. The District allocates and passes these charges through to the industrial waste dischargers producing these discharges in accordance with how the District is charged by the treatment agency for these discharges.

Based on our review of the methodology used by the District to charge industrial sewer customers we believe that the current approach is appropriate. The approach accurately allocates costs among industrial customers based on their specific sewer production characteristics. MFSG is not proposing any changes in the methodology that the District uses to charge industrial sewer customers.

5. Sewer Customer Impacts

The recommended sewer rates will have varying impacts on the District's customers based on the number of EDU's associated with the account and the metered water consumption. Exhibit 53 presents a sample of customer impacts by usage amount for a typical single family residential customer. The average residential customer generates approximately 8 HCF of sewerage and has one EDU.

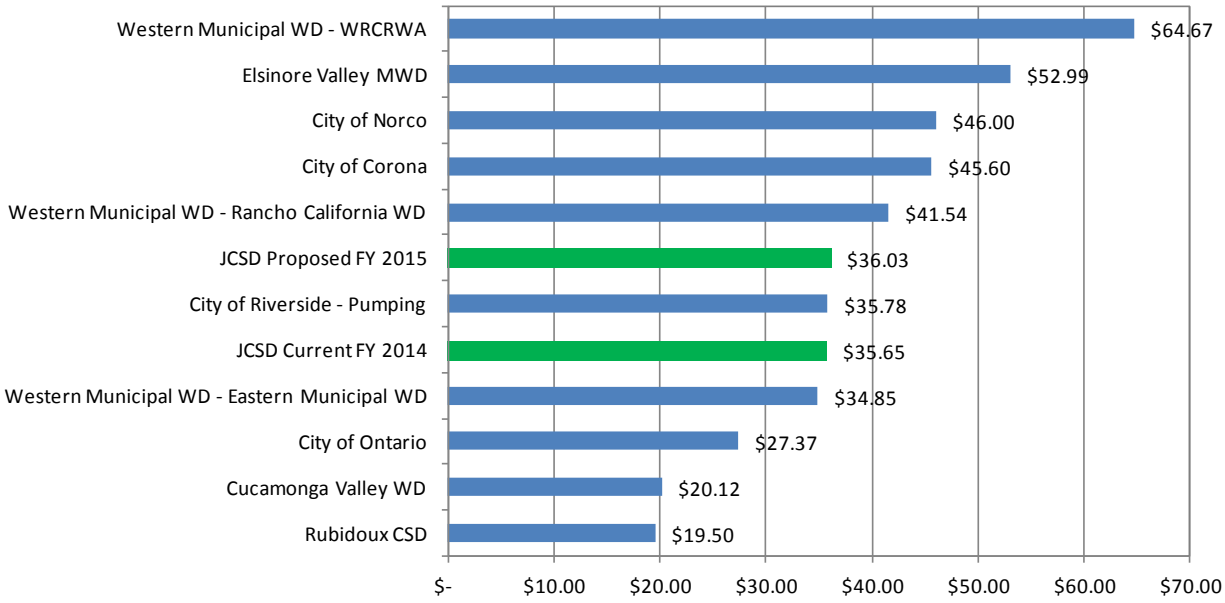
Exhibit 53. Sewer Residential Customer Impacts

Single Family Residential 1 EDU - SAMPLE SEWER BILLS										
			Current Rate Structure			Alternative A				
Cumulative %	% of Annual Bills	Billable Sewer (HCF)	Fixed Portion	Variable Portion	Total Monthly Bill	Fixed Fee	HCF Charge	Total Monthly Bill	$ Change	% Change
0.69%	0.69%	1	$23.95	$ 1.17	**$ 25.12**	$23.95	$1.51	**$ 25.46**	$0.34	1.4%
2.04%	1.35%	2	$23.95	$ 2.34	**$ 26.29**	$23.95	$3.02	**$ 26.97**	$0.68	2.6%
4.24%	2.20%	3	$23.95	$ 3.51	**$ 27.46**	$23.95	$4.53	**$ 28.48**	$1.02	3.7%
8.02%	3.78%	4	$23.95	$ 4.68	**$ 28.63**	$23.95	$6.04	**$ 29.99**	$1.36	4.8%
12.74%	4.72%	5	$23.95	$ 5.85	**$ 29.80**	$23.95	$7.55	**$ 31.50**	$1.70	5.7%
18.88%	6.14%	6	$23.95	$ 7.02	**$ 30.97**	$23.95	$9.06	**$ 33.01**	$2.04	6.6%
25.80%	6.92%	7	$23.95	$ 8.19	**$ 32.14**	$23.95	$10.57	**$ 34.52**	$2.38	7.4%
47.41%	21.61%	8	$23.95	$ 9.36	**$ 33.31**	$23.95	$12.08	**$ 36.03**	$2.72	8.2%
54.41%	7.00%	9	$23.95	$10.53	**$ 34.48**	$23.95	$12.08	**$ 36.03**	$1.55	4.5%
60.77%	6.36%	10	$23.95	$11.70	**$ 35.65**	$23.95	$12.08	**$ 36.03**	$0.38	1.1%
66.12%	5.34%	11	$23.95	$12.87	**$ 36.82**	$23.95	$12.08	**$ 36.03**	($0.79)	-2.1%
70.93%	4.81%	12	$23.95	$14.04	**$ 37.99**	$23.95	$12.08	**$ 36.03**	($1.96)	-5.2%
75.29%	4.37%	13	$23.95	$15.21	**$ 39.16**	$23.95	$12.08	**$ 36.03**	($3.13)	-8.0%
78.96%	3.67%	14	$23.95	$16.38	**$ 40.33**	$23.95	$12.08	**$ 36.03**	($4.30)	-10.7%
82.13%	3.16%	15	$23.95	$17.55	**$ 41.50**	$23.95	$12.08	**$ 36.03**	($5.47)	-13.2%
84.75%	2.63%	16	$23.95	$18.72	**$ 42.67**	$23.95	$12.08	**$ 36.03**	($6.64)	-15.6%
86.87%	2.12%	17	$23.95	$19.89	**$ 43.84**	$23.95	$12.08	**$ 36.03**	($7.81)	-17.8%
88.82%	1.94%	18	$23.95	$21.06	**$ 45.01**	$23.95	$12.08	**$ 36.03**	($8.98)	-20.0%
90.44%	1.62%	19	$23.95	$22.23	**$ 46.18**	$23.95	$12.08	**$ 36.03**	($10.15)	-22.0%
100.00%	9.56%	20	$23.95	$23.40	**$ 47.35**	$23.95	$12.08	**$ 36.03**	($11.32)	-23.9%

6. Sewer Bill Comparisons

It is important to give context to the rates and fees charged by the District as compared to similar utilities in Southern California. MFSG has performed a rate survey as a part of the sewer rate study. Exhibit 54 compares both the current and proposed District bill for a Single Family Residential customer with 1 EDU using 8 HCF of water per month.

Exhibit 54. Comparative Sewer Bills, Single Family Residential, 1 EDU, 8 HCF



The rates and fees charged by other utilities used in this analysis are based on the most up to date published information. It should be noted that although MFSG has endeavored to make an apples to apples comparison, some sewer rate structures may simply charge a fixed rate per month, regardless of consumption. Many of the jurisdictions above may be planning additional rate increases beyond FY 2014.